


Health Information as “Fodder for Fears”: A Qualitative Analysis of Types and Determinants of the Nonuse of Health Information

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ABSTRACT

As not all individuals are willing to pay attention to health information it is crucial to understand and distinguish the underlying motives and the scope of various nonuse behaviors. To increase conceptual clarity and specify theoretical assumptions about the types of nonuse of health information and their determinants, we used a qualitative research approach. Semi-structured interviews with 11 female, 10 male, and 10 non-binary participants aged between 18 and 67 ($M = 39.7$) showed that information ignoring and avoidance are two distinct behaviors characterized by their motivational patterns. Information ignoring is a preference for other content, serving as a strategy to manage limited time resources and receptivity. Information avoidance is understood as a decision to avoid threatening health information serving emotion regulation. Our data further indicate that information ignoring and avoidance are not unidimensional constructs. Instead, the selectivity and consistency of both behaviors build various types of information ignoring and avoidance, which need to be explained differently considering individual differences, cognitive, affective, socio-normative, and structural factors. Further, theory specification should build on the revealed findings and test which factors relate to which kind of nonuse behaviors.

Introduction

Acquiring health information can be a mixed blessing (Howell & Shepperd, 2016). It can serve as a fundamental pillar for decision-making, sense-making, and coping with emotional burdens (Brashers et al., 2002; Galarce et al., 2011; Johnson & Case, 2012) but individuals might also feel overwhelmed by the magnitude of, and the negative, threatening, or flawed nature of health information (Carcioppolo et al., 2016; Chen et al., 2020; Soroya et al., 2021). Instead of seeking health information, the nonuse of health information can be an adaptive strategy to maintain positively appraised uncertainties, manage threats, and deal with the magnitude of available information (Brashers et al., 2001; Carcioppolo et al., 2016). However, it is assumed to be associated with knowledge gaps, biased risk perceptions, and lower participation in preventive behaviors (Golman et al., 2017; Siebenhaar et al., 2020).

Nonuse is understood as any behavior of non-selection and non-exposure to health-related “stimuli from a person’s environment that contribute to his or her knowledge or beliefs” (Brashers et al., 2002, p. 259). It captures cognitive and communicative behaviors located in the pre-attention phase of information processing. Extant research focusing particularly nonuse behaviors is little integrated; so far, it identified characteristics of nonuse of health information (e.g., Barbour et al., 2012; Lambert et al., 2009; Narayan et al., 2011), clarified that information seeking and avoidance are two distinct behaviors (Link et al., 2023), and developed or compared typologies of information behaviors (Link et al., 2022; Nelissen et al., 2017;

Shim et al., 2006). Communication phenomena subsumed under the umbrella of nonuse are manifold referring to information avoidance, information ignoring, absence of or minimal information seeking, non-selection of information, or disinterest (Atkin, 1973; Lambert et al., 2009; Link et al., 2022; Narayan et al., 2011; Ramanadhan & Viswanath, 2006; Sweeny et al., 2010). The confusion of terms, insufficient construct clarity, and a missing distinction or integration of theoretical assumptions illustrate the scattered nature of research on the nonuse of health information (Deline & Kahlor, 2019) and raise the question of whether these behaviors share a larger commonality that underlies health information nonuse or specific types should be distinguished regarding their manifestation and determinants. This differentiation is crucial to increase conceptual clarity and specify theoretical assumptions (Case et al., 2005; Van ‘t Riet & Ruiter, 2013; Ytre-Arne & Moe, 2021) as well as to guide the development of health communication efforts and interventions how to support adequate health information acquisition.

Guided by the distinction of modes of information transaction suggested by the information utility approach (Atkin, 1973) and the latest construct definitions in the field of news¹ avoidance (Palmer et al., 2023; Skovsgaard & Andersen, 2020, 2022), it is the first aim of the current study to identify various types of nonuse. The second aim is to contribute to a better understanding of the determinants of nonuse of health information (Case et al., 2005; Deline & Kahlor, 2019). Therefore, we constructed an exploratory

study aimed at examining the types of nonuse of health information and uncovering the determinants underlying such behavior. Through semi-structured interviews, we sought to gain insights into how and why individuals do not engage with health information.

Various types of non-use of health information

To distinguish various types of nonuse is complicated as research on nonuse takes place under various labels with multiple definitions (Deline & Kahlor, 2019; Foust & Taber, 2023). To the best of my knowledge, only the information utility approach (Atkin, 1973) and the news avoidance tradition (Palmer et al., 2023; Skovsgaard & Andersen, 2020, 2022) systematically distinguish various types of nonuse. Atkin (1973) separated the modes of information ignoring and avoidance based on a cost-benefit calculation considering the expected value of information. *Information ignoring* occurs when the costs to seek health information (e.g., time, cognitive resources) are perceived as greater than the benefits or reward values of acquiring information about a certain issue (e.g., enabling decision-making or coping with uncertainties). This ratio results in a low motivation to acquire information (Lambert et al., 2009; Narayan et al., 2011; Sweeny et al., 2010). Thus, information ignoring is a form of inattention to information (sources), which is equivalent to the opposite of information seeking, labeled also as minimal information seeking (Link et al., 2022, 2023; Ramanadhan & Viswanath, 2006; Skovsgaard & Andersen, 2020, 2022). According to the assumptions of Atkin (1973) as well as in line with the findings of Lambert et al. (2009), ignoring information is not only driven by the cost of information seeking but also by a limited interest and a lack of perceived personal relevance of certain information related to a relative preference for other content or behavior (Gigerenzer & Garcia-Retamero, 2017; Skovsgaard & Andersen, 2020). Transferred from research on news to information, information ignoring is also associated with changing characteristics of today's fragmented, communication-overloaded digital environment (Park, 2019; van Aelst et al., 2017) increasing the need to allocate one's limited attention efficiently among the magnitude of information (Karlsen et al., 2020; Kozyreva et al., 2023; Link, 2021). As an example, individuals scrolling through their social media feeds are confronted with an endless stream of information and need to prioritize and separate between valuable from to-be-ignored information. In this context, information ignoring covers that individuals do not engage with information about the influenza vaccine because they do not care, might not have heard about it, or feel affected. Instead of evidence-based health messages about the influenza vaccine, individuals might prefer a funny meme from a friend or watching an entertaining video about climate change as that information is rated as more important.

