

Food-related information-seeking behaviour in social media

Representative online survey on usage and perceived value

Kristin Leismann, Jasmin Godemann

Abstract

Considering the pervasive influence of social media in contemporary society, it is pertinent to examine the extent to which food-related information-seeking behaviour has consequently been transformed. The exploratory online survey (n = 1030) used in this study, which is representative of the German population in 2021, demonstrates the significance of social media as a source of information for its primary users (aged 18-49 years) and identifies applications and technical features that are relevant for researching food-related topics online. The results demonstrate that there is an ongoing demand for specific, pertinent information that is applicable to everyday life, and that social contacts serve as a valuable source of information. The findings indicate that while friends or peers are frequently mentioned as analogue sources of information, online sources are becoming a prominent alternative to traditional sources of information such as television. Technical features of social media such as hashtags facilitate the management of vast quantities of information and encourage interactive communication. The study indicates that social food communication has evolved from the purposeful transmission of information to a process of communication about eating habits, options, and identities.

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Dipl. Soz. Kristin Leismann¹ Prof. Dr. Jasmin Godemann

Lehrstuhl für Kommunikation und Beratung in den Agrar-, Ernährungs- und Umweltwissenschaften, Justus-Liebig-Universität Gießen, Senckenbergstr. 3, 35390 Gießen ¹ kristin.leismann@fb09.uni-giessen.de

Introduction

Social media¹ is becoming an increasingly important source of information, especially for young people [1]. Social media content also plays an important role in food behaviour [2-4]. In 2021, for example, the number of people in the 14+ age group in Germany who accessed information via social media increased by about 13 %. Applications such as YouTube, Facebook, and Instagram played the biggest role [1]. Against this background, this article examines the importance of social media for food-related informa-

tion-seeking behaviour. The research question is: "How do social media applications affect the way people search information about food?" An exploratory online survey was conducted in order to answer this question. The research objectives were to discuss the general importance of social media alongside other sources of information, to find out which social media channels are particularly suitable for food-related topics and why, and which functions are relevant for information-seeking behaviour. This study thus contributes to the discourse on social media in the field of nutrition communication.

Background

In terms of its theoretical approach, this article is embedded into the research field of social food communication. In this field, food is seen as a communicative phenomenon [5]. Social food communication research is therefore not limited to the content of communication (communication about food); it also focuses on the constructed images of food (communication of food) as well as semantically expressed identities (communication through food) [5]. Every day, people make food-related decisions that are largely based on information communicated to them in different contexts [5]. This can lead to so-called information overload. For professional food communicators, this means providing guidance [5, 6] in order to enable decisions and actions. "Nowadays, the intertwined nature of

¹ In this article, the term "social media" is understood to encompass all digital platforms and the associated applications (hereafter "apps") for mobile devices, such as mobile phones or tablets. These enable users to network digitally, exchange information with each other and share media content individually, in a defined community or openly in society. The purpose of this exchange is to create, discuss and share media content



everyday food practices in the media must always be considered if we want to understand why people eat the way they do" [7]. This, however, requires an understanding of the sources people currently use to inform themselves about food, the importance they attach to these sources, the role social media play in this, and the importance ascribed to them according to the three levels of analysis mentioned above.

Information-seeking behaviour

Information-seeking behaviour is the term used to describe the different ways in which people interact with information and the ways in which they search for and use information. Mediatisation processes and digital innovations mean that the ways in which people obtain information in general, or on specific topics such as food and health, are constantly changing [1].

In their everyday lives people are constantly confronted with information to help them solve problems or make decisions. Information comes from a range of sources. According to Fisher and Julien [8], two types of informational sources dominate: On the one hand, there are interpersonal/informal sources, with a particular emphasis on the role of peers, one's own (analogue) social networks, and family. On the other hand, there are formal sources, which include "classical information sources" such as the news or magazines, as well as the internet and social media, which can be used both as asynchronous media (e.g. e-mail, web boards) and as synchronous media (e.g. messenger services, chat rooms). In recent years, research on information-seeking behaviour has shown that people rarely use formal sources when seeking information [9–11]. Instead, they prefer to obtain information from interpersonal/informal sources such as friends or family. According to Case & Given [9], social media have expanded in the process of digitalisation and facilitated the exchange of information stemming from informal sources, e.g. through influencer communication (◆ info box "Influencers").

Digital information-seeking behaviour in social media

Social media are classified as media intermediaries. They are "services [...] that generate attention for content - created by themselves or by others - through aggregation, selection and presentation" [1]. They provide their users with content from various digital sources, while algorithms filter, evaluate, and personalise this

Influencers

Influencers are people who have a strong presence on social media and enjoy a high reputation among their followers. As channel operators on social media platforms, influencers disseminate product and brand-related information, which can be described as advertising communication in the broadest sense. Due to the proximity of influencers to their target groups, which is expressed, among other things, through language or similar lifestyles, they are often perceived by their recipients as peers [12–17].

information. There are two common types of media intermediaries: search engines, which respond to individual queries and are more suitable for active information seeking when there is a clear need for information, and social media, which, like traditional news services, provide a (personalised) service and thus also enable passive use. Studies have shown that both the passive "monitoring" of information and the active search for information in social media are relevant to our behaviour [2-4, 18]. The annual Media Diversity Monitor documents significant differences in digital information-seeking behaviour [1]. In 2021, social media was used both for entertainment (30,3 %) and information (24,6%), with the information-seeking component tending to

