

# **Perceptions of expertise in food hypersensitivity on social media: An email interview study**

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# Perceptions of expertise in food hypersensitivity on social media: An email interview study

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## Abstract

**Background:** Seeking and sharing information are primary uses of the internet and social media. It is therefore vital to understand the processes individuals go through when engaging with information on these diverse platforms; especially in areas such as health and risk-related information. One important element of such engagement is evaluating and attributing expertise to others.

**Objective:** The study aimed to explore how meanings around expertise in relation to food allergy/intolerance (food hypersensitivity) were constructed by two groups of social media users; 1) those who use platforms for reasons relating to food hypersensitivity, and 2) those seen as experts by this community.

**Methods:** Email interviews were conducted with food hypersensitive adults (n = 4), parents of food hypersensitive children (n = 4), and perceived experts in food hypersensitivity on social media (n = 5). Data were analysed thematically using Braun and Clarke's approach.

**Results:** The thematic analysis demonstrated that judging expertise on social media is a complex and multi-faceted process. Users might be judged as expert through their professional background, or their experience living with food hypersensitivities. How users behave on social media, and the traces of their online activity can influence how others will see them. Such considerations are both measured and moderated through the social media community itself. Findings highlighted how social media often acts as a supportive information tool following a diagnosis, but this also raised concerns if patients cannot access suitable vetted information.

**Conclusions:** This work has implications for understanding how users perceive expertise on social media in relation to a health concern, and how information assessments are made during management of risks. Findings will prove beneficial to both medical and organisational stakeholders involved in the support of those living with life-changing conditions, such as food hypersensitivities.

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## Original Manuscript

## Perceptions of expertise on social media: The example of food hypersensitivity

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### Abstract

**Background:** Seeking and sharing information are primary uses of the internet and social media. It is therefore vital to understand the processes individuals go through when engaging with information on these diverse platforms; especially in areas such as health and risk-related information. One important element of such engagement is evaluating and attributing expertise to others.

**Objective:** The study aimed to explore how meanings around expertise in relation to food allergy/intolerance (food hypersensitivity) were constructed by two groups of social media users; 1) those who use platforms for reasons relating to food hypersensitivity, and 2) those seen as experts by this community.

**Methods:** Survey participants were asked open-ended questions to identify potential experts in FH issues on social media, and to discuss their reasoning for their choices ( $n = 143$ ). Subsequently, 8 adult social media users with experience of managing food hypersensitivity, and 5 participants designated as experts by those users, took part in email interviews. Survey and interview data were analysed thematically using Braun and Clarke's approach.

**Results:** Judging expertise on social media is a complex and multi-faceted process. Users might be judged as expert through their professional background, or their experience living with food hypersensitivities. How users behave on social media, and the traces of their online activity can influence how others will see them. Such considerations are both measured and moderated through the social media community itself. Findings highlighted how social media often acts as a supportive information tool following a diagnosis, but this also raised concerns if patients cannot access suitable vetted information.

**Conclusions:** This work has implications for understanding how users perceive expertise on social media in relation to a health concern, and how information assessments are made during management of risks. Findings provide practical insights to both medical and organisational stakeholders involved in the support of those living with life-changing conditions, such as food hypersensitivities.

**Keywords:** social media, expertise, food allergy, food hypersensitivity, coeliac disease, food intolerance, email interviews, thematic analysis

## Introduction

In today's digital age, people attend to the information they encounter on social media; seeking and sharing health-related information is common practice [1-3]. However, in situations where there is the possibility of negative health consequences it is important that people are acting on accurate and reliable information. Judgements about the expertise of the source are an important part of this, and it is therefore important to know what the heuristics for judging expertise are in the context of social media [4]. One such situation with potential negative consequences to health is that of food hypersensitivity – conditions associated with the need to avoid specific foods that cause adverse reactions [5]. By gaining an insight into perceptions of expertise in food hypersensitivity on social media, and from the perspective of both those living with hypersensitivity and those deemed to be expert in this area, we can further shed light on the dynamics of expertise on social media in relation to food, health and risk. A greater understanding of the factors that affect individual perceptions of expertise online may have implications for agencies and organisations that support people with health concerns.

Food hypersensitivity occurs in people who suffer reproducible adverse symptoms when eating specific foods, and denotes both food allergy and non-allergic food hypersensitivity e.g., food intolerance and coeliac disease [6]. Living with food hypersensitivities involves constant risk assessments surrounding the foods one consumes. This is especially the case when eating outside the home [5, 7-9]. Those with food intolerance wish to avoid repeatable adverse reactions to foods such as bloating, constipation, vomiting and diarrhoea. Coeliac disease is an autoimmune disease caused by the immune system reacting to the protein gluten (found in the cereals wheat, barley and rye), which shares similar adverse reactions, but can have long-term consequences if undiagnosed, such as anaemia, fatigue and weight-loss [10]. Food allergic individuals, in more severe cases, must avoid consuming allergens that could lead to anaphylaxis (associated with breathing difficulties, sudden drop in blood pressure, and which may be fatal). Given these characteristics of food hypersensitivity, this is an ideal domain within which to explore attributions of expertise on social media, since misinformation may have significant consequences [11, 12]. The aim of this study was to explore how food hypersensitive (FH) social media users and perceived experts in food hypersensitivities on social media construct meanings around expertise. To this end, we will first consider how expertise can be defined and interpreted, how internet users seek information on social media, the cues they use to assess potential expertise and how they validate the information they encounter.

When attempting to define expertise, experts typically have comprehensive and authoritative knowledge in a specific area [13]. They are well-regarded by their peers, relay accurate and reliable

information, and have gained extensive knowledge through their experience [14]. Being an expert is normally considered a good thing; to be respected or cited in relation to one's area of expertise [15]. Expertise is largely an attribution; someone is usually considered an expert because others say so [15]. Expertise typically encompasses assessments of credibility, trustworthiness, believability and accuracy of information [16]. Expertise might be assessed through academic qualifications, years spent in a specific role, or experience [17]. The importance of experience, however, highlights how distinctions between experts and lay persons can be flexible and dynamic, for example if a lay person has experience in a certain area [18]. Expertise is contextually valuable; an individual may know a lot about specific contexts and situations (e.g., from their life experiences) but little outside of that environment [18]. Whether expertise on specific social media platforms holds true for expertise in other contexts (e.g., offline or via different platforms) is worth consideration; Sternberg and Frensch [15] note "experts in one place or one time are not necessarily considered to be experts in another place or another time" (p.195).

Seeking and sharing information are primary uses of the internet and social media [12, 19-21]. In comparison to more traditional media, social media allows users to communicate in a reciprocal way, exchanging knowledge, sharing opinions or challenging information from others [22]. Social media encompasses a variety of internet-based platforms that utilise the technological advances of Web 2.0, associated with collaboration and user-generated content [23]{Kaplan, 2010 #168}. Some social media sites are designed explicitly to enable and encourage interactions, such as Facebook and Twitter. Others embody some functions of social media (e.g., posting, commenting, liking and sharing) but where this is not the primary purpose of the site, such as forums, chat rooms and comments systems following online news articles or published media (e.g., blogs). Health information-seekers can readily connect with those who share similar health concerns [24, 25]. In fact, information circulated among peers, especially those perceived to be similar, may be more influential than formal expertise [25, 26]. Social media can offer access to other people living in similar circumstances, and as a result those managing health conditions often turn to their social media peers for help, perhaps for emotional peer support e.g., from other parents of allergic children [8, 27]. This instant and supplementary access to other perspectives contrasts with information provision practices within a more formal medical setting.