A second mode of nonuse is *information avoidance* (Atkin, 1973; Link, 2022), which is defined by the choice to limit exposure to unwanted information and the decision not to know (Gigerenzer & Garcia-Retamero, 2017; Skovsgaard & Andersen, 2020). Foust and Taber (2023) argued that information avoidance always involves information that is deemed by

the avoider to be personally relevant. It is understood as a motivated effort to escape exposure, prevent, or delay the acquisition of available but potentially threatening information (Sweeny et al., 2010; see also Howell et al., 2014; McQueen et al., 2013). Thus, individuals expect low costs but a negative reward for information acquisition in that it may increase negative emotions or uncertainties (Atkin, 1973). In addition, the expected benefit of information avoidance (Atkin, 1973) is to prevent mental discomfort, a feeling of information overload or issue fatigue, increased negatively appraised uncertainties, or demands for change in beliefs and actions caused by the information (Link, 2022; Song, 2017; Sweeny et al., 2010; Van 't Riet & Ruiters, 2013). To illustrate information avoidance using an example, individuals avoid for example information about cancer as they anticipate the information will make them feel bad, to maintain the belief that they are healthy, or to avoid the felt obligation to participate in cancer screening or prevention.

Both modes are suggested to correspond to the concepts of intentional and unintentional avoidance postulated in the field of news avoidance. Information ignoring matches with unintentional information avoidance, whereas intentional avoidance refers to information avoidance (Skovsgaard & Andersen, 2020, 2022). However, distinguishing both behaviors by intentionality as it is postulated in the news avoidance tradition seemed to be misleading as information ignoring can also be an intended behavior to deal with limited resources and requires resources to decide what to ignore. Based on the previously presented distinction, I suggest that not intentionality is relevant to distinguish various types of nonuse but both behaviors differ in their motivational force which is determined by the *personal relevance* of the information and the *expected reward or benefits* of the information.

The research focusing on news avoidance suggested that information ignoring and avoidance can be further described by their *scope* (Skovsgaard & Andersen, 2022). The scope captures the consistency and selectivity of the behaviors. Whereas the consistency distinguishes between more habitual or temporary performed behaviors, the selectivity refers to more general or topic-oriented types of non-use of health information such as the nonuse of information about cancer, HIV, or genetic testing (Lambert et al., 2009; Link, 2022; Narayan et al., 2011; Skovsgaard & Andersen, 2022). As I do not agree that information ignoring is per se an unintentional behavior, I critically question the assumptions of Skovsgaard and Andersen (2022) that information ignoring is characterized by consistency but not selectivity as selective use is ascribed to be a deliberate behavior of restricting information exposure. I assume that information ignoring and avoidance can be described by their consistency and selectivity.

To sum up, current conceptualizations suggested that information nonuse is either a decision to temporarily or permanently avoid (certain) unwanted but highly relevant health information (information avoidance) or a temporary or permanent perception that (certain) health information is less personally relevant to invest resources compared to other options (information ignoring). As such a multidimensional view does not yet prevail in health communication, I aim to

examine whether this theoretically derived conceptualization can be found in empirical research, whether it is complete, or how it can be further developed. Therefore, I derived the first research question asking for types of nonuse of health information building on their motivational forces and scope:

RQ1: What types of nonuse of health information can be distinguished?

Determinants of non-use of health information

The field of nonuse of health information – particularly focusing on information avoidance – is an “understudied, undertheorized and scattered research space” (Deline & Kahlor, 2019, p. 366) but the extant research is by no means devoid of theory. Theories such as the Uncertainty Management Theory (UMT) (Brashers, 2001), the framework for understanding information avoidance decisions (Sweeny et al., 2010), and the Proposed Theoretical Planned Risk Information Avoidance Model (PRIA) (Deline & Kahlor, 2019) guided extant studies. The UMT highlights the function of information avoidance to cope with uncertainties but does not provide an overview of the determinants of information avoidance. Concerning the predictors, the framework for understanding information avoidance decisions stresses that the decision to seek or avoid information is determined by individual differences and situational factors, whereas the PRIA focuses on psycho-social determinants distinguishing between socio-normative, cognitive, and affective factors. The PRIA is the theoretical-guided attempt to transfer one of the latest models explaining information seeking – the Planned Risk Information Seeking Model (Kahlor, 2010) – to information avoidance.

Integrating the approaches (see Figure 1), the first group of determinants derived from the framework for understanding information avoidance decisions are *individual differences* capturing that certain individuals are generally more inclined to avoid or ignore health information. These individual differences consider psychological dispositions such as coping styles or the intolerance of uncertainty (Case et al., 2005; Link & Baumann, 2022; McQueen et al., 2014; Miller, 1987; Sweeny

et al., 2010). Additionally, sociodemographic and -economic factors such as age, gender, education, and income were particularly stressed as determinants in the research on news avoidance (Aharoni et al., 2021; Bruin et al., 2021; Edgerly, 2022; Karlsen et al., 2020; Link, 2021; Palmer et al., 2023; Toff & Palmer, 2019). In the field of nonuse of health information, some studies showed that gender, age, education, and health status were associated with information ignoring and avoidance (Emanuel et al., 2015; Mayer et al., 2007; Miles et al., 2008; Ramanadhan & Viswanath, 2006); whereas others could not support the impact of sociodemographic factors (McQueen et al., 2014).