Wunderlich & Hölig [11] have shown that social media play a special role as a source of information, especially for younger people. Teenagers and young adults do not find their interests and concerns reflected in the traditional news media. Around 22% obtain their information from social media [11]. The study also shows that information provided by established media is hardly used at all. Young people keep up to date almost exclusively through casual information contacts on TikTok and YouTube, preferring entertaining content and pursuing individual interests, which they also discuss with their peers. In addition to professional news providers, highreach actors without a journalistic or editorial background, such as celebrities or influencers, receive the most attention for information [11, 16]. These actors fulfil a mediating function for young people in particular, as their communication is at eye level and closer to the reality of young people [17]. Because of this parasocial relationship (* info box next page) between influencers and their followers, young people in particular (14–17-year-olds) regard influencers as a relevant source of information and categorise these sources as informal [11]. This is also underlined by studies which show that followers attribute a higher level of perceived trustworthiness to information from influencers than do non-followers, as they perceive the content to be less threatening [24]. Furthermore, the boundaries between informative and entertaining content from different actors blur online [16].



Food-related information-seeking behaviour in social media

The internet has intensified the competitive conditions for traditional food communicators. For younger audiences in particular, nutritionists or official professional organisations are becoming less visible and less relevant [2]. Furthermore, the manner in which information is conveyed differs significantly between online and offline contexts. In the analogue age, individual specialist organisations or nutritionists were responsible for creating and disseminating nutrition-specific content, as well as for maintaining direct contact with patients or recipients. In contrast, the current digital landscape often separates the following three aspects: content, communication channel (e.g. Instagram story or TikTok video), and direct contact or exchange with the recipients [6]. To date, only a small number of studies have addressed the clas-

sification of social media within the broader context of food-related information-seeking behaviour, as well as the underlying mellitus, who are currently breastfeeding, or with oncological issues [27-29]. Specific target groups are also used as examples for analysis [30]. The results demonstrated that the internet is the most frequently used source of information for young families in Germany seeking answers to questions regarding food (81%) [30]. In the 2017 YouGov trend study on food, search engines (41%) and YouTube (34%) were also identified among the most important sources of information for adults in Germany. The studies demonstrate that social media can facilitate everyday food-related practices when individuals proactively seek out relevant topics and information [2].

Parasocial relationship

public sphere, such as influencers. They are usually onesided [16, 19]. From the user's perspective, the reception of content can be conceptualised as a parasocial interaction, which describes the perceived short-term relationship between users and a member of the public [20]. As time progresses, this can result in the formation of a parasocial relationship, which in turn may lead to further interactions. In particular, young people tend to view influencers as potential partners or friends, and thus demonstrate heightened parasocial engagement and emotional intensity towards these individuals [16]. The relationship they envisage is founded upon empathy [21] and can be reinforced by the influencer actively allowing their followers to participate in their lives, for example [22]. By means of regular content posting and, occasional direct interaction with followers, for example by replying to comments, the influencer is able to establish a lasting socio-emotional bond with their fol-

motivations for specific applications and functions. In 2018, the BMEL conducted a study to ascertain the methods by which people in Germany obtain information about food. Approximately two-thirds (69%) of respondents indicated that they obtain information from product packaging. Online research was relevant for 42% of respondents, 21% visited internet forums with product reviews, and 14% used social media. As with the previous question, younger respondents clearly predominated in this regard: 31% of respondents under 30 years of age used social media, compared to just 4% of respondents over 60 [25]. In a similar vein, Quaidoo et al. demonstrated in 2018 [26] that online sources constituted the primary source of information for the 18 to 25 age group, with a usage share of 92,7%.

There is often a special focus on nutritional medicine in the studies, e.g. the information-seeking behaviour of people with diabetes

Material and methods

To investigate food-related information-seeking behaviour on social media, a Germany-wide online survey (n = 1030) was conducted from 18 August 2021 to 10 September 2021 using a computer-assisted online questionnaire (CAPI) via the online survey application limesurvey.org. The sample includes the main users of social media, i.e. 18-49-year-olds. This age restriction is based on the findings of the Medienvielfaltsmonitor 2021, which shows that people over 50 use social media less than average. The age group of respondents also starts at 18, since self-determined behaviour and personal responsibility for one's own diet are relevant to the topic of food [1].

The representativeness of the study is contingent upon the socio-demographic categories of age, gender, education, and federal state. The survey was conducted by the company Aproxima, which was also responsible for recruiting survey participants. A total of 4342 individuals participated in the survey. To ensure representativeness, quotas were defined at the outset of the questionnaire, and a test item was included midway through the online questionnaire to exclude incomplete questionnaires. Furthermore, an additional 17 questionnaires were excluded following data preparation and cleansing, resulting in a total of 1030 fully completed questionnaires included in the analysis.

The statistical analysis of the collected data was conducted using the statistical software SPSS for Windows Version 29 [31]. As this is an exploratory study aimed at interpreting the strength of the differences, the analysis



was carried out using descriptive statistics (including frequencies, arithmetic means, and standard deviation). The statistical analysis methods are based on standard statistical works and professional publications [32-40].

Questionnaire design

In order to facilitate comparison, questions pertaining to general information-seeking behaviour were based on the Nationale Verzehrsstudie II (NVS II) [41]. The question on food information in the NVS was employed, updated, and augmented with digital response items, and the item pertaining to the internet was further differentiated. The respondents were asked to indicate whether they generally obtain food-related information from social media, influencers, food bloggers, company websites, celebrity chefs on television and the internet, or recipe sites on the internet (e.g. chefkoch.de). Furthermore, the response option "friends and family" was queried separately, "nutritionists" was included, and the options "adult education centre", "health/food inspection/veterinary office", "information learned or brought home by children (school, kindergarten)", and "alternative practitioner" were eliminated². Furthermore, the response options were reduced from "daily" to "not used", with five variants of "yes" and "no". This resulted in a list of 22 answers that respondents could select.