Information seeking practices online can be dependent on individual characteristics or motivations of the user. Metzger and Flanagin [16] highlight how the level of accuracy an information-seeker is aiming for, their "accuracy goal" [28], will vary when using the internet. When using social media, for example, information seeking might be quite casual – where accuracy



in the information is less crucial (e.g., searching for ideas on Pinterest), or purposeful – where getting the correct information is important (e.g., around a medical concern). Information in line with current beliefs tends to be noticed and valued more, with discrepant information more likely to be disregarded – even when opposing arguments are well argued and evidenced [29].

Thriving groups of specific health-concerned users exist on social media, for example diabetic users on Facebook [1], and food allergic/intolerant individuals on Twitter [30]. Those with health-concerns are sharing experiences as well as gaining independence and self-sufficiency online [3]. For people caring for loved ones, social networking platforms and forums comprising people in similar circumstances can be a source of reassurance and support [24]. However, having many “authors” of relevant information on social media can pose difficulties for credibility assessments since the origin and development of a source can become difficult to authenticate [16]. A lack of verification systems or formal gatekeepers, and the fact that in the majority of cases any user can publish or post information online, mean that it is important to understand how people assess the credibility of the information they encounter [2, 16, 20, 31]. In light of this, we now turn to consider the cues used to assess information online. Metzger and Flanagin [16] provide a useful framework for considering the kinds of cues that could affect perceptions of expertise in terms of source, author and message assessments.

In internet research to date, source has often referred to the websites that present information; ‘source’ and ‘site’ are often used interchangeably. Cues to credibility provided by the source of the information have included – design, navigability, absence of errors, links to other reputable sources (or academic citations), evidence of sponsors, or whether the site makes money from advertising or product promotion [16, 32-34]. In a review of several studies about online health information seeking, Cheever and Rokkum [35] highlight how testimonials or comments from other users upon web content are increasingly being employed to assess the credibility and veracity of online content. However, in the realm of social media, a ‘source’ is more challenging to define. It might refer to the platform user profiles held upon (e.g., Facebook, Twitter or Instagram) – but user profiles themselves might be seen as separate sources, as they hold much of the information to be considered a site in their own right (e.g., their own web-address, content and layout). Research around website assessments of credibility are likely to relate to certain sources such as blogs, but the multi-dimensional nature of social media does not translate so easily: a platform that might be considered credible by users may not necessarily always contain credible sources of information although familiarity with a specific platform may give a user better tools to make assessments about the

information or users within [36, 37].

Certain characteristics of the authors of online material can help other users assess the expertise of the published information. Metzger and Flanagin [16] highlight factors such as the author's qualifications, reputation or professional association, available contact information, and lack of commercial motives. Social media allows us to make quite detailed judgements about individuals we encounter as users leave traces of their online activity. For example, having many followers on one's social media accounts, or having forum answers ranked highly by other members could be potential signals of expertise [38]. Similarly, the reactions of others may have some bearing on how individuals judge the expertise and reputation of social media accounts; shares, retweets, comments, and likes can be used as indicators to affirm how others see sources of information online [38, 39].

Often in the absence of an official or qualified source, users with experiential knowledge or "situated understandings" may be mobilised to offer additional insights on an issue [40]. People with long term illnesses may become expert in their particular condition based on experience and specific contexts that relate to their health concern [18]. Cues relating to shared and lived experience can lead to a sense of collective trust. For example, parents of newly diagnosed food allergic children were seen drawing on the expertise of other parents they knew had gone through the same sorts of issues [27]. In another example, users of a multiple sclerosis (MS) support forum were seen to share experiences and treatments in addition to (what was considered) static online advice monitored by the professional MS bodies [41].

There are a range of cues that may be utilised to infer the credibility of the online content: clarity of writing, accuracy, presence of bias, recency of information, and supporting evidence [16, 32-34]. In the realm of health information online, the use of medical discourse holds high social status and legitimacy [see 42], increases a user's social credibility and is often a cue to expertise. Furthermore, employing community terminology (such as abbreviations and acronyms), as well as presenting information as factual are also ways of performing expertise [43-45]. Cues of a social nature that are attached to social media posts, such as comments, likes and shares are likely to play a significant role in how users make message assessments, for example whether they accept or trust the information provided, or wish to participate in the discussion themselves [35, 39, 46].

In this study, we investigate how users construct meanings around expertise on social media in the area of food hypersensitivity. We explore the construction of expertise from two user-perspectives; 1) social media users who are FH or parents of FH children, and 2) perceived experts in food hypersensitivities within the FH social media community.

## Method

### Design

Initial exploratory data was obtained from open-ended qualitative questions on an online

survey relating to social media use for FH concerns [12]. This data was combined with subsequent in-depth qualitative email interviews. In total, 13 email interviews were conducted with 8 FH adults/parents of FH children who use social media (hereafter referred to as FH participants), and 5 perceived experts in food hypersensitivity on social media. Given the focus of the study, we knew participants were confident to engage online; social media users are likely to be technologically able, and access to the internet would not be an issue. Email interview techniques were chosen here as they are particularly appropriate when participants are asked about something that they are unlikely to have explicitly considered before [47, 48]. The approach gives participants time to contemplate questions. We were able to explicitly ask participants to consider their responses before replying, as well as provide examples from their own social media activities if it helped them get their point across or jog their memory. The ability to review responses sets this approach apart from many other forms of qualitative data collection, and can provide more articulate responses and richer, more focussed data [48]. This study was exploratory in nature, and to avoid restricting the narrative of interview discussion, social media was considered in a broad sense. This allowed participants to discuss perceptions relating to their understanding of their own social media use. Thus, participants could refer to various types of social media, as outlined in the introduction, such as well-known/popular platforms themselves (e.g., Twitter, Facebook, Instagram) or chatroom websites and online support groups.

## Participants

From the survey, 143 participants completed two open-ended questions. Demographic details and social media use descriptives relating to this sample can be found in Table 1. Two groups of interview participants were recruited. One consisted of FH social media users who identified potential experts in food hypersensitivity within their social media networks. This sample of users were recruited from the survey and had given permission to be re-contacted for this follow-up study; these participants are not included in the 143 participants noted above [12]. Demographic characteristics can also be seen for the interview participants in Table 2. Another sample comprised of users identified by the FH participants as experts in relation to food hypersensitivity. From respondents on the previous FH survey, 98 potential experts were identified; this list contained multiple duplicates, and following inclusion criteria for accounts managed by individuals (as opposed to larger organisations), and those contactable through social media or public email addresses, a list of 30 potential experts was created. From this list, 16 users were randomly selected and invited to participate; 5 took part. The professions and backgrounds of experts varied, comprising a health journalist and writer, food policy official, FH travel writer, social media discussion group moderator, and FH recipe blogger. There were four female experts and one male

expert. The data collection period for the survey was January-March 2017, and for the email interviews April-May 2017.