The *cognitive factors* postulated by the PRIA (Deline & Kahlor, 2019) comprise risk perceptions, cognitive load, need for closure, attitudes toward information behaviors, and perceived behavioral control. Risk perceptions refer to the personal relevance of a threat captured by the susceptibility to the given risk and its anticipated severity (Griffin et al., 1999; Yang et al., 2014). Cognitive load describes the available capacity to process information (Deline & Kahlor, 2019), which is also related to the concept of information overload in a high-choice information environment (Aharoni et al., 2021; Link, 2021; Toff & Kalogeropoulos, 2020). According to Deline and Kahlor (2019), the need for closure represents the desire to be confident in one’s topic knowledge. The two predictors of attitudes toward information behaviors and perceived behavioral control correspond to the determinant ease of obtaining and interpreting information proposed by Sweeny et al. (2010). Attitudes toward information behaviors reflect individuals’ general perceptions of the utility of information behaviors and the utility of available channels (Dunwoody & Griffin, 2015; Kahlor, 2010; Kahlor, 2007; Yang & Kahlor, 2013). Perceived behavioral control considers whether an individual feels able to perform a search or to avoid unwanted information, which is a driver of information seeking and avoidance (Dunwoody & Griffin, 2015; Yang & Kahlor, 2013). In addition, Sweeny et al. (2010) postulated in line with other models such as the Theory of Motivated Information Management (TMIM) (Afifi & Afifi, 2009; Hua & Howell, 2022; Link, 2022; Link & Baumann, 2022) to consider also coping efficacies built on coping resources to manage the expected outcomes of

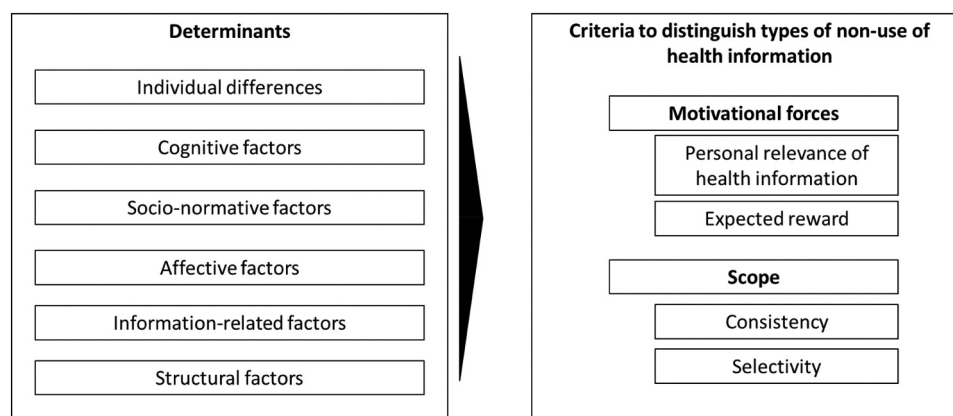


Figure 1. Conceptual framework of determinants of various types of nonuse of health information.

information behaviors (Howell et al., 2014; Taber et al., 2015). In addition, Sweeny et al. (2010) highlighted that outcome expectancies understood as the relative benefits and costs of information behaviors related to knowledge gain and emotional consequences also determine the nonuse of health information.

Among the *socio-normative factors*, the PRIA recognizes that social norms understood as unwritten codes of conduct shape our behaviors (Liu et al., 2022; Rimal & Lapinski, 2015; Yang et al., 2014). They distinguish between individuals' belief in the prevalence of certain behaviors such as information ignoring and avoidance (descriptive norms) and beliefs about what behavior is (dis-)approved in one's social surroundings (injunctive norms) (Cialdini et al., 1990; Link, 2023).

Referring to the *affective factors*, the PRIA postulates in line with the UMT and TMIM that negative and positive affective responses are associated with information avoidance (Barbour et al., 2012; Yang & Kahlor, 2013). So far, only negative affective risk responses are integral parts of existing models, positive affect is seldom considered (see e.g., Yang & Kahlor, 2013), and discrete emotions are only included in an exploratory manner or single emotions such as anxiety were focused on (Damstra et al., 2021; Fowler et al., 2018; Link & Kahlor, 2023).

The UMT additionally sheds light on the *features of information*. Information avoidance does not only serve to maintain or increase positively appraised uncertainties but also to avoid insufficient information (Carcioppolo et al., 2016). In addition, transferred from the field of news avoidance the *structure of the information environment and information supply*, which created varying opportunities for exposure to information, might impact information nonuse (Skovsgaard & Andersen, 2022). In this vein, it is also relevant to consider the influences of algorithmic curation (Palmer et al., 2023; Thorson, 2020).

The long list of potential determinants and existing models integrating a different set of potential factors (Deline & Kahlor, 2019; Foust & Taber, 2023; Sweeny et al., 2010) indicate a need to compare and contrast predictors of various types of nonuse. An exploratory approach is used to identify the determinants most relevant in the context of health information. Thus, I derived the following second research question:

RQ2: Which individual differences, cognitive, socio-normative, affective, information-related, and structural factors are associated with certain types of nonuse of health information?

Method

To provide insights into various types of nonuse of health information and their determinants, I used a qualitative research design. I conducted semi-structured interviews to elicit the individual experiences of the participants, and particularly describe types of nonuse on the greatest possible depth and complexity.

Participants and procedure

A total of 31 interviews with 11 female, 10 male, and 10 non-binary participants aged between 18 and 67 ($M = 39.7$) and describing themselves as healthy ($n = 17$) or suffering from chronic conditions ($n = 14$) were conducted. I used the purposive sampling strategy of maximum variation to enroll participants residing in Germany who were diverse in terms of gender, age, education level, and health status (see Table 1). I sampled also by gender identity as current research indicates that non-binary people whose gender identity or lived gender varies from their sex assigned at birth is a marginalized and medically underserved population (e.g., Scandurra, 2019). This highlights the need to consider their perspective on the nonuse of health information.

The heterogeneous sample of participants was reached with calls for participation published in the newsletter of the German Federal Center for Health Education. In addition, further nonprofit- and health organizations shared the call. Non-binary persons were recruited via social media groups and snowball sampling through social network referrals. The sample reached saturation after completing 31 interviews as only scant new information emerged from the additional interviews (Saumure & Given, 2008). Furthermore, no new categories or subcategories could be identified during the coding procedure.

The interviews were conducted between December 2021 and May 2022 by a team of trained interviewees. The (video) telephone interviews lasted on average 35 minutes (range: 20–60 minutes). At the beginning of each interview, the participants were informed about the objective of the study and its legal and ethical requirements (in particular, we addressed voluntariness and anonymity, personally identifiable information, data processing, the purpose of data processing, and the right of withdrawal). We requested to provide oral but audio-recorded consent for their participation and audio-recording of their interview. The interviews were tape-recorded and

Table 1. Demographic characteristics of participants ($n = 31$).