When questioned about food-related social media, respondents were given the option to select a network among the ten most prevalent social media networks in 2021 (based on [1] and [42]). In a corresponding field, respondents were then able to provide a rationale for their selected network. They were subsequently asked about specific technical functions that are beneficial for locating information on food-related subjects on social media.

Results

Study population

The study population consisted of 1030 fully completed questionnaires. The socio-demographic characteristics are presented in • Table 1. Representativeness is based on the categories of gender, age, educational qualifications and federal state, as defined for the German population in 2021.

Classification of social media as a source of information on food-related topics

When asked where respondents actively obtain information about food, the percentage distribution of answers shows that most people obtain information from food packaging (88,5%) (* Table 2). There is almost no difference in terms of gender: 89% of women and 88% of men chose this answer. The older the respondents are, the less relevant the information on food packaging is categorised as (18-24 years: 91%; 25-34 years: 90%; 35-49 years: 85%).

The second most common source of information was friends (75,9%). When distinguishing between friends and family, respondents tend to turn to friends and peers for information on food-related issues, preferring them to family (62,9%). Friends are particularly important for younger target groups when it comes to food-related issues (18-24 years: 85%; 25-34 years: 80%; 35-49 years: 69%); the distribution by gender shows only slight differences (F=77%, M=75%). The importance of the family in food matters diminishes with age: 84% of respondents in the 18-24 age group said they turn to their family for advice on food matters, compared with only 49% in the 35-49 age group (25-34 age group: 71%). More men (67%) than women (59%) cited family as a relevant source.

The source "recipe sites on the internet (e.g. chefkoch.de)" is more frequently mentioned by women (80%, men: 70%) with 74,7%. An analysis of the age distribution shows that it is mainly the group of

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Socio-demographic characteristics	n	%0		
Gender				
Male	518	50,3		
Female	509	49,4		
Diverse	3	0,3		
Age				
18–24 years	189	18,3		
25–34 years	341	33,1		
35–49 years	500	48,5		
Educational qualifications				
Low education	212	20,5		
Still a pupil	4	0,4		
Finished school without a qualification	18	1,7		
Elementary/main school certificate or polytechnic secondary school with 8th/9th grade certificate	190	18,4		
Intermediate education				
Intermediate school leaving certificate/secondary school leaving certificate or post-secondary polytechnic certificate with 10th grade qualification	325	31,6		
Higher education				
University entrance qualification and higher	493	47,9		

Tab. 1: Socio-demographic characteristics of the study sample (n = 1030)

² These items scored below 10% in 2008 and were therefore excluded [41].



25–34-year-olds who use recipe sites (80%), while only around 72% of the other age groups answered affirmatively.

The survey results show that social media in general (71,9%) is highly relevant as a source of information about food, followed by online videos such as those on YouTube (70,9%). This shows that social media content is particularly relevant for younger audiences: For example, 82% of 18-24-year-olds say they use social media to find information about food (25-34-year-olds: 79%, 35-49-year-olds: 63%). Overall, 76% of women are more likely to use social media for food-related issues (men: 68%). This puts social media well ahead of official professional organisations such as the German Nutrition Society (DGE) (52,2%), nutritionists (31,6%) and educational institutions such as schools, universities, and training centres (26,3%). The latter came in behind food bloggers (49,8%) and social media influencers (47,3%).

The results show that concrete, day-to-day information (information on food packaging, recipe sites on the web) and social contacts (friends, family) remain relevant as sources of information about food. It also shows that analogue sources (information on food packaging, friends) and online sources (recipe sites, social media & online videos) are equally relevant, with the latter ranking ahead of traditional sources such as TV (70,0%) and magazines (63,9%).

Information on food packaging Friends/peers 75.9 % Recipe sites on the internet (e.g. chefkoch.de) Social media (general) Online videos (e.g. on YouTube) Television Advertising (e.g. magazines, clips, adverts) Cookbooks Magazines Family Company websites Doctor Professional organisations (e.g. German Society for Nutrition) Food bloggers Daily and weekly newspapers Celebrity chefs on television or the internet Specialist literature Influencers on social media Radio Podcasts Nutritionists 75.9 % 75.9 % 74.7 % 67.7 % 67.7 % 67.7 % 67.3 % 67.3 % 63.9 % 62.4 % 62.9 % 62.9	Where do you find information out about food?		
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Nutritionists 31.6 %	Radio	43.8 %	
	Podcasts	38.4 %	
	Nutritionists	31.6 %	
School/studies/training 26.3 %	School/studies/training	26.3 %	

Tab. 2: Sources of information on food-related issues (percentage distribution, n = 1030, multiple answers possible)

Social media for food-related informa-

• Figure 1 shows the results of the question on preferred social media for food-related is-

The three most relevant networks YouTube, Facebook, and Instagram are described in more detail below and brought together with the answers to the open question about the reasons for choosing the network.

40,9% of respondents favour YouTube for finding information on food-related topics. This represents more than a third of respondents and makes the video-based platform the most relevant application in this area. In terms of gender, male respondents showed higher preference for the network (55,8%) than female respondents (43,9%). Looking at the different age groups, it can be summarised that YouTube is the most popular platform for users of all ages, with the highest share among 18-24-year-olds (53,9%).