Table 1. Demographic characteristics for survey participants

Descriptive	N
Female	131
Male	10
Preferred not to say	2
Age	
18-24	9
25-34	36
35-44	44
45-54	31
55+	23
Education Level	
University Degree	85
Commercial/Technical Diploma	32
Secondary Education	22
Prefer not to say	4
FH Adults	92
Parents of FH children	51
Diagnosis <sup>a</sup>	
Allergy	64
Coeliac Disease	59
Intolerance	86
Speed of reaction	
Immediate	47
From 1 hour	36
1 – 24 hours	47
24 hours +	13
Reaction causing allergen <sup>b</sup>	
Peanuts	39
Nuts	28
Cows milk	48
Gluten	81
Eggs	29
Fish	4
Crustaceans	7
Molluscs	7
Soya	18
Celery	1
Mustard	4
Lupin	3
Sesame	14
Sulphur Dioxide	5
Other	27

Social Media Use

Facebook	135
Twitter	73
Instagram	50
Pinterest	56
Snapchat	21
YouTube	73
Tripadvisor	63
Tumblr	6
Support Groups	71
Comment Forums	33
Other	4
Frequency of Use	
Less than 1 hour	33
1 hour (approximately)	50
2 hours (approximately)	31
3 hours (approximately)	10
4 hours (approximately)	3
More than 4 hours	16

<sup>a</sup> Individual may have more than one type of diagnosis

<sup>b</sup> Individual may experience reactions from more than 1 allergen

Table 2. Demographic characteristics for FH interview participants

Descriptive	N
Female	7
Male	1
Age	
18-24	0
25-34	3
35-44	4
45-54	0
55+	1
Education Level	
University Degree	7
Commercial/Technical Diploma	1
FH Adults	4
Parents of FH children	4
Diagnosis <sup>a</sup>	
Allergy	5
Coeliac Disease	3
Speed of reaction	
Immediate	5
From 1 hour	2
1 – 24 hours	1
24 hours +	0
Reaction causing allergen <sup>b</sup>	
Cow's milk	2

Nuts	3
Eggs	1
Gluten	3
Peanuts	1
Social Media Use	
Facebook	8
Twitter	5
Instagram	3
Pinterest	3
Snapchat	1
YouTube	5
Tripadvisor	4
Tumblr	0
Support Groups	5
Comment Forums	4
Other	0
Frequency of Use	
Less than 1 hour	2
1 hour (approximately)	4
2 hours (approximately)	2

<sup>a</sup> Individual may have more than one type of diagnosis

<sup>b</sup> Individual may experience reactions from more than 1 allergen

## Materials

The open-ended questions from the larger FH social media use survey that formed part of this analysis asked participants to: 1) identify any social media accounts they considered expert in FH issues, and 2) discuss their reasoning for seeing these sources as expert [12]. The subsequent email interview schedules covered questions relating to typical use of social media, and aspects of accounts that may be considered as cues to expertise (see Appendix). Questions were informed by the literature and were checked and clarified with the research team and other colleagues in order to minimise the possibility that participants would require clarification or explanation, which would have unnecessarily increased the number of email exchanges. FH participants were asked questions around their reasons for highlighting specific users as expert. Questions to experts asked participants to reflect on their own expertise and their thoughts on being perceived as expert by others users. The schedules were intended as guides to the interview structure with a degree of question flexibility for follow-ups on relevant information. Separate email invitations and consent forms were developed for each group.

## Procedure

As noted above, open-ended responses were included from a previous survey study; these asked participants to consider potential experts in FH issues on social media and to provide some

reasons for their choices. Participants from this survey study, who agreed to take part in the email interviews and provided informed consent, were emailed the first set of interview questions. Like face-to-face interviews, subsequent questions followed-up aspects of previous responses and asked for elaboration or further explanation, as well as providing the next schedule questions. On completion, a final debriefing email was sent to thank participants for taking part, and to give further information about the study. Due to the longer duration of email interviews, a £20 Amazon voucher was given to interviewees as compensation for their time and to thank them for participating. On average, there were five email exchanges (i.e., email sent and responded to) with each participant; a minimum of three and maximum of seven. Typically, each interview email included two or three questions (with probes) for participants to respond to. Email interactions were anonymised and saved as Microsoft Word documents to facilitate analysis. Pseudonyms replaced names of individuals referred to in the interviews. Names of organisations were retained. Participants were able to use their preferred internet-enabled device to respond, and at a time and place that suited them.

## **Ethics**

Email interview participants were asked to give consent by typing their name and date in the final section of the email information sheet to confirm they understood the study information. An email interview approach itself can resolve some ethical considerations associated with typical face-to-face interviews; participants must actively click to send responses, and this arguably acts as a second phase of consent – the risk of participants inadvertently sharing something is much lower. Data security and confidentiality remained paramount. Data was stored on secure password-protected university servers, and names or associations linked to participants were removed from transcripts. Approval to contact participants from the previous survey study was granted approval by the University of Bath ethics committee (reference: 16-146), approval for this project was also granted by the same committee (reference: 17-004).

## **Analysis**

An in-depth qualitative thematic analysis was conducted, following the guidelines set out by Braun and Clarke [49, 50]. Early stages of analysis featured thorough familiarisation with dataset content and development of initial codes (e.g. through annotation of interesting elements relevant to the research questions). Following initial descriptive first-order coding, codes were grouped into more specific/related second-order codes, which were used to develop overall themes. Final themes were reviewed and refined to ensure that they appropriately explained their content, and considered as much of the data as possible. The number of interviews analysed would be considered appropriate in line with typical email interview samples of 5 or more participants [see 51]. Guest et al [52] note

when coding for overarching themes, a sample of six interviews can be sufficient to enable development of meaningful themes and beneficial interpretations. However, the addition of 143 shorter but detailed open-ended answers to questions relating to reasoning behind judgements of expertise for FH social media sources complemented this more in-depth sample. Furthermore, the homogeneity of our sample (the FH-concerned) and clear aims surrounding perceptions (of expertise) further support the suitability of our sample size [52].

## Findings

In outlining findings, we discuss observations across and within groups in order to develop a clear narrative that highlights associations and overarching concepts relating to perceptions of expertise in food hypersensitivity on social media. In quoting from interview participants and survey respondents, FH demographic information is also highlighted: FH 'Adult' or 'Parent' of a FH child; sensitivity as 'Allergy', 'Coeliac', or 'Intolerance'. Interviewees are denoted by an 'I' and survey respondents with an 'S', both followed by their participant number. Perceived expert interviewees are represented by an 'E' and participant number. Four main themes were identified in the data: 1) discerning traditional expertise on social media, 2) expertise acquired through lived experience, 3) cues to expertise in social media content, and 4) cues to expertise afforded by social media practices.