	Total sample
Mean Age (in years)	$M = 39.7$ (min = 18; max = 67)
Gender	
Female	11 (35.5%)
Male	10 (32.3%)
Non-binary	10 (32.3%)
Education	
Certificate of lower secondary education	2 (6.5%)
General certificate of upper secondary education	6 (19.4%)
University entrance diploma or university degree	23 (74.2%)
Health status	
Good health	17 (54.8%)
Chronic health condition	14 (45.2%)

transcribed verbatim. The data was strictly handled in an anonymous form. I stored the contact information in a separate file and the names of interviewees were replaced with pseudonyms. At the end of the interviews, the participants received compensation for their participation in the amount of € 25.

Interview guide

The key domains of the interview guide, which comprised the participants' ascribed relevance to health information, their process of health information behaviors as well as reasons to nonuse health information, were addressed as open questions. Supplementary questions were used to deepen domains. See Table 2, for an overview of the interview guide. The comprehensibility of the interview guide was tested via three pretest interviews that showed no need for major adjustments.

Data analysis

The analysis was based on a qualitative content analysis (Hsieh & Shannon, 2005; Mayring, 2000) with a deductive-inductive combined coding procedure. The deductive coding scheme considered the major dimensions of the analysis derived from the interview guide (e.g., interest in health information, manifestation of nonuse, motivational forces/reasons for nonuse, scope of nonuse, determinants, and barriers to information acquisition). It helped to identify relevant content analytical units and organize more specific coding. Inductive category development served to differentiate and modify the deductive coding schema. In the initial round of coding more specific codes were developed from the participants' single statements (e.g., reasons: emotions: fear; reasons: emotions: perceived as life-threatening; nonuse: manifestation: avoidance: delay information). Afterward, several stages of iterative category development and assessment, modifications, and revisions of codes as well as relationships between codes

allowed the discovery of reasonable structures in the data and theoretical saturation. To distinguish various types of nonuse, the theoretically derived criteria of reasons and scope were combined. The analysis was applied by research team with two members (Ph.D. supported by a research assistant), who alternately worked on the coding of the transcripts. In the final coding phase of code modification and revision, one member of the research team worked on all interviews. To ensure mutual agreement within the research team, the coding and findings were discussed at each step of the analysis process. In particular, the differentiation of various types of nonuse was a critically reflected decision, which was discussed extensively and resolved by distinguishing various types of reasons for nonuse to achieve a common understanding. The coding was carried out by Atlas.ti (version 9), which was used to manage all the data.

Results

Types of non-use of health information (RQ1)

Focusing on identifying various types of nonuse of health information (RQ1), the identified motivational forces will be described and used to distinguish types of information nonuse before these types will be described in more depth by their scope.

Motivational forces of non-use

During the analysis, we identified the following reasons for the nonuse of health information: ascribed low personal relevance and low perceived usefulness of health information, the perceived ratio between benefits and costs of information acquisition, emotion regulation, information overload, and issue fatigue. These reasons correspond to motivational forces attributed to information ignoring and avoidance.

The attributed low personal relevance to health information and affectedness by an issue were described as reasons underlying *information ignoring*. The individuals perceive no

Table 2. List of main domains and questions covered in the interviews.

Relevance of health information

- How important is it for you to be well-informed about the topic of health?

Health information-seeking and avoidance behaviors

- Interest in specific health issues
- Which health issues are particularly relevant to you and your everyday life?
- Which health issues would you personally attribute less importance to? Why?
- Process of health information-seeking behaviors
- When you are confronted with a health problem yourself, how do you usually engage with information?
- Feel free to describe in more detail how you went about it, for example, the last time you were confronted with a health issue or challenge.
- Purposeful information avoidance
- Can you imagine a time or situation when you would want to avoid getting information about a health issue? Please explain in more detail.
- What are the reasons you do not want to hear about a health issue, risk, or concern?

Determinants: Promoters/Barriers to health information-seeking and avoidance behaviors

- How difficult/easy is it or was it for you to access information about health issues?
 - Assessment of cognitive abilities
 - What challenges do you see in finding information?
 - To what extent do you think the available information is sufficient?
 - To what extent is it difficult to evaluate the information?
 - To what extent is the information found comprehensible to you?
 - Assessment of socio-normative factors
 - What role do the behaviors or expectations of your family or friends play for your preferred engagement with health information?
 - Assessment of emotions and moods
 - What role do feelings (e.g., fears, anxiety) play in your preferred engagement with health information?
 - To what extent do feelings inhibit your engagement with health information?
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information needs, health-related uncertainties, or other triggers of health information-seeking behaviors such as health problems or risks: “*I neither seek nor engage with information about certain diseases, maybe because I’m not affected and in my point of view there is no reason to do so. If I’m doing well, I don’t have to deal with it*” (female, 27, high level of education); “*I am someone who does not inform myself fundamentally about health, but only when it is urgent*” (non-binary, 35, high level of education). Besides the low described instrumental utility of health information, the respondents also referred to limited time resources increasing the necessity to prioritize and decide whether they want to pay attention to certain information. The participants reported that they weighed reward values related to the personal relevance and perceived usefulness of the information against the available time. They described their time resources as generally limited, but also mentioned that health information seeking is perceived as very time-consuming. They outlined that there is a high effort needed to acquire certain health information, rate the trustworthiness of information, and check the facts provided by several information sources. In addition, the accessibility and comprehensibility of health information were mentioned as barriers that are weighed against the expected value of the information: “*The search can be very time-consuming and take up a lot of time. At some point, time and receptivity are simply limited. I have learned to distinguish what is more or less relevant for me. This is crucial for not wasting time*” (male, 60, high level of education). Thus, information ignoring was reported to be driven by limited information utility. It manifests in passive inattention toward health information, or purposively paying no attention to information that was perceived as less personally relevant or helpful (see Table 3 for an overview).