In response to the open question about the reasons for choosing YouTube, respondents (n = 181) cited mainly cognitive motives. These include the variety of information and topics (33,7%), the ease of use and access to the application (21,6%), the comprehensibility of the information due to the presentation (13,8%), the quality of the contributions/ background knowledge (8,8%), the comprehensiveness of the videos (9,4%), the many tutorials that make it easier for people to imitate the shown content (7,3%), and the "video" medium used there (5,4%).

The variety and scope of information on You-Tube is highlighted by respondents. They appreciate the large number of providers and the wide range of content in different lengths and levels of detail. According to respondents, the usability/accessibility and familiarity of the platform make it easier to search for videos and find information. The variety of videos allows users to obtain information relevant to their daily lives. The quality of the videos is rated positively, as they are "easy to understand" thanks to the targeted selection and the content is therefore applicable to everyday life. YouTube is also seen as a "trustworthy" source as there are many experts and the content is perceived as "authentic". The use of videos to obtain information is perceived as



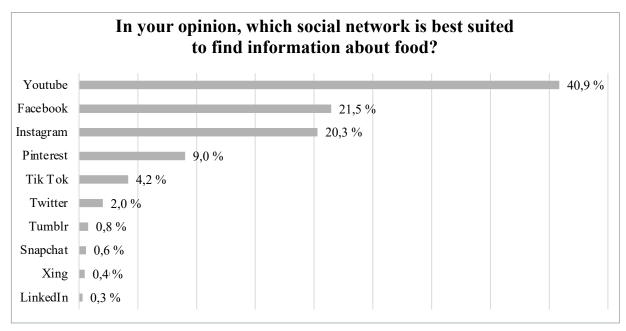


Fig. 1: Most relevant social networks for food (n = 1030, distribution of frequencies in per cent)

beneficial and the opportunity to obtain explanations of nutritional background information in videos is appreciated. Many respondents referred to tutorials and cooking videos on YouTube.

Facebook

In second place is the Facebook network with 21,5%. This network is mainly chosen by the 35-49 age group with 59,3% (25-34-yearolds: 32%, 18-24-year-olds: 9%). The breakdown by gender shows that Facebook is considered slightly more suitable for finding food-related information by women (53%) than by men (47%).

The analysis of the open-ended question to explain the reasons for choosing Facebook showed (n = 95) that Facebook is considered to be well-suited for socially interactive motives: the group and forum function and the associated exchange through the many users registered there (keyword "follow-up communication") (21%), the variety of information and topics (19%), the large reach (13%), and the ease of use and access to the applica-

Some respondents also attributed a certain quality of information to Facebook, with 5,3% saying this. According to these respondents, the communicators who appear there are "more serious" because of the profiles created and the "social verifiability" of the people. The ability to share information in groups - which can also be protected if necessary - plays a special role for Facebook users, as it is not found in a comparable form on any other network.

Instagram

For one in five respondents (20,3%), Instagram is the most relevant social network for food-related issues. The 25-34 age group accounts for the largest share (43%), followed by 35% of 35-49-year-olds and 22% of 18-24-year-olds. Overall, more women (55%) than men (45%) use Instagram.

Responses to the open-ended question about the reasons for using Instagram (n = 69) also focused on socially integrative motives. The majority of respondents (29%) identified the large number of communicators communicating about food in the form of food bloggers, food experts, or influencers as a reason for using Instagram. Respondents were also positive about the "video" and "image" media used (15%), the variety of information and topics (13%), the comprehensibility of the information (12%), the reach (9%), and the ease of use of the app (9%). The many experts, food bloggers, and influencers are cited as being central of Instagram and therefore relevant for information-seeking behaviour on food-related topics. Due to the associated "target group-oriented" and "understandable" language of the communicators, the content shown on Instagram is described with the answers "authentic", "simple", and "good tips from your own peer group". However, some also criticise the amount of irrelevant food content on Instagram. Nevertheless, the ability to quickly find content relevant to everyday life is highlighted as a positive aspect. The ease of use of the app is explained in part by its search function.



Use of selected functions in social media for food-related issues

When asked about the technical features used in social media to find food-related information, videos (41,5%), page subscriptions (37,4%), and groups/forums (36,2%) were the most popular (Figure 2).

The majority of respondents (41,5%) said that they search for food-related content on social media via videos (including reels, stories etc.). This is followed by subscribing to pages (37,4%), e.g. to follow influencers, companies, or food bloggers. Groups and forums are used by 36,2% of respondents. In terms of gender distribution, men are more likely to use links to search for videos (33%). Women, on the other hand, are more likely to use hashtags (34%), subscribe to sites (24%), and use groups and forums (13%). Usage patterns vary according to age: in the 35-49 age group, the group function (24%) and subscribing to pages (20%) are still ahead of videos (18%). For 18-24-year-olds, however, the group function (15%) plays a subordinate role. For them, videos (22%) and links (20%) are more relevant.

The results combine the findings of the previous sections: Again, we see that good transferability of information on food-related topics is of primary importance, and videos are ideal for this. Additionally, respondents feel that their informational expectations are met by page subscriptions from influencers etc. The group and forum functions encourage dialogue and contribute to interactive communication about food. Social media offer a wealth of information about food and, at the same time, provide important tools for managing the flood of information through the functions mentioned.

Discussion

Significance of social media as a source of food information

The results show the increasing importance of social media as a source of information about food, especially for young people. In 2008, NVS 2 respondents stated that their main source of information about food was print media, followed by information on food packaging, personal contacts such as friends and family, and then television [41]. The results show a shift in information-seeking behaviour: Traditional print media are being complemented by digital media. Online sources (recipe sites, social media, and online videos) and analogue sources (information on food packaging, friends) are almost equally relevant, although digital offerings are more prevalent overall. This is likely to be a long-term trend, especially when looking at the younger age group of 18-24-year-olds, who already prefer online sources to analogue sources.