### 1. Discerning Traditional Expertise on Social Media

There was clear recognition across the data that one marker of expertise on social media was being a qualified professional (often a medical professional). Participants highlighted how using an official title (e.g., dietician) or job description online, increased the likelihood of attributions of expertise. Claims of qualifications were similarly unproblematically equated with having expertise. Those working for or associated with experts within the field were also considered more credible, as well as links to research outputs:

*To consider them an expert they would either be working within the field of allergy or involved in research (I4-Parent-Allergy)*

*Dietician is a protected title in the UK (S74-Adult-Coeliac)*

*Published academic, so I would consider trustworthy (S9-Adult-Intolerance)*

Participants often noted how they had met perceived experts in an offline capacity (e.g., at conferences or events) or that an expert was in fact their own or their child's doctor or nurse:

*I know some of the doctors quoted from our time at the allergy clinic (S37-Parent-Allergy)*

*I follow immunologists or doctors I have heard about from Anaphylaxis Campaign or Allergy UK (S119-Parent-Allergy)*

Many of the judgements of expertise here are based on attributes outside the realms of social media. Here expertise is not extrapolated from what the perceived expert user is *doing* online, but rather



from markers of expertise associated with them such as qualifications, publications and external relationships. Social media is not an influencing factor in their possession of expertise, which would also presumably exist as a perception through patient and peer assessments in the offline world. In contrast, without the influence of a social media network, one might assume the expertise of non-qualified individuals discussing FH issues (as will be discussed in our next theme) would not stretch much farther than their personal, physical networks.

Traditional sources of expertise formed a benchmark against which users sought to discern the credibility of social media information. Social media information was scrutinised by comparison to traditional materials more likely to have been checked and evidenced with scientific backing or recommended by qualified health professionals:

*Social media gives a platform to people who can say almost anything they like. When I was first diagnosed ... I noticed there were a lot of contradictory information. As I was given an information pack by the NHS I used this as level 1 point of reference and compared what I found on the internet to this so I could sort the facts from the hearsay (I6-Adult-Coeliac)*

Furthermore, and as P6 highlights above, receiving a new diagnosis heightens uncertainty and concern about the trustworthiness of information needed to manage hypersensitivities on a daily basis:

*There are too many groups that people use as a platform for personal preferences, views and experiences. It can be daunting for somebody newly diagnosed to know what is what (S7-Parent-Allergy)*

*I think people new to the world of allergy struggle to see what is correct and what isn't (I8-Adult-Allergy)*

However, it was often the perceived shortcomings in the support from qualified professionals that led FH individuals to seek support elsewhere:

*However, my personal experience ... is you get your diagnosis, you go away with your list of foods and your left to it. Yes you have a follow up appointment with the dietician 6 months after and can call for advice. But I feel you are just left to work the rest out (I1-Parent-Allergy)*

*Those coming fresh to social media looking for answers after getting short shrift from their GP etc. are more likely to fall into the trap laid by self-styled experts (E2)*

The recently diagnosed sought information that could be trusted at a time of vulnerability and uncertainty. The acknowledgement of professional titles, qualifications and experience with experts outside the realms of social media were key markers of expertise online. Thus, the locations and boundaries of expertise begin to be defined: signifiers of traditional medical expertise were valued around the process of diagnosis.

## 2. Expertise Acquired through Lived Experience

The concept of expertise developing through experience featured strongly for both FH

participants and perceived experts. Having lived (or cared for someone) with food hypersensitivity conveyed expertise in managing the condition:

*Having easy access to people who have already been through it who share this knowledge may mean people are seen to be 'expert' sources of information (I5-Adult-Coeliac)*

The nature of expertise that living with FH conveys is associated with day-to-day living, for example managing a child's allergy at school, appropriate places to eat out, or guidance on eating-out in other countries. Such post diagnosis day to day expertise is not seen as being available from the medical community but rather from those whose expertise stems from their personal encounters with the issue. These experts can be accessed through social media:

*You can't get more expert than someone who appreciates and lives with the strains, stresses, worries of an allergy; and I feel that Facebook support groups provide this. Medical professionals know the "medical" bit but they don't deal with the day to day living (I1-Parent-Allergy)*

The role of charities seemed to occupy a middle ground in terms of the expertise attributed to them. The provision of good advice was valued but could be associated with a lack of emotional resonance though being run by those that had personal experience of FH accorded greater credibility.

*Gov and charities are a good source but their content lacks emotion and passion (S52-Adult-Coeliac)*

*They're not run by professionals but others in similar situations and have been through the diagnosis etc!!! Often more helpful than the medical profession and I belong to the medical profession (S85-Parent-Allergy)*

Although perceived benefits of information from those with experience was clear, there was also an appreciation that the information provided was a function of differences in the ways FH individuals approach their condition, or differences in their conditions (e.g., reaction severity, or types of allergy/intolerance). Those who have lived with a food hypersensitivity for several years and feel confident in their lack of reaction, for instance, may take certain consumption risks:

*Variations in the way some people may take 'risks' could create some confusion particularly to those who have just been diagnosed (P5-Adult-Coeliac)*

Having said that, there was not an unthinking or automatic acceptance of the advice given by those deemed as experts by experience. There was some acknowledgement that the experience of different reactions to the same allergen (e.g., cow's milk allergy vs. lactose intolerance) could be associated with information that may be inappropriate. So it was not food hypersensitivity in general that conveyed expertise but rather it was having the 'same condition' (S140-Adult-Coeliac) and the 'same intolerances' (S28-Parent-Allergy). This demarcation of expertise was also evident from the perspective of the experts themselves. One such participant, an experienced FH mother, outlined the boundaries of her expertise explaining that she would avoid handing-out health advice and rather

point people in the direction of medical professionals:

*I share my own experiences but never give medical advice - I always refer to a doctor or official resource ... I would say I am an 'expert' parent in the sense that I have experience managing allergies day-to-day, and can advise on issues such as handling school and nursery (E2)*

The online FH community were accorded a role in helping to moderate the kinds of information being shared and to ensure that it was appropriate and credible. For example, a weekly Twitter discussion hour around allergy matters, #AllergyHour, was one location where this occurred:

*I often join in with ... #allergyhour where you can ask anything allergy-related and someone will have experience to share. There is a tremendous support network on Twitter. We very much see ourselves as an allergy family. (E4)*

Information would be subject to a process of social validation. By asking other individuals experienced in managing FH concerns their opinion on specific matters, or by others sharing the knowledge they had gained from expert sources elsewhere (e.g., in managing children's allergies, eating out, recipes or recommendations for medical advice/treatment), communities became a trusted site of knowledge. Members of these social media communities were more confident to use information or attribute expertise if it had been vetted or accepted by other trusted users:

*They are other parents in the same boat sharing information which they have either learned themselves or sharing information from doctors, health visitors, dieticians (S109)*

Thus, there were two pillars that buttressed those seeking credible information on social media: 1) information about the experience of living with food hypersensitivity, and 2) medical information. Social media support post-diagnosis was viewed as legitimately sought and provided in relation to experience of living with food hypersensitivity; though it was recognised by some at least that this may be inappropriate since experiences of food hypersensitivity varied greatly. Those that had been accorded as experts on social media were reticent to give medical information and noted the pitfalls of doing so.