The second described motivational force underlying information avoidance was to regulate, cope, or prevent (anticipated) negative emotions, which one did not possess sufficient resources to cope with: “*In general, I often don’t want to be informed at all . . . I have had the experience that information only makes me feel worse and worse. Therefore,*

I want to be less informed (non-binary, 35, high level of education). The interviewees reported that issue- and information-related emotion regulation and self-protection are the dominant underlying intentions to avoid health information. Issue-related emotions cover the fear of learning about health risks or becoming aware of being or becoming ill. In this case, information avoidance should prevent one from feeling uncertain, experiencing negative affective responses and emotions such as fears and anxiety resulting in regret to have acquired health information: “*Fear makes it difficult to deal with some issues. Fear inhibits me and my knowledge gain*” (male, 27, high level of education); “*I always consider how learning about a topic would make me feel. It’s difficult because you can never go back. If I know something, then I know that*” (non-binary, 39, medium level of education). These emotions were associated with expectations of learning threatening information that indicated for example that someone suffers from a serious, nor curable disease or that one might have an obligation to act: “*You don’t want to learn more when you have some kind of symptoms and you’re scared of what it could mean*” (non-binary, 36, medium level of education).

If uncertainties and anxiety already prevail, information avoidance was also reported to serve as a measure to stop a spiral of increasing uncertainty, anxiety, and fear and to inhibit getting too involved: “*I also tend to worry quickly. I deliberately don’t read some things because I know that I start to worry and fears get triggered*” (non-binary, 42, medium level of education); “*Information can be fodder for fears*” (non-binary, 39, medium level of education).

Among the information-related emotions, avoiding health information was described to be the result of feeling overwhelmed by the magnitude of available information, and the need to assess and make sense of information. This is captured by the concept of information overload: “*When you have too much information at once. If you can’t differentiate, you are overwhelmed and need to stop engaging with the information*” (non-binary, 19, medium level of education). In addition, issue fatigue was mentioned to be a reason to avoid certain health information. The participants remembered that they were annoyed by health information

Table 3. Characteristics and determinants of information ignoring and information avoidance.

Information ignoring		Information avoidance
Characteristics		
Motivational force	<i>Information utility</i> : Low personal relevance weight against the costs of information seeking (such as time resources, accessibility and comprehensibility of information)	<i>Hedonic utility</i> : issue- and information-related emotion regulation and self-protection
Scope		
Consistency	High consistency	Continuum from high consistency to temporal avoidance (low consistency)
Selectivity	Issue-related ignorance Source-related ignorance	Issue-related avoidance Source-related avoidance
Determinants		
Individual differences	Coping styles	Coping styles, optimism, health anxiety
Cognitive factors	Seeking control	Seeking control, cognitive load, coping resources
Socio-normative factors	Seeking-related social norms, social support, news finds me-perception	Seeking-related social norms, avoidance-related social norms
Affective factors	-	Actual mood
Information-related and structural factors	Complexity of information	Complexity of information, algorithm-configured media environments

during the COVID-19 pandemic as the issue was omnipresent for a long period: “Over time, it’s always the same topic and you kind of want to leave it behind by avoiding the topic of COVID-19 at all” (male, 24 years, medium level of education).

Thus, information avoidance was driven by hedonic utility. It manifests in active or passive efforts to prevent being exposed to health information that might be threatening.

The scope of information ignoring and avoidance

In the following, we will describe the scope of information ignoring before we outline the findings on the scope of information avoidance. Regarding the scope of *information ignoring*, the interviewees referred primarily to the dimension of selectivity but not consistency. The interviewees did not mention explicitly whether their behavior was more situation-bound or habitual. However, individual conclusions about consistency can be drawn in the following. Focusing on selective information ignoring, the interviewees described that information ignoring can be classified as issue-related or source-related. The *issue-related information ignoring* specifies that health information is not understood as irrelevant per se, but that certain topics are given less relevance. Most often information on certain diseases and health risks was mentioned. They were assessed as socially but not personally relevant as the information was not considered applicable to one’s phase of life, one did not feel affected by or feel vulnerable for: “Some things don’t affect me and are not personally relevant, but they are important on a societal level. For example, cancer, rheumatism, or heart disease. I do not look for information about these topics” (non-binary, 19, medium level of education). One of the determinants of whether an issue was rated as relevant was an individual’s age: “I don’t see myself in the risk group for high blood pressure, heart disease, stroke yet. At just under thirty-four, that’s still a long way off and there is no need to become more knowledgeable right now” (non-binary, 33, high level of education). The role of various phases of life and individuals’ age point to a high consistency and habitual use of information ignoring. The issue-related information ignoring was also found to be related to information targeting certain groups such as women or men and excluding other groups of individuals such as non-binary persons: “I do not deal with binary gendered information because it seems pointless to me if it doesn’t deal with me as a person” (non-binary, 30, high level of education).

Focusing on *source-related information ignoring*, the respondents reported ignoring certain sources because of the purpose of their usage as well as their features such as the quality or usefulness of the information provided. Particularly, all types of unintentional exposure to health-related content via advertisements and postings on social media, which also contains algorithm-curated content, were ignored: “When you swipe on Instagram, you sometimes see advertisements about health, which I usually ignore” (male, 18, medium level of education). The respondents also reported ignoring user-generated content exchanged in social media and health communities as well as avoiding tabloid media as they aim for neutral, evidence-based information: “I have always searched on YouTube. I stopped a year ago because I realized that there is also a lot of bad information there” (female, 54, high level of education). In addition, lay opinions shared in online communities were assessed as less helpful justifying why these sources are not used.

Focusing on the *scope dimension of information avoidance*, the respondents described various types of information avoidance referring to the selectivity and consistency of the behavior. Related to *selectivity*, I found – in line with information ignoring – the subtypes of issue-specific and source-specific information avoidance. *Issue-specific avoidance* covers that information on certain kinds of information (e.g., on certain diseases) is avoided. The respondents reported avoiding particularly disease-related not health-related information: “Avoidance is always focused on disease information, whereas I do inform myself about health-related information” (non-binary, 35, high level of education). One disease the participant mentioned to avoid information about was cancer as the disease was perceived as highly severe, uncontrollable, and emotionally distressing: “It’s hard for me to deal with cancer information [...] because there are still no good means to fight it. It can happen very quickly. It’s also very emotional and you can’t prepare very well” (male, 18, medium level of education). Further, the participants described avoiding information that dealt with side effects and negative (long-term) consequences of a treatment or disease as this information might increase negative emotions such as anxiety and fear: “It can be scary to think about the worst consequences. Sometimes you don’t want to know exactly, because the knowledge hangs over you like a sword of Damocles” (female, 57, high level of education). As the quote exemplifies, the added value of becoming aware of negative consequences was critically questioned and weighed against the emotional burden of knowledge. A similar pattern became apparent with the first symptoms and the suspicion of suffering from a serious disease. Especially uncertain, preliminary information was perceived as a stressor: “Sometimes it can be better not to know about some things, for example, suspected cancer” (male, 64, high level of education).