The results show that practical and everyday information, such as information on food packaging (88,9%) or online recipe sites (74,7%), is currently seen as the most important sources of information. This is also underlined by the results of a 2017 YouGov survey, which shows that the general availability of information, good transferability to everyday life, and easy access to a variety of recipe options are all in favour of recipe sites

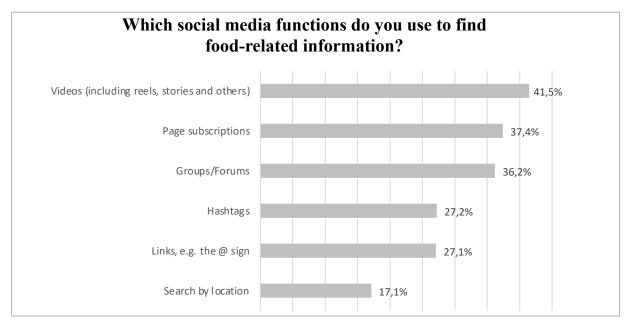


Fig. 2: Use of certain search functions in social media for nutritional questions (n = 1920 answers from 1030 respondents, multiple answers possible, percentage distribution of frequencies)



on the internet [43]. Developments in generative artificial intelligence (AI), such as ChefGPT, a tool for creating personalised recipe suggestions, meet the aforementioned need for quick access, ease of use, and concrete instructions, and clearly illustrate the increasing need to be able to make quick decisions that are relevant to everyday life. Although this study can show why and how social networks are used in the search for food-related information, it does not yet take into account more recent developments such as AI, which had not become widespread until 2023. Future research will need to take these developments into account.

Personal contacts such as friends and family continue to be among the most important sources of information. In 2008, 54% of respondents cited friends and family as a relevant source of information on food-related issues. In this year's survey, "friends/ peers" is again at the top with 75,9% and "family" is in second place with 62,9%. These findings are congruent with those of the 2018 study by Steinbach et al. In their survey, friends were the most important source of information. They link these findings to increased trust in friends as a source of information. The results of the present study also show that friends and family play an important role, especially for younger respondents (18–24 years), and that the importance of family decreases with age. This was also shown by the re-analysis of the 18-49 age group in the scientific use file of the NVS II data. One explanation for this is that friends, peers, and traditional (digital) media content become increasingly relevant during adolescent years. As people tend to obtain information about food mainly from informal sources their social environment – it can be assumed that although people search for information online, friends and family continue to play an important role in follow-up communication, i.e. in actively discussing and reflecting on food-related issues. It should be added that social media offer the infrastructure to extend this aspect and provide a (digital) communication space to exchange information on food-related issues with friends/peers across space and time. As mentioned above, information from social media is often perceived as an informal source because the boundaries between public and private communication are blurred. Even content with an advertising message that is communicated by influencers and follows the principles of the opinion leader concept [14, 16, 46] is often not perceived as such and is more likely to be categorised as a tip from friends/peers. One of the reasons for this is the parasocial relationship described above. As studies have shown, followers attribute a higher level of trustworthiness to information made available by influencers as a result [24].

Influencers and food bloggers who specialise in food-related topics are mentioned more often than nutritionists in this survey. The findings of Simunaniemi et al. [47] provide possible explanations for this: Although professional dietitians are considered to have a formally higher level of expertise than social media communicators (e.g. influencers) who write about their "own experiences", people tend to prefer an authentic writing style as opposed to the impersonal writing style of experts and therefore refer less to them. The "personal" relationship established with influencers and others on social media makes the hierarchical relationship between experts and laypeople obsolete.

The results of this study can be combined with those of Endres [45]. In a systematic review on the topic of food communication in social media, she identified aspects that characterise social media communication about food, which allow conclusions to be drawn about information-seeking behaviour: The focus is on the community and thus the exchange on food-related topics with "like-minded people". There is the possibility of identity management, i.e. that people can present their food identity in relation to their personal importance of food and position themselves in the discourse about the "right" diet. Knowledge relevant to everyday life takes precedence over expert knowledge; the relationship/contact with like-minded people takes place at eye level and is at the same time very personal but can also remain anonymous if necessary.

These characteristics and the dynamics associated with them have a significant impact on information-seeking behaviour, as shown below by the preferred platforms for accessing food content.

Conclusions on food-related information-seeking behaviour via social media

When the data was collected in 2021, You-Tube became the preferred network for finding information about food-related topics. Facebook is in second place, followed by In-

The question of food-related social media can be compared to the results of the Medienvielfaltsmonitor in 2021: The monitor showed that YouTube (12,8%) was the most important digital information search platform in 2021, just ahead of Facebook (12,6%) and Instagram (10,0%) [1]. The picture is little different when it comes to food. Here, YouTube is also the most popular, with 41%, ahead of Facebook (22%) and Instagram (20%). The shifts in the popularity of social media across age groups are also reflected in the Medienvielfaltsmonitor 2021.

However, the answers to the open-ended question about the reasons for using a particular social network for food-related topics provide further interesting insights. In addition to cognitive motives, social-interactive motives are increasingly cited: Food-related information on social media serves as an inspiration for respondents, is an opportunity for communication between several people, is



"easy" to access and understand. It was also stated that the applications, thanks to their technical features, offer the possibility of "managing" information in an age of "information overload". Moreover, social media are not only a medium for transmitting information, but also a means of orientation for dealing with the complexity of food and a tool for negotiating one's own construction of the meaning of "right" food [48, 49].