### 3. Cues to Expertise from Content

The first two themes have primarily considered attributions of expertise located in the characteristics of that person: their qualifications or experience. However, the nature of the information being posted or available on social media was also a marker of potential expertise. For example, the relevance and novelty of social media communications served as cues to expert status:

*I don't tend to share material or news which is already 'doing the rounds' or has been shared widely already by others - I'll trust that my followers will already have seen it (E1)*

*Posts relating to current issues. They give out useful information that is updated (S100-Adult-Allergy)*

Expert information needed to be factually correct and this was signified by links to research journals, official publications, or trusted sources:

*I share from credible sources, but in all cases I read the article or link on the Tweet to make sure I am reposting something which is accurate, share interesting materials/facts/research (E3)*

*If someone had credible information backed up with scientific research that was a) new to me and b) working, that would be great (S51-Adult-Coeliac)*

*Information is based in fact and scientific evidence (S34-Parent-Allergy)*

In contrast, those who did not give evidence for their claims, or were promoting information users felt had no medical/research backing, were not credible:

*[Researcher: In what way might you consider someone on social media as non-expert?]*

*People who claim they cured their allergy with simple lifestyle changes such as buying a salt lamp. Or people pedalling Vega tests which have no medical backing whatsoever (I4-Parent-Allergy)*

*People who don't know what IgE mediated allergy is or do not know the difference between lactose intolerance or CMPA. People who think someone with CMPA can have a little dairy and be okay (I3-Parent-Allergy)*

Some did not expand on the grounds of how they would make their judgement but simply stated the nature of the content that they would attend to: it needs to be 'accurate', 'relevant' and 'evidenced'.

User profile information was also seen to contain certain markers that users may use to assist them in assessments about the information presented there. One such example was the number of follows:

*People like the collectiveness. They, subconsciously perhaps, believe if lots of other people are following/believing someone there is safety in numbers and it must be true (I3-Parent-Allergy)*

*I think they became to be seen as an expert by blogging originally and then creating the website and Facebook group. This has then attracted a large number of followers and so then people consider it as expert/knowledgeable simply because of the number of followers and it becomes self-fulfilling (I3-Parent-Allergy)*

However, others took the opposite view, seeing follower numbers as a warning sign rather than a sign of expertise:

*I fear a lot of people equate lots of followers with knowledge or expertise (E4)*

*There is definitely fake authority imbued by someone who has tens of thousands of followers - for instance some celebrities or self-styled food gurus. Social media makes it easier for these people to have a voice. (E2)*

Thus, the number of followers associated with content may be seen as a potential heuristic for assessing the accuracy and relevance of information; the following may itself act as a form of

evidence. However, there are concerns if this following is not indicative of more traditional expertise or clear lived-experience.

#### 4. Cues to Expertise Afforded by Social Media Practices

In addition to considerations around the nature of the information available on platforms, participants noted how the way users behaved or performed on social media may be a marker to expertise. Some participants noted that the degree of interaction in social media engagement was pertinent to judgments about expertise:

*I look for accounts that interact with other people... I don't have a lot of time for accounts that only retweet other people's tweets (E4)*

*I think the perception is due to the fact I respond to tweets, correct factual errors, I am quite vocal (E3)*

The practice of deferring to other users considered more expert in an area and being open to feedback were also seen as markers of expertise:

*I also look for non-qualified people who defer to qualified people – always a good sign (E1)*

*The two bloggers I referred to in my previous responses tend to offer advice and welcome feedback rather than making statements they believe to be fact (I6-Adult-Coeliac)*

The option on social media platforms to tag other users within posts and thus draw them into discussion, supported these engaged interaction practices, and such exchanges are readily visible in the history of related posts/feeds. Similarly, evidence of connections with key FH stakeholders served to warrant credibility or expertise. These connections included relationships with associated charities, businesses or organisations:

*[The Facebook group moderator] talks directly to companies and gains assurances that certain products are completely nut free. This has led to the Facebook group being very popular as lots of people value [their] knowledge and the contacts [they] have (I2-Adult-Allergy)*

*I follow immunologists or doctors I have heard about from anaphylaxis campaign or allergy UK” (S119-Parent-Allergy)*

A mark of trusted expertise was brokering the content supplied by relevant external stakeholders, or to put this another way, the credibility of the content was enhanced when it was mediated by a trusted expert. Conversely, some noted that people may attempt to align themselves with the official profiles of organisations in order to project a greater sense of legitimacy. The ability to include and link to others on social media affords users who may not have expertise the possibility of enhancing their presentation of authenticity:

*The individuals have yet to demonstrate themselves in the arena, the audience have yet to form a view on whether they are credible and borrowing from the reputation of others can*

*ease this (E3)*

In short, features such as liking, sharing, replying and tagging on social media sites provide ways that users can observe the behaviours, attitudes, reputations and level of engagement of accounts they wish to make assessments about. At the same time, FH participants noted that such features can assist in less authentic users attempting to portray a certain level of credibility or expertise within social media networks. This final point highlights how the affordances of social media platforms can on one hand hinder the efforts of FH users seeking support online, but at the same time may support the FH community in moderating inappropriate information, for example via calling-out, tagging or publicly warning others about posts.

## Discussion

In exploring how those managing food hypersensitivity and perceived experts constructed meanings around expertise, we identified four themes. The first and second themes were associated with the location of expertise: either being valued as an expert in a more traditional manner (e.g., through qualifications and professional knowledge), or acquired through experience managing food hypersensitivity. Both forms of expertise were valued, traditional expertise was most often unchallenged and taken-for-granted. The third theme highlighted specific cues to expertise in social media content. Users were seen to attend to various markers of expertise in the FH realm, such as evidenced, accurate and relevance posts. The final theme considered the effect of social media practices or behaviours. Expertise may be assigned if a user is seen to engage with the FH social media community as well as draw upon and interact with other potential expert users.

A key cross-cutting issue related to the concerns felt around the time of diagnosis for FH individuals and parents. Several participants across both FH participants and experts emphasised the importance of patients being able to get access to correct information, and that this was not always guaranteed when using social media. It is a paradox that social media provides important perspectives post-diagnosis about managing the condition – perspectives that are not available through traditional medical channels often instrumental in diagnosis – and yet they cannot be unproblematically taken on-board – cues to expertise have to be found and interpreted. A medical background or qualification was a taken-for-granted factor in defining expertise in the FH area. However, in an absence of expert knowledge we see experienced FH patients/carers offering advice through social media about the day-to-day management of avoiding allergens. Research looking into internet use in patient-practitioner relationships has suggested that it would be beneficial for both parties if physicians used their knowledge to guide patients to approved sources [53], and this may help reduce anxieties surrounding users taking advice that may not correspond with medical opinion

[54].

Social media was seen as providing a ‘treasure-trove’ of non-professional expertise [41], and highlighted the value placed on experiential knowledge or “situated understandings” [40]. However, participants were often clear to stress that they would frequently take information read on social media and consider it in-line with more official (e.g., NHS) materials, and their own knowledge. It is not simply the case that social media information is considered as credible as more traditional media sources [16]; social media information sometimes was used as a source on-top of, and to complement, traditional materials. This finding has also been seen in parents of children recently diagnosed with food allergy; parents wanted to quickly improve their food allergy health literacy, and utilised websites, journal articles, and online support groups to do so [27]. This time-dependent need for finer assessments of credibility and expertise is something we do not feel has been clearly demonstrated in the literature. Nonetheless, Metzger and Flanagin’s [16] observations around receiver characteristics such as past experience, reliance and prior knowledge are associated with this, but the focus here is more on experiences as a patient with food hypersensitivity as opposed to experience as a social media user per se.