Besides aiming for non-exposure to this kind of information, the respondents also described more superficial information acquisition as a strategy to become less knowledgeable about threats, side effects, complications, and consequences of disease: “Focusing on extreme consequences. I do not read it in too much detail, but rather to skim over it” (female, 57, high level of education).

The participants also described various types of *source-specific information avoidance*. They explained relying exclusively on health professionals when one is looking for diagnoses as the acquisition of information via mass media can result in increased stress: “When I’m sick, I prefer to go to the doctor and learn what he has to say. Anything else is dangerous” (female, 55, high level of education). Regarding social media, the magnitude of accessible information was evaluated as overwhelming, which caused negative emotions and resulted in deleting certain apps: “I just deleted my Instagram. There was so much health information that it was overwhelming” (female, 47, high level of education). Also, fictional formats such as hospital series were avoided as the reporting on various diseases and fates of patients can increase health anxiety: “I stopped watching the Dr. House because it made me feel too much like I could die every day from something abstruse” (non-binary, 35, high level of education).

Regarding the *consistency of information avoidance*, the interviewees described long-term in contrast to temporal strategies of information avoidance. *Long-term avoidance* aims to

ensure that the own level of knowledge is deliberately kept low: “Regarding information referring to the physical level, I’m low informed. I always quickly click away information before I am confronted with it too much. [. . .] That would only stress me out” (non-binary, 35, high level of education). *Temporal avoidance* was described as a situation-bound enactment of information avoidance motivated by the need to take a break from information, acquire threatening information in pieces, or delay the acquisition of certain health information. The need for a break was described during societal or individual crises such as the COVID-19 pandemic or the cancer patient journey, where emotion regulation was particularly urgent:

There are situations when we watch Inspector Barnaby to avoid talking about such things [COVID-19]. To fall asleep in peace or sleep through the night, health topics are not very helpful. (male, 60, high level of education)

I’m in chemotherapy right now. Although cancer increases my need to stay up-to-date, you must take into account the shape of the day. Sometimes I don’t feel like getting more information. (male, 64, medium level of education)

My husband was suspected of having a nerve disease that would have been incurable and progressive. I can only give myself reports about this in small doses. (non-binary, 33, high level of education)

Determinants of non-use of health information (RQ2)

To answer the second research question, we identified which determinants of nonuse respondents referred to. Some of the predictors were described as relevant for information ignoring and avoidance, whereas others were only mentioned as related to information ignoring or avoidance.

The common basis of information ignoring and information avoidance

Individual differences. The respondents stressed that their *preferred coping style* was associated with information ignoring and avoidance. The coping style monitoring was described as a personality trait to possess a high desire for health information. Respondents described being generally highly curious about health information serves as a limiting factor of information ignoring. Additionally, they outline that their preference to deal with current health challenges by becoming more knowledgeable counteracts information avoidance: “I am not the person who avoids information. I prefer to look things in the eye – rather much deeper than not deep enough” (non-binary, 34, high level of education).

Cognitive determinants. Individuals’ *perceived seeking control* capturing whether one felt able to access, select, find, evaluate, use, and make sense of personally relevant health information was described as a relevant determinant of all types of nonuse. It determines the necessary effort of information acquisition weighed against the utility of information crucial for information ignoring. The needed effort to acquire health information was described to be related to *information-related determinants* such as the complexity of expert knowledge, the comprehensibility of medical terms, the use of expert language and their heterogeneous quality: “All these medical terms are

a deterrent to reading a text like this. It feels like you need a medical degree to understand what they are saying. That’s a turn-off for engaging with health information” (male, 28, medium level of education); “When it comes to medical questions, you need expertise. I tend to keep a low profile there” (male, 60, high level of education). Related to information ignoring, the respondents also reported that they miss meta-knowledge of how to search for health information, which search queries are most effective or suitable, and which criteria should be used to evaluate various sources: “I don’t know exactly what to look for. I don’t know the specific terms, specific symptoms. I don’t know how to approach this exactly” (male, 25, high level of education). Referring to information avoidance, perceived seeking control determines whether acquiring information is perceived as challenging or overwhelming. The respondents stated that their capability to deal with the magnitude of and evaluate the quality and sufficiency of available information intervenes with negative emotions: “Not dealing with health also has something to do with the mass of information – including the mass of unserious information and the question of whether I can tell the difference. I think that’s difficult, and that stokes my fear even more” (female, 27, high level of education).

Social-normative determinants. Some respondents perceived a rather strong social obligation to be informed, which can be understood as an *injunctive seeking-related norm* counteracting all types of nonuse. To be informed was perceived as a necessity to participate in interpersonal interactions as it is perceived as unpleasant when the interviewees are uninformed about health issues others would expect them to know: “Sometimes there are situations where the other person is surprised that I don’t know something. That makes me uncomfortable” (non-binary, 23, medium level of education).

Individuals who perceive such social expectations weigh them against personal needs such as paying less attention to threatening information related to information avoidance behaviors: “Sometimes you don’t feel like getting more information, but when your daughter has been up all night, printed out a lot of information. She would give me a very, very nasty look if I would throw it on the side” (male, 64, medium level of education). Other interviewees did not report any direct expectation of their social surroundings, but the presence of health topics and whether others perform searches for health information promoted or inhibited their behaviors, which can be captured by the concept of *descriptive seeking-related norms*: “The expectations of others are not directly relevant. As my friends are very informed, this can indirectly influence the fact that I want to be informed” (male, 25, high level of education).