Although this study looked at active information-seeking behaviour, the importance of "passive" searches for food-related information on social media can be seen in the responses to the open-ended question. Much information is often discovered incidentally or through external stimuli such as algorithms and advertisements. Studies on information-seeking behaviour underline this important aspect of passive monitoring, as young people in particular keep up to date almost exclusively through casual information contacts on TikTok and YouTube, preferring entertaining content and pursuing individual interests [11, 14]. Time constraints, lack of self-efficacy, perceived lack of relevance to everyday life,

Conclusion

The study has shown that social media is a comprehensive source of information on and inspiration for food-related topics. The survey also revealed the following key findings:

- Everyday information: It was found that the most sought-after information was very pragmatic, applicable to everyday life, and easily accessible information about specific foods and for finding ideas for recipes.
- Informal sources before formal sources: Peers/friends play a central role in food-related issues, especially for younger people. As previous studies have shown, and as this article highlights, people seek information about food primarily from informal sources and trust them more. Social media offer the possibility of extending this information-seeking behaviour: based on the technical infrastructure and functionalities: They open up an extended digital communication space, which is also perceived as informal.
- Reducing information overload and complexity: Social media offer users technical features that support information management to cope with the flood of information about food. Additionally, content is presented in a way that reduces complexity and is tailored to the audience, making it both easily accessible and easy to understand.
- Follow-up communication: Social media offer their users a space for follow-up communication, i.e. in addition to and as part of the information search, people can use social media to discuss issues, be inspired by like-minded people, and support each other in their dietary goals and decisions ("peer effect" [50,

The present study is based on previous findings from social food communication research, which show that people not only use media to inform themselves about food-related issues in a purposeful way but also interact with and through media in food-relevant ways [52, 53]. Through interactions with peers, social media offer recipients the opportunity to negotiate what constitutes a "proper" diet for them and to strengthen their own identity management in relation to food [49].

This type of food-related information-seeking behaviour affects all age groups surveyed, but particularly younger people aged 18-24. The research suggests that the potential of different social media platforms lies particularly in their attractiveness for young people, i.e. in the forms of information and social support for weight loss and health promotion activities [55].

Further research questions

The current state of research shows that, in the context of food, active information management and active information seeking in social media have been the main focus so far. It would be interesting to establish a stronger link with research on the impact of media, algorithms, and advertising that focuses on the importance of passive monitoring of food-related topics in social media as well as the importance of collective knowledge systems and the influence of algorithms on general opinion formation [1, 15, 56, 57]. The "echo chamber effects" created by algorithms in social media could be of particular interest for food communication research. Certain media content is consumed more than others, resulting in selective information consumption.

The results underline the importance and increasing diversity of digital information sources and thus the high importance of digital information in the general provision of information on food-related topics. Future research in this area needs to take into account technological innovations and developments such as artificial intelligence (AI).

Limitations

The study is representative of a specific age group (18-49 years), which was identified as the primary demographic of social media users. It would be beneficial to incorporate future de-



velopments in the 50+ age group in order to facilitate concrete comparisons of information-seeking behaviour and demonstrate long-term developments. Furthermore, investigating the influence of different reasons for information-seeking behaviour could provide insights into how to further differentiate varieties of information-seeking behaviour. It is essential to consider the evolving landscape of social media platforms and their technical specifications, which may have influenced the present results. The potential emergence of new or modified platforms could have contributed to changes in information-seeking behaviour on food-related topics. Regular monitoring of these changes could facilitate the identification of emerging trends and inform recommendations for multipliers.

Disclosures on Conflicts of Interest and the use of AI

Kristin Leismann is a member of the editorial team of Ernährungs Umschau. She was not involved in the review of this article and did not have access to the review documents. There is no other conflict of interest. Jasmin Godemann declares that there is no conflict of interest. The authors declare that no Al was used in the creation of the manuscript.

References

- 1. Die Medienanstalten: Intermediäre und Meinungsbildung: Gewichtungsstudie zur Relevanz der Medien für die Meinungsbildung in Deutschland, 2021-I. www. die-medienanstalten.de/fileadmin/user upload/die medienanstalten/Forschung/ Intermediaere und Meinungsbildung/Intermediaere Meinungsbildung 2021-I.pdf (last accessed on 25 February 2024).
- 2. Bartelmeß T, Godemann J: Ernährungskommunikation auf Social-Media-Plattformen und Ernährungshandeln der Nutzer*innen. DGEwissen 2021; 2021(5): 70 - 3
- 3. Endres E-M: Soziale Medien in der Ernährungskommunikation: Relevanz und Potenziale. https://edoc.ku.de/id/eprint/28506/ (last accessed on 25 February 2024).
- 4. Riesmeyer C, Hauswald J, Mergen M: Je medienkompetenter, desto gesünder?: Der Zusammenhang zwischen medienbezogener Gesundheitskompetenz und Ernährungsverhalten von Mädchen. In: Kalch A, Wagner A (eds.): Gesundheitskommunikation und Digitalisierung: Zwischen Lifestyle, Prävention und Krankheitsversorgung. Baden-Baden: Nomos 2020, S. 201-16.
- 5. Godemann J, Bartelmeß T: Das Forschungsfeld der gesellschaftlichen Ernährungskommunikation. In: Godemann J, Bartelmeß T (eds.): Ernährungskommunikation: Interdisziplinäre Perspektiven – Theorien – Methoden, 1st ed. Wiesbaden: Springer Fachmedien 2021, S. 29-45.
- 6. Mörixbauer A, Gruber M, Derndorfer E (eds.): Handbuch Ernährungskommunikation. Berlin, Heidelberg: Springer Spektrum 2019.
- 7. Godemann J: Neue Perspektiven für Kommunikation über Ernährung. In: Dr. Rainer-Wild-Stiftung (ed.) 2023: Drei Jahrzehnte Köpfe und Diskurse, S. 132-40.
- 8. Fisher KE, Julien H: Information behavior. Ann Rev Info Sci Tech 2011; 43(1): 1–73.
- 9. Case DO, Given LM: Looking for information: a survey of research on information seeking, needs, and behavior. Bingley/England: Emerald 2016.
- 10. Kuhlen R, Lewandowski D, Semar W, Womser-Hacker C (eds.): Grundlagen der Informationswissenschaft. 7th ed. Berlin, Boston: De Gruyter 2023.
- 11. Wunderlich L, Hölig S: "Verständlicher, nicht so politisch": Einblicke in die Bedürfnisse und Nutzungspraktiken gering informationsorientierter junger Menschen. Hamburg: Hans-Bredow-Institut 2023.