Interview discussions demonstrated clearly-defined groups of FH users on various social media platforms (e.g., Twitter discussion participants, or members of Facebook support groups); supportive groups similar in nature to those seen by Broome et al [27], Greene et al [1] and Hamshaw et al [30]. Groups supported fellow users when information or advice was needed, and drawing on and deferring to the knowledge of others (even when considered an expert yourself) was considered a highly-regarded trait in someone supporting the community. A similar finding is presented by Lovatt et al [37], where use of caveats relating to one’s level of expertise was key to the development of trust in online breast cancer forums. Trusted familiar users (either traditional or experience experts) on social media were imbued with the ability to convey social validation, such that their reactions to other users acted as a benchmark of status or believability. In a similar way to Metzger et al’s [29] findings around the use of social information pooling (such as reliance on testimonials, reviews or ratings), social validation was conveyed here in FH users liking, sharing or commenting on posted messages, which demonstrates a form of rating for the social media post itself. However, as suggested by the name, ‘social’ media perceptions of credibility can involve a much more social assessment – users can partake in two-way interactions, question authors of original content and ask advice of other trusted users. Thus, highlighting variance with typical observations relating to online credibility assessments associated with sources that are more static. The credibility of expert knowledge was also visible within social media sources such as Twitter

discussion groups like #AllergyHour and Facebook support groups. Again, a factor that sets social media cues to expertise apart from those associated with typical web-sources, was the level of engagement expected to validate expertise e.g., by taking part in discussions, challenging misinformation and being available to comment – also noted as encouraging trust online by Lovatt et al [37]. This further highlights an affordance of social media, and a different way that expertise can be assessed online in a more hands-on fashion, due to communication capabilities of these platforms.

When considering research around the more static forms of online media such as websites and assessments of their credibility, findings may relate to social media, but the multi-dimensional nature of these platforms was not always seen to translate so easily here. Frameworks relevant to assessments of online information, such as those presented by Metzger and Flanagin [16] and Fogg et al [32] must now move further to account for the more complex nature of social media information. Users are assessing information that blurs the boundaries between source, message and author – does one assess the post itself or the platform it resides upon? Does the post come directly from the poster or has it been ‘shared’ or quoted from elsewhere? Although our findings highlight many credibility cues suggested by frameworks, such as information recency, accuracy, and relevance, as well as author qualifications/credentials, and absence of commercial motives – it is clear that social media does not fit these moulds well. Furthermore, platforms like Twitter offer users regular real-time updates (through hashtags) on matters of interest, but due to the limited (though recently extended) character capacity for tweets, credibility assessments are more challenging. Social media posts often do not have the space to give as much detail as a website might to suggest expertise (e.g., references, evidence, associations with reputable organisations). Recent research has shown that links to other sources of evidence in social media posts can promote a sense of credibility [12], however the extent to which this can be considered the same as references or evidence cited within online sources needs to be considered.

## Limitations

The interview sample was only a small number of social media users. However, it did consist of an array of FH concerns, from FH adults, parents of FH children, allergic and coeliac, as well as those who make a living around food hypersensitivity (e.g., writing about it, or working for support organisations). However, the addition of 143 shorter yet detailed answers to questions relating to reasoning behind judgements of expertise for FH social media sources strongly enhanced the more in-depth interview sample. Several potential experts in the healthcare sector on social media were targeted during recruitment, and although three individuals did give informed consent, they did not respond during our interview timescale<sup>1</sup>. Thus, we were not able to consider this perspective. The

<sup>1</sup> Participants who had given informed consent and sent the first phase of interview questions were sent a reminder email if responses



gender-split of the study sample could be considered imbalanced. Such an outcome has frequently been seen in the associated literature [55-58], and may be due to the more common primary caregiving role of females in managing a child's food hypersensitivity. Unfortunately, the nature of sampling for a narrow population (individuals managing food hypersensitivity) limits the level of control over such considerations.

The email interview approach gave participants a high level of control over their data; they could consider replies, gather information, and add to previous responses. This reflection time slows down the research process, and the lack of face-to-face contact means participants can more easily ignore or forget about questions. Reminders proved useful in some cases, but it was difficult to know when to start and stop prompting. Compared to face-to-face interviews, developing rapport with participants was more challenging due to lack of social cues. Participants had their own communication styles and we needed to adapt to these. Creating an interview schedule also presented additional issues. There is little opportunity to prompt participants, and confusing questions might lead to withdrawal. It was essential that questions were clear and likely to promote rich detailed responses. We also encouraged participants to be as detailed in their responses as possible. Thus, email and face-to-face interviews need to be viewed as distinct research approaches, each requiring a slightly different set of skills [59].

## Conclusion

This study has begun to unpick factors associated with constructions of expertise on social media, specifically in the area of food hypersensitivity. Traditional perceptions of expertise, such as formal qualifications, remain a taken-for-granted sign of expertise; however, it was acknowledged that those living with food hypersensitivity could be seen as expert through their lived-experience. There appear to be several cues to FH expertise on social media, including those typically anticipated such as factual and appropriate information, and evidence. The two-directional ('social') nature of social media highlighted how social validation cues, such as likes, shares, follows, comments, and communication with other reputable sources or users could aid in assessments of expertise in a different way to more static forms of online media.

Future work would benefit from exploring constructions around expertise on social media from the perspective of those considered traditional experts, and how experiential expertise is considered here. This study suggests that more support may be needed in relation to living with food hypersensitivity – especially following diagnosis. Exploring approaches that encourage the mutual support of traditional and experienced patients/carers in managing health-concerns (e.g., online)

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were not received within a reasonable timeframe (approximately one-two weeks). Further reminders were not sent to avoid harassing participants who may have decided they no longer wished to take part in the email interview.

could prove valuable. Understanding the processes involved in social media information assessments could help support groups to design interventions to improve the information evaluation skills of social media users; such applications could prove vital as people increasingly turn to online sources for help and support in relation to their health. Practical and actionable implications from the study findings may include:

1. Providing further support for those with food hypersensitivity following diagnosis. This may be through additional and subsequent contact with their medical diagnostic team.
2. Instigate online platforms that could foster mutual support from medical professionals and those who have experience managing food hypersensitivity day-to-day, for instance, more tailored/developed forums or chat rooms, which could be closed to the public and moderated.
3. Develop the provision of training for medical professions in use of social media. For example, in how to promote one's own expertise but also manage impressions given to the expertise of other users on social media (e.g., through their own practices or that of other users). A stronger understanding of these issues would also enable practitioners to empower their patients in managing such concerns.
4. Stakeholders not only need to consider the accuracy of the information they post on social media, but also the degree they evidence their posts. In addition, relevance was seen as a key issue here, meaning stakeholders may need to consider how they tailor their communications to target certain audiences.

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### Conflicts of Interest

None declared.