How social norms are pronounced were also reported to differ between reference groups: “In my family, people tend not to get informed [. . .]. Among my friends, it is important to be informed” (non-binary, 28, high level of education). In addition, norms were described to be related to the social role one occupies. Particularly within families and the parent-child-relationship, the interviewees mentioned strong norms related to the responsibility for others that determine their behavior and influence which type of issues are perceived as personally relevant: “My child expects me to protect him and to know what

is going on. If I was only responsible for myself, my behavior would be different” (non-binary, 39, medium level of education).

Specific determinants of information ignoring

Individual differences. The interviewees only referred to their preferred coping style as an individual trait associated with ignoring health information.

Social-normative determinants. Besides social norms, the interviewees also stressed the role of their access to *social support*. Instead of investing time, the interviewees described that they do not acquire health information as they rely on and delegate information acquisition to their family and friends: “My husband is more the type who doesn’t inform himself [...] but asks me if I could help him” (female, 59, medium level of education).

Affective determinants. No references to affective determinants of health information ignoring were evident in the interviewees’ descriptions.

Information-related and structural determinants. Besides references to the complexity of health information determining the needed effort to engage with health information, the magnitude of available (health) information in digital media environments further increased their need for selectivity and to prioritize the available information.

Specific determinants of information avoidance

Individual differences. Respondents reported that their *optimism* describing a positive framing of the acquired health information was negatively related to avoidance: “No, I’m not avoiding health information. I always view the information positively and as an opportunity to change things. I’m a positive person. Becoming knowledgeable about health risks doesn’t scare me. Once I read something, I feel more reassured” (female, 59, medium level of education).

Individuals who described being more *health anxious* reported using information avoidance as a crucial self-management strategy to protect oneself: “I would never watch any reports about or from people who are ill. I tend to be too much of a hypochondriac for that and then notice symptoms myself without being ill” (non-binary, 35, high level of education).

Socio-normative determinants. Besides seeking-related norms, the respondents also stated social expectations referring to the avoidance of information. Referring to *avoidance-related injunctive norms*, the respondents described that expectations of others could limit or stop their information acquisition. This was evident concerning the search for health information via the Internet as the quality of provided health information was generally critically assessed or when the acquired information was perceived as distressing: “Some people say to me, don’t google so much, and then I stop” (non-binary, 42, medium level of education); “When I googled my high blood pressure, I was afraid, and I couldn’t sleep well anymore. My husband says, ‘Stop looking for this information’” (female, 54, high level of education).

However, some respondents reported that these expectations to limit information seeking do not necessarily lead to information avoidance, but rather that outcomes of performed searches were not discussed with family and friends: “I think these expectations whether I should stop using certain sources have less influence on whether and how I inform myself, but it influences how much I talk about it” (non-binary, 33, high level of education).

Affective determinants. The respondents reported that whether they avoid health information depended on their *actual mood*, which might increase health anxiety as well as limit coping resources to deal with threatening health information. Individuals’ well-being and mental health can serve as a barrier to acquiring information as the respondents described that their resources to cope with health information were limited, they felt more often fearful, and felt a higher degree of cognitive load, which corresponds to the identified reasons to avoid (certain) health information.

In phases when I tend to be more anxious, I forbid myself to spend too long inquiring. (non-binary, 42, medium level of education)

Quite often my mental health hinders me. Because there are things, issues that I can’t deal with because they are too draining. (non-binary, 30, high level of education)

Information-related and structural determinants. The respondents also referred to the information supply in digital media environments as a determinant of information avoidance. Information overload and issue fatigue can be increased by *algorithm-configured media environments*. The interviewees highlighted that they are often confronted with similar health issues via search engines or social media, which can be overwhelming: “Sometimes it is too much when Google provides me several times with links to health information that I should probably be interested in because of my age” (male, 66, low level of education).

Discussion

The qualitative analysis demonstrated the complexity of various types of nonuse of health information and their determinants. The findings contribute to construct clarity by enriching the development of a multidimensional understanding of the nonuse of health information and identifying their relevant determinants. The transfer and integration of existing approaches (Atkin, 1973; Skovsgaard & Andersen, 2020, 2022) provide a fruitful foundation that was extended and applied to health information.

Towards a higher construct clarity of various types of non-use

Based on the interviewees’ reporting, nonuse behaviors of health information were characterized by their reasons and their scope. Regarding reasons underlying various types of nonuse, the findings of the interviews guide distinguishing between behaviors related to information utility and hedonic utility instead of the intentionality of these behaviors (Skovsgaard & Andersen, 2020). To further develop the understanding of information ignoring and avoidance, our

findings revealed that information ignoring can be understood as the opposite of information seeking. Its driving force called information utility is a low relevance and limited perceived affectedness by health issues resulting in a preference for other content. Information ignoring serves efficiency and is used as a strategy to manage limited resources such as time or receptivity. Thus, information ignoring is suggested to be associated with two reasons: the lack of time and the lack of interest.

In comparison, information avoidance – the purposeful behavior to prevent exposure to threatening information – is described more in-depth by its hedonic function to regulate emotions and maintain positively appraised uncertainty discrepancies (Barbour et al., 2012; Brashers, 2001). Our findings extend the current state of research on the underlying reasons by highlighting that issue- as well as information-related emotions can drive information avoidance. For issue-related triggers, it became apparent that avoidance was described as more necessary to cope with disease than health-related information (Sweeny et al., 2010). Information-related emotions are related to information overload and issue fatigue (Link, 2021). The distinction of information ignoring and avoidance based on their underlying reasons was not able to provide new facets to the phenomenon of nonuse but to provide guidance by more explicitly distinguishing both behaviors in an otherwise scattered state of research focusing on either ignoring or avoidance.

In contrast, focusing on the scope of information behaviors is an important extension of the extant body of research (Palmer et al., 2023; Skovsgaard & Andersen, 2020, 2022). Both information ignoring and avoidance can be distinguished by the dimension selectivity resulting in *issue- and sources-related subtypes* related to the assessment of certain issues and individuals' source preferences. These findings demand to assess nonuse more granular focusing on a certain issue and particularly distinguishing various sources which is so far not considered in models of HISB. We also found references to the consistency of information avoidance suggesting that this type of nonuse of threatening information can be performed short-term as a temporary, situational strategy to manage emotions or a more habitual coping style how threatening information is managed in the long-term (Link, 2022; Link et al., 2023; Skovsgaard & Andersen, 2022). The findings allow to identify certain strategies of temporal information avoidance such as delaying the information acquisition, acquiring the information piece by piece, or preferring superficial information acquisition. In contrast to information avoidance, the respondents did not explicitly refer to the consistency of information ignoring. However, it can be assumed, that relevance attributions remain rather stable over time, at least in certain phases of life, and that information ignoring thus tends to be a behavior with a high degree of consistency that is less likely performed as a short-term strategy.