- 12. Gleich U: Influencer-Kommunikation in sozialen Netzwerken. www.ard-media.de/fileadmin/user upload/media-perspektiven/pdf/2019/0519-ARD-Forschungsdienst 2019-06-12.pdf (last accessed on 6 July 2024).
- 13. Urbanek M: Wie Influencer die Ernährung von Kindern beeinflussen. Pädiatrie 2021; 33(2): 50.
- 14. Bause H: Politische Social-Media-Influencer als Meinungsführer? Publizistik 2021; 66(2): 295-316.
- 15. Jahn J, Vogel T, Heinz A, Duffner-Korbee D, Rüther L, Marksteiner T: Advertising Literacy von Jugendlichen im Kontext von Influencer:innen-Marketing. MedienPädagogik 2024; 57: 127-63.
- 16. Wunderlich L: Parasoziale Meinungsführer?: Eine qualitative Untersuchung zur Rolle von Social Media Influencer*innen im Informationsverhalten und in Meinungsbildungsprozessen junger Menschen. M&K 2023; 71(1-2): 37-60.
- 17. Riedl M, Schwemmer C, Ziewiecki S, Ross LM: The rise of political influencers - Perspectives on a trend towards meaningful content. Front Commun 2021; 6.
- 18. Geiß S, Leidecker M, Roessing T: The interplay between media-for-monitoring and media-for-searching: How news media trigger searches and edits in Wikipedia. New Media & Society 2016; 18: 2740-59.
- 19. Rasmussen L: Parasocial interaction in the digital age: an eof relationship building and the effectiveness of YouTube celebrities. JSMS 2018(7(1): 280-94.
- 20. Horton D, Wohl RR: Mass communication and para-social interaction; observations on intimacy at a distance. Psychiatry 1956; 19(3): 215-29.
- 21. Döring N: D 2 Computervermittelte Kommunikation. In: Kuhlen R, Lewandowski D, Semar W, Womser-Hacker C (eds.): Grundlagen der Informationswissenschaft, 7th ed., Berlin, Boston: De Gruyter 2023; 511-24.
- 22. Gannon V, Prothero A: Beauty blogger selfies as authenticating practices. EJM 2016; 50(9/10): 1858-78.
- 23. Bond BJ: Following your "friend": social media and the strength of adolescents' parasocial relationships with media personae. Cyberpsych Beh Soc N 2016;19(11): 656-60.
- 24. Breves P, Liebers N, Motschenbacher B, Reus L: Reducing resistance: the impact of nonfollowers' and followers' parasocial relationships with social media influencers on persuasive resistance and advertising effectiveness. Hum Commun Res 2021; 47(4): 418-43.
- 25. Bundesministerium für Ernährung und Landwirtschaft: Deutschland, wie es isst: Der BMEL-Ernährungsreport 2018.
- 26. Quaidoo EY, Ohemeng A, Amankwah-Poku M: Sources of nutrition information and level of nutrition knowledge among young adults in the Accra metropolis. BMC Public Health 2018; 18(1): 1323.
- 27. Rossmann C, Lampert C, Stehr P, Grimm M: Nutzung und Verbreitung von Gesundheitsinformationen: Ein Literaturüberblick zu theoretischen Ansätzen und empirischen Befunden. Gütersloh: Bertelsmann Stiftung 2018.