### References

1. Greene JA, Choudhry NK, Kilabuk E, Shrank WH. Online Social Networking by Patients with Diabetes: A Qualitative Evaluation of Communication with Facebook. *Journal of General Internal Medicine*. 2010 2010/10/13;26(3):287-92. doi: 10.1007/s11606-010-1526-3.
2. Meitz TKG, Ort A, Kalch A, Zipfel S, Zurstiege G. Source does matter: Contextual effects on online media-embedded health campaigns against childhood obesity. *Computers in Human Behavior*. 2016 2016/07;60:565-74. doi: 10.1016/j.chb.2016.02.067.
3. Sudau F, Friede T, Grabowski J, Koschack J, Makedonski P, Himmel W. Sources of Information and Behavioral Patterns in Online Health Forums: Qualitative Study. *Journal of Medical Internet Research*. 2014 2014/01/14;16(1):e10. doi: 10.2196/jmir.2875.
4. Utz S, Levordashka A. Knowledge Networks in Social Media. In: Schwan S, Cress U, editors. *The Psychology of Digital Learning: Constructing, Exchanging, and Acquiring Knowledge with Digital Media*. Cham: Springer International Publishing; 2017. p. 171-86.
5. Begen FM, Barnett J, Payne R, Gowland HM, DunnGalvin A, Lucas JS. Eating out with a food allergy in the UK: Change in the eating out practices of consumers with food allergy following introduction of allergen information legislation. *Clinical & Experimental Allergy*. 2017 2017/12/08. doi: 10.1111/cea.13072.
6. Johansson SGO, Hourihane JOB, Bousquet J, Bruijnzeel-Koomen C, Dreborg S, Haahtela T, et al. A revised nomenclature for allergy: An EAACI position statement from the EAACI nomenclature task force. *Allergy*. 2008 2008/07/07;56(9):813-24. doi: 10.1111/j.1398-9995.2001.00002.x-i1.
7. Leftwich J, Barnett J, Muncer K, Shepherd R, Raats MM, Hazel Gowland M, et al. The challenges for nut-allergic consumers of eating out. *Clinical & Experimental Allergy*. 2011 2010/12/01;41(2):243-9. doi: 10.1111/j.1365-2222.2010.03649.x.

8. Rouf K, White L, Evans K. A qualitative investigation into the maternal experience of having a young child with severe food allergy. *Clinical Child Psychology and Psychiatry*. 2011 2011/08/18;17(1):49-64. doi: 10.1177/1359104511415636.
9. Begen FM, Barnett J, Barber M, Payne R, Gowland MH, Lucas JS. Parents' and caregivers' experiences and behaviours when eating out with children with a food hypersensitivity. *BMC Public Health*. 2017 2017/07/20;18(1). doi: 10.1186/s12889-017-4594-z.
10. Lebowitz B, Sanders DS, Green PH. Coeliac disease. *The Lancet*. 2018;391(10115):70-81.
11. Ross J, Fishman J, Wang J. Internet and food allergy: what patients are seeking and what they do with the information. *The Journal of Allergy and Clinical Immunology: In Practice*. 2017;5(2):494-5.
12. Hamshaw RJT, Barnett J, Lucas JS. Tweeting and Eating: The Effect of Links and Likes on Food Hypersensitive Consumers' Perceptions of Tweets. *Frontiers in Public Health*. 2018;6:118. doi: 10.3389/fpubh.2018.00118.
13. Newman D. Experts may have influence, but what makes an expert? *Forbes* [Internet]. 2014. Available from: <https://www.forbes.com/sites/danielnewman/2014/04/22/experts-may-have-influence-but-what-makes-an-expert/#2174bc9012c8>. Archived at: <http://www.webcitation.org/6yTaFYB3m>
14. Hoffman RR. How can expertise be defined? Implications of research from cognitive psychology. In: Williams R, Faulkner W, Fleck J, editors. *Exploring Expertise*: Springer; 1998. p. 81-100. ISBN:978-1-349-13695-7
15. Sternberg RJ, Frensch PA. On being an expert: A cost-benefit analysis. In: Hoffman RR, editor. *The Psychology of Expertise: Cognitive Research and Empirical AI*. New York, NY: Springer-Verlag; 1992. p. 191-203. ISBN:978-1138989771
16. Metzger MJ, Flanagin AJ. Psychological approaches to credibility assessment online. In: Sundar SS, editor. *The Handbook of the Psychology of Communication Technology*. Chichester, England: Wiley & Sons.; 2015. p. 445-66. ISBN:978-1-118-41336-4
17. Chi MT. Two approaches to the study of experts' characteristics. In: Ericsson KA, Charness N, Feltovich PJ, Hoffman RR, editors. *The Cambridge handbook of expertise and expert performance*. New York, NY: Cambridge University Press; 2006. p. 21-30. ISBN: 9780521600811
18. Gregory J, Miller S. *Science in Public: Communication, Culture, and Credibility*. New York, NY: Plenum Press.; 1998. ISBN: 0-7382-0357-2. ISBN:0-7382-0357-2.
19. Chen GM. Tweet this: A uses and gratifications perspective on how active Twitter use gratifies a need to connect with others. *Computers in Human Behavior*. 2011 2011/03;27(2):755-62. doi: 10.1016/j.chb.2010.10.023.
20. Go E, You KH, Jung E, Shim H. Why do we use different types of websites and assign them different levels of credibility? Structural relations among users' motives, types of websites, information credibility, and trust in the press. *Computers in Human Behavior*. 2016 2016/01;54:231-9. doi: 10.1016/j.chb.2015.07.046.
21. Johnson PR, Yang S. Uses and gratifications of Twitter: An examination of user motives and satisfaction of Twitter use. *Communication Technology Division of the annual convention of the Association for Education in Journalism and Mass Communication*; Boston, MA.2009.
22. Whiting A, Williams D. Why people use social media: a uses and gratifications approach. *Qualitative Market Research: An International Journal*. 2013 2013/08/30;16(4):362-9. doi: 10.1108/qmr-06-2013-0041.
23. Kaplan AM, Haenlein M. Users of the world, unite! The challenges and opportunities of

Social Media. *Business Horizons*. 2010 2010/01;53(1):59-68. doi: 10.1016/j.bushor.2009.09.003.

24. Fox S. *The Social Life of Health Information*, 2011. Washington, DC: Pew Internet & American Life Project; 2011. Archived at: <http://www.webcitation.org/6yWhbocoi>

25. Lin W-Y, Zhang X, Song H, Omori K. Health information seeking in the Web 2.0 age: Trust in social media, uncertainty reduction, and self-disclosure. *Computers in Human Behavior*. 2016 2016/08;56:289-94. doi: 10.1016/j.chb.2015.11.055.

26. Paek H-J, Hove T, Ju Jeong H, Kim M. Peer or expert? *International Journal of Advertising*. 2011 2011/01;30(1):161-88. doi: 10.2501/ija-30-1-161-188.

27. Broome SB, Lutz BJ, Cook C. Becoming the Parent of a Child With Life-Threatening Food Allergies. *Journal of Pediatric Nursing*. 2015 2015/07;30(4):532-42. doi: 10.1016/j.pedn.2014.10.012.

28. Chen S, Chaiken S. The heuristic-systematic model in its broader context. In: Chaiken S, Trope Y, editors. *Dual-Process Theories in Social Psychology*. New York, NY: Guilford Press; 1999. p. 73-96. ISBN:1-57230-421-9

29. Metzger MJ, Flanagin AJ, Medders RB. Social and heuristic approaches to credibility evaluation online. *Journal of Communication*. 2010;60(3):413-39. doi: 10.1111/j.1460-2466.2010.01488.x.