Identifying the determinants of information ignoring and avoidance

The interviewees referred to a variety of predictors considered in different models of health information-seeking behaviors

such as the framework of Sweeny et al. (2010) or the PRIA and its predecessors (Deline & Kahlor, 2019; see also Griffin et al., 1999; Kahlor, 2010). Across the single determinants, the findings revealed that models aiming to explain nonuse behaviors should integrate individual traits and more situational psychosocial predictors. Particularly, models such as the PRIA (Deline & Kahlor, 2019) but also the UMT (Brashers, 2001) overlook individual differences. Integrating those personality traits could determine which is the preferred information behavior to manage uncertainties.

Focusing on the individual differences suggested by Sweeny et al. (2010), the respondents referred to their tendency to monitor health information (Miller, 1987, 1995; Roussi & Miller, 2014), and their disposition to feel optimistic or fearful (Link & Baumann, 2022; Taber et al., 2015). Whereas monitoring was found as relevant to information ignoring and avoidance, dispositional optimism, and health anxiety were crucial in coping with threatening information as the motivational pattern underlying information avoidance.

Regarding the cognitive factors, only *perceived seeking control* was stated as crucial for information ignoring and avoidance as lower control beliefs make information acquisition more effortful and burdensome (Deline & Kahlor, 2019; Sweeny et al., 2010). However, factors such as risk perception and affective risk responses postulated by the PRIA (Deline & Kahlor, 2019) might be tied to the personal relevance and affectedness underlying the distinction between information ignoring and avoidance.

The *normative dimension of information behaviors* was illustrated by the reported injunctive and descriptive seeking- and avoidance-related social norms referring to various reference groups (Cialdini et al., 1990; Deline & Kahlor, 2019; Link, 2023; Liu et al., 2022). In line with current research highlighting normative influences on information-seeking behaviors (e.g., Liu et al., 2022), seeking-related norms are associated with both types of nonuse. However, the perception that information avoidance is an accepted behavior was only relevant for performing information avoidance behaviors. In general, seeking-related norms seem to be more pronounced than avoidance-related norms (Link et al., 2023). In addition, the findings highlight the need for a differentiated view on reference groups in the health context (Park & Smith, 2007; Park et al., 2009) as several groups such as family and friends might differ in their norm perceptions.

Regarding the *affective responses*, the temporal strategy to avoid health information is suggested to be associated with individuals' actual mood. In a negative mood, coping resources are perceived as limited (Sweeny et al., 2010), and the perceived cognitive load (Deline & Kahlor, 2019) and health anxiety are more pronounced, which is associated with information avoidance.

While the previous predictors are already part of different models of information behavior and rather suggest their integration, the study also provides suggestions for additions: First, the respondents also reported that their access to social support such as family and friends sharing health information resulted in a lower necessity to acquire health information. This finding suggests that also for health information a kind of "news finds me" perception exists and influences information

ignoring (Goyanes et al., 2023; Lin et al., 2024). Second, the respondents reported in line with research in the field of news avoidance (Palmer et al., 2023; Skovsgaard & Andersen, 2020, 2022) that the information supply in digital media environments influences the nonuse of health information. Particularly, the algorithm configured exposure to similar content might influence issue fatigue or contribute to a higher perception of information overload triggering information avoidance.

Limitations and further research

The following limitations need to be considered when interpreting the findings. First, the results rely on participants' ability and willingness to articulate their feelings, thoughts, and behaviors. In the case of nonuse, the challenge may be to adequately remember a kind of non-behavior aimed at paying as little attention as possible. Also the first question about the importance of being well informed may have influenced the willingness of some respondents to state whether and why they ignore or avoid health information. Both factors may result in the identified framework being incomplete. This limitation could be tackled in future research by measuring nonuse in a situation-specific way by using a diary design (Narayan et al., 2011). Second, the composition of my sample might be biased as individuals with a higher tendency to avoid or ignore health information may have a lower motivation to participate in an interview addressing how they engage with health information. This could be an explanation for the fact that consistency of behavior played a minor role in the interviews. However, it is also important to critically reflect on the extent to which the interview guide has sufficiently addressed this aspect. Third, the degree of resolution of which determinants appear relevant for which type of nonuse of health information should be increased. A more situation-specific approach outlined above is perceived as promising.

Conclusion

Addressing the aim to contribute to construct clarity and theory specification, the current study highlights that information ignoring and avoidance are two distinct behaviors (Link et al., 2023) characterized by their underlying motivational pattern. My data further indicate that information ignoring and avoidance are not unidimensional constructs (Case et al., 2005; Skovsgaard & Andersen, 2022). Instead, the selectivity and consistency of both behaviors build various types of information ignoring and avoidance, which need to be explained differently considering individual differences, cognitive, affective, socio-normative, and structural factors. Further, theory specification should build on the findings to test which factors relate to which kind of nonuse behaviors.

For designing health communication strategies, the current study illustrates that different efforts are needed to address potential dysfunctional outcomes of information ignoring, and avoidance. Measures dealing with information ignoring should aim to raise awareness and promote adequate assessment of personal risks. Regarding information avoidance, it should be distinguished whether it is a functional or dysfunctional coping strategy

to deal with threatening information. To countermeasure consistent information avoidance, individuals' coping resources should be strengthened, communication strategies using positive framing are needed and appeals to seeking-related norms can be used to countermeasure information avoidance. Across all types of barriers, training programs are needed that address individuals seeking control or health literacy, and information platforms need to be optimized regarding their comprehensibility and their degree of usability.

Note

1. News is understood as a special kind of information about current affairs or events (Edgerly, 2022; Skovsgaard & Andersen, 2020).

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