- 28. Bachl M, Mangold F: Gesundheitsbezogene Informationsrepertoires: Ein nutzerorientierter Ansatz zur Analyse der Informationsnutzung im Gesundheitskontext. In: Lampert C, Grimm M (eds.): Gesundheitskommunikation als transdisziplinäres Forschungsfeld. Baden-Baden: Nomos 2017; 79-92.
- 29. Zhao Y, Zhang J: Consumer health information seeking in social media: a literature review. Health Info Libr J 2017; 34(4): 268-83.
- 30. Höhn TD, Voigt C: Attitudes and media usage behavior surrounding nutrition: a survey among young families in Germany. Ernahrungs Umschau 2019; 66(6): 109 - 17.
- 31. IBM Corp.: SPSS: IBM Statistics for Windows. New York 2022.
- 32. Diekmann A: Empirische Sozialforschung: Grundlagen, Methoden, Anwendungen. 14th ed., Reinbek: Rowohlt Taschenbuch Verlag 2021.
- 33. Baur N, Blasius J (eds.): Handbuch Methoden der empirischen Sozialforschung. 3rd ed., Wiesbaden: Springer VS 2022.
- 34. Krebs D, Menold N: Gütekriterien quantitativer Sozialforschung. In: Baur N, Blasius J (eds.): Handbuch Methoden der empirischen Sozialforschung. 3rd ed., Wiesbaden: Springer VS 2022; 489-504.
- 35. Wagner-Schelewsky P, Hering L: Online-Befragung. In: Baur N, Blasius J (eds.): Handbuch Methoden der empirischen Sozialforschung, 3rd ed., Wiesbaden: Springer VS 2022; 787-800.
- 36. Witt H: Forschungsstrategien bei quantitativer und qualitativer Sozialforschung: 36 Absätze. Forum Qualitative Sozialforschung/Forum: Qualitative Social Research
- 37. Blasius J, Baur N: Multivariate Datenstrukturen. In: Baur N, Blasius J (eds.): Handbuch Methoden der empirischen Sozialforschung, 3rd ed., Wiesbaden: Springer VS 2022; 1379-400.
- 38. Lück D, Landrock U: Datenaufbereitung und Datenbereinigung in der quantitativen Sozialforschung. In: Baur N, Blasius J (eds.): Handbuch Methoden der empirischen Sozialforschung, 3rd ed., Wiesbaden: Springer VS 2022; 457-71.
- 39. Eckstein PP: Datenanalyse mit SPSS: Realdatenbasierte Übungs- und Klausuraufgaben mit vollständigen Lösungen. 7th ed., Wiesbaden: Springer Fachmedien Wiesbaden 2021.
- 40. Tausendpfund M: Quantitative Datenanalyse: Eine Einführung mit SPSS. Wiesbaden: Springer Fachmedien Wiesbaden 2019.
- 41. Max Rubner-Institut: Nationale Verzehrsstudie II: Die bundesweite Befragung zur Ernährung von Jugendlichen und Erwachsenen. Ergebnisbericht, Teil 1.
- 42. Beisch N, Koch W: 25 Jahre ARD/ZDF-Onlinestudie: Unterwegsnutzung steigt wieder und Streaming/Mediatheken sind weiterhin Treiber des medialen Internets. Aktuelle Aspekte der Internetnutzung in Deutschland. Media Perspektiven 2021(10): 486-503.
- 43. YouGov: Umfrage zu Informationskanälen für Kochrezepte in Deutschland 2017. https://de.statista.com/statistik/daten/studie/494882/umfrage/umfrage-zu-informationskanaelen-fuer-kochrezepte-in-deutschland/ (last accessed on 15 Febru-
- 44. Bartelmeß T: Woher wissen wir, was (noch) als essbar gilt?: Ernährungssozialisation im gegenwärtigen Ernährungsalltag. In: Kollodzeiski U, Hafner JE (eds.): Du sollst nicht essen. Baden-Baden: Ergon 2024; 33-46.
- 45. Endres E-M: Communication on healthy diet and weight loss in food blogs and other social media: a systematic review. Ernährungs Umschau 2016; 63(4): 80-7.
- 46. Jungnickel K: Interdisziplinäre Meinungsführerforschung: Eine systematische Literaturanalyse. Dissertation. Wiesbaden: Springer VS.
- 47. Simunaniemi A-M, Sandberg H, Andersson A, Nydahl M: Laypeople blog about fruit and vegetables for self-expression and dietary influence. Health Commun 2011; 26(7): 621-30.

- 48. Wiedemann G, Münch FV, Rau JP, Kessling P, Schmidt J-H: Concept and challenges of a social media observatory as a DIY research infrastructure. Publizistik 2023.
- 49. Schmidt J-H, Taddicken M (eds.): Handbuch Soziale Medien. Wiesbaden: Springer Fachmedien 2022.
- 50. Chung A, Vieira D, Donley T, et al.: Adolescent peer influence on eating behaviors via social media: scoping review. J Med Internet Res 2021; 23(6): e19697.
- 51. Goldsmith-Pinkham P, Imbens GW: Social networks and the identification of peer effects. J Bus Econ Stat 2013; 31(3): 253-64.
- 52. Bartelmeß T: Möglichkeiten der Analyse von Social-Media-Daten für die Ernährungskommunikation. In: Godemann J, Bartelmeß T (eds.): Ernährungskommunikation: Interdisziplinäre Perspektiven - Theorien - Methoden, 1st ed., Wiesbaden: Springer Fachmedien Wiesbaden 2021, S. 291-315.
- 53. Hepp A, Breiter A, Hasebrink U (eds.): Communicative figurations: Transforming communications in times of deep mediatization. Wiesbaden: Springer International Publishing 2018.
- 54. Godemann J, Bartelmeß T: Gesellschaftliche Verständigung über ein Totalphänomen: Zum Verständnis nachhaltigkeitsbezogener Ernährungskommunikation. In: Phyel T (ed.): Zwischen Ohnmacht und Zuversicht: Vom Umgang mit Komplexität in der Nachhaltigkeitskommunikation. München: Oekom-Verl. 2018, S. 187-206.
- 55. Altendorfer L-M, Huber B: Ernährung auf TikTok. Eine inhaltsanalytische Untersuchung zu Vielfalt, Ernährungskompetenz-Dimensionen und Werbung. M&K 2024; 72(1): 49-78.
- 56. Pansanella V, Sîrbu A, Kertesz J, Rossetti G: Mass media impact on opinion evolution in biased digital environments: a bounded confidence model. Sci Rep 2023; 13(1): 14600
- 57. Wörz F: Die Selektion und Organisation von Informationen im Internet.: Wie Algorithmen kollektive Wissensordnungen beeinflussen können. Medien + Erziehung (Bd. 61): 35-41.