30. Hamshaw RJT, Barnett J, Lucas JS. Framing the debate and taking positions on food allergen legislation: The 100 chefs incident on social media. *Health, Risk & Society*. 2017 26 May 2017;19(3-4):145-67. doi: 10.1080/13698575.2017.1333088.

31. Lee YW, Strong DM, Kahn BK, Wang RY. AIMQ: a methodology for information quality assessment. *Information & Management*. 2002 2002/12;40(2):133-46. doi: 10.1016/s0378-7206(02)00043-5.

32. Fogg BJ, Soohoo C, Danielson DR, Marable L, Stanford J, Tauber ER, editors. How do users evaluate the credibility of Websites? A study with over 2,500 participants. 2003 conference on Designing for user experiences; 2003; San Francisco, CA: ACM.

33. Freeman KS, Spyridakis JH. An examination of factors that affect the credibility of online health information. *Technical Communication*. 2004;15(2):239-63.

34. Flanagin AJ, Metzger MJ. The role of site features, user attributes, and information verification behaviors on the perceived credibility of web-based information. *New Media & Society*. 2007 2007/04;9(2):319-42. doi: 10.1177/1461444807075015.

35. Cheever NA, Rokkum J. Internet Credibility and Digital Media Literacy. In: Rosen LD, Cheever NA, Carrier LM, editors. *The Wiley Handbook of Psychology, Technology, and Society*. Chichester, England: John Wiley & Sons; 2015. p. 56-73. ISBN:978-1-118-77202-7

36. Hilligoss B, Rieh SY. Developing a unifying framework of credibility assessment: Construct, heuristics, and interaction in context. *Information Processing & Management*. 2008;44(4):1467-84. doi: 10.1016/j.ipm.2007.10.001.

37. Lovatt M, Bath PA, Ellis J. Development of trust in an online breast cancer forum: A qualitative study. *Journal of Medical Internet Research*. 2017;19(5):e175. doi: 10.2196/jmir.7471.

38. Jacovi M, Guy I, Kremer-Davidson S, Porat S, Aizenbud-Reshef N. The perception of others. *Proceedings of the 17th ACM conference on Computer supported cooperative work & social computing - CSCW '14*: ACM Press; 2014.

39. Waddell TF. What does the crowd think? How online comments and popularity metrics affect news credibility and issue importance. *New Media & Society*. 2017 2017/12/04:146144481774290. doi: 10.1177/1461444817742905.

40. Weiner K. Lay Involvement and Legitimacy. *Journal of Contemporary Ethnography*. 2008 2008/04/24;38(2):254-73. doi: 10.1177/0891241608316996.
41. Koschack J, Weibezahl L, Friede T, Himmel W, Makedonski P, Grabowski J. Scientific versus experiential evidence: Discourse analysis of the chronic cerebrospinal venous insufficiency debate in a multiple sclerosis forum. *Journal of Medical Internet Research*. 2015;17(7). doi: 10.2196/jmir.4103.
42. Foley L, Faircloth CA. Medicine as discursive resource: legitimation in the work narratives of midwives. *Sociology of Health & Illness*. 2003 2003/03;25(2):165-84. doi: 10.1111/1467-9566.00330.
43. Epstein S. The Construction of Lay Expertise: AIDS Activism and the Forging of Credibility in the Reform of Clinical Trials. *Science, Technology, & Human Values*. 1995 1995/10;20(4):408-37. doi: 10.1177/016224399502000402.
44. Hall M, Grogan S, Gough B. Bodybuilders' accounts of synthol use: The construction of lay expertise online. *Journal of Health Psychology*. 2016 2016/07/10;21(9):1939-48. doi: 10.1177/1359105314568579.
45. Thompson J, Bissell P, Cooper C, Armitage CJ, Barber R. Credibility and the 'professionalized' lay expert: Reflections on the dilemmas and opportunities of public involvement in health research. *Health: An Interdisciplinary Journal for the Social Study of Health, Illness and Medicine*. 2012 2012/04/25;16(6):602-18. doi: 10.1177/1363459312441008.
46. Johnen M, Jungblut M, Ziegele M. The digital outcry: What incites participation behavior in an online firestorm? *New Media & Society*. 2017 2017/11/29;146144481774188. doi: 10.1177/1461444817741883.
47. Coulson NS. *Online Research Methods for Psychologists*. London, England: Palgrave; 2015. ISBN: 978-1137005755.
48. Gibson L. 'Type me your answer': Generating interview data via email. In: Braun V, Clarke V, Gray D, editors. *Collecting qualitative data: A practical guide to textual, media and virtual techniques*. Cambridge, England: Cambridge University Press; 2017. p. 213-34. ISBN: 978-1107662452
49. Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Research in Psychology*. 2006 2006/01;3(2):77-101. doi: 10.1191/1478088706qp063oa.
50. Braun V, Clarke V. *Successful Qualitative Research*. London: SAGE; 2013. ISBN: 978-1847875822.
51. Meho LI. E-mail interviewing in qualitative research: A methodological discussion. *Journal of the American Society for Information Science and Technology*. 2006;57(10):1284-95. doi: 10.1002/asi.20416.
52. Guest G, Bunce A, Johnson L. How many interviews are enough? An experiment with data saturation and variability. *Field methods*. 2006;18(1):59-82. doi: 10.1177/1525822X05279903.
53. Hart A, Henwood F, Wyatt S. The role of the Internet in patient-practitioner relationships: findings from a qualitative research study. *Journal of Medical Internet Research*. 2004;6(3). doi: 10.2196/jmir.6.3.e36.
54. Gerber BS, Eiser AR. The patient-physician relationship in the Internet age: future prospects and the research agenda. *Journal of Medical Internet Research*. 2001;3(2). doi: 10.2196/jmir.3.2.e15.
55. Begen FM, Barnett J, Payne R, Roy D, Gowland MH, Lucas JS. Consumer Preferences for Written and Oral Information about Allergens When Eating Out. *PLOS ONE*. 2016 2016/05/25;11(5):e0156073. doi: 10.1371/journal.pone.0156073.

56. Begen FM, Barnett J, Payne R, Gowland MH, DunnGalvin A, Lucas JS. Eating out with a food allergy in the UK: Change in the eating out practices of consumers with food allergy following introduction of allergen information legislation. *Clinical & Experimental Allergy*. 2018;48(3):317-24.
57. Barnett J, Begen FM, Gowland MH, Lucas JS. Comparing the eating out experiences of consumers seeking to avoid different food allergens. *BMC Public Health*. 2018;18(1):1263.
58. Barnett J, Begen FM, Hamshaw RJT, Lucas JS, Gowland M, H., Payne R, et al. The preferences of those with food allergies and/or intolerances when eating out (FS305013): Food Standards Agency; 2017. Available from: <https://www.food.gov.uk/sites/default/files/media/document/fs305013-final-report.pdf>. Archived at: <http://www.webcitation.org/77HVVU8mt6>
59. Davis M, Bolding G, Hart G, Sherr L, Elford J. Reflecting on the experience of interviewing online: perspectives from the Internet and HIV study in London. *AIDS care*. 2004;16(8):944-52. doi: 10.1080/09540120412331292499.

## Abbreviations

FH: food hypersensitive