



Is trust enough? Parents' health information behaviour around childhood vaccination

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Abstract

Introduction. This study explores parents' information behaviour in the context of childhood vaccination, focusing on source selection and on the role and formation of epistemic trust. It applies two frameworks to analyse the results: the elaboration likelihood model of persuasion (ELM) and the behavioural and social drivers of vaccination (BeSD) framework.

Method. In-depth individual interviews were conducted with a purposive sample of 25 respondents. Sampling (Polish/Ukrainian and vaccine-hesitant/supportive) aimed to maximise variation across these groups, and data collection proceeded until thematic saturation was reached.

Analysis. The study used iterative analytic cycles: (1) inductive coding and (2) an explanatory, framework-based mapping of inductively derived categories onto the ELM and BeSD of vaccination domains to deepen understanding of information behaviour patterns.

Results. Parents' accounts allow the distinction between central and peripheral information seeking, as well as the phenomenon of information source proximity creation. They also indicate which behavioural and social drivers are salient in shaping information behaviour.

Conclusions. Viewing information seeking as a continuum with endpoints of systematic and heuristic processing captures parents' behaviour well. For the creation of information source proximity, epistemic trust is necessary but not sufficient; closeness—understood as both immediate accessibility and an emotional bond that includes understanding—is also required.

Introduction

In 1961, Hannah Arendt published her essay *What Is Authority?*, claiming that ‘authority has vanished from the modern world’ (Arendt, 1961/2006, p. 49). While tracing the origins of this situation to political movements, she noted that it concerns numerous areas of social life. Although this stance—mainly philosophical in nature—may or may not be shared, this observation resonates in many more recent publications in the context of contemporary problems, such as the rapid spread of misinformation and conspiracy theories facilitated by modern technologies, the existence of echo chambers, and the multiplication of information paradoxes (Haider & Sundin, 2022). In this vein, Tom Nichols’ (2017) book *The Death of Expertise* diagnoses as commonplace ‘the aggressive replacement of expert views or established knowledge with the insistence that every opinion on any matter is as good as every other’ (p. 21). He supports this claim by describing numerous manifestations of distrust, and even hostility, toward experts in critical domains such as medical treatment and public policy. Inevitably, beyond other dangerous consequences—such as the weakening of democracy mentioned by the author—this approach undermines science. However, this view may be too simplistic.

Maya Goldenberg, in *Vaccine Hesitancy Public Trust, Expertise, and the War on Science* (2021), refers to Nichols’ thesis: ‘Calling this phenomenon the end of expertise is in part a refusal to recognize alternative expert sources as legitimate’ (p. 87). She also notes that, in the context of science, a limitation of this perspective lies in its focus on the experts of science rather than on scientific claims. She proposes that a key notion for science is trust, a necessary element for ‘scientific knowledge creation, the management of dissent and disagreement, consensus building, and the legitimization of consensus’ (Goldenberg, 2021, p. 89). Goldenberg also emphasizes that, in the context of science, trust is understood in an epistemic sense—as trust in someone as a provider of information.

Trust as a criterion of information relevance has long been central in LIS and has been variously conflated with or distinguished from related notions such as credibility. Hilligoss and Rieh (2008) state that trustworthiness, together with expertise, is a key factor in credibility assessment. Alongside concepts such as information quality (Rieh, 2002) and cognitive authority (Wilson, 1983), these constructs have served as lenses that researchers use to understand the logic behind people’s preference for choosing one source over another—a perennial problem intensified by the internet (Hilligoss & Rieh, 2008; Rieh & Danielson, 2007; Savolainen, 2007, 2011). This topic has not ceased to be relevant; studies have shown the high importance of situational context, and with the rise of new problems, such as the COVID-19 pandemic (Brylska, 2024; Savolainen, 2023), the Russo-Ukrainian war (Savolainen, 2025), or AI-generated misinformation (Lao et al., 2025), the necessity of understanding the rules and heuristics by which people decide which information to trust has become even more pressing. Evidence also shows the phenomenon’s complexity; for example, higher levels of information literacy or education have not necessarily led people to choose scientific sources (Haider & Sundin, 2022; Hicks & Lloyd, 2024; Lorini et al., 2018).

On the other hand, Dan M. Kahan, who has conducted extensive research on crisis communication—especially on public perceptions of the climate crisis and of vaccination risks—already drew attention in 2014 to what he considered unwarranted claims that declines in vaccination coverage or climate scepticism constitute a global problem attributable to a general erosion of trust in science. Drawing on wide-ranging studies of attitudes toward vaccines (Kahan, 2013, 2014), he argued that a lack of trust in vaccines and in science more broadly characterizes only relatively small social groups (a topic that is, however, heavily amplified by the media, which can unintentionally exacerbate the problem). In the context of trust and the credibility of information, he made a particularly interesting observation, namely that individuals who place their trust in science often orient themselves not only by expert guidance but also by the views of people in their close social surroundings with whom they share everyday life and experience:

Ordinary citizens come to know what is known to science through their immersion in networks of other people who share their basic outlooks. They enjoy the company of those people, and thus naturally spend more time with them. They trust them. They are able more readily to 'read' them, and thus to discern when those who purport to relate the insights of collective knowledge are reliable sources of guidance or mere posers. (...) Cultural conflict over decision-relevant science is not the norm. Indeed, it is a pathology, both in the sense of being rare and in the sense of being inimical to well-being. (Kahan, 2014, pp. 49–50)

These observations are consistent with recent results from Edelman, which report a high level of public trust in science (2023), which found that 75% of respondents said that they trusted scientists. Larson and Bersoff (2025), commenting on this report in the context of vaccination decisions, note that, given the complexity of the broader information ecosystem in which scientific information is embedded, *'the public are turning to friends, family, journalists and others to help them filter and interpret the vast amounts of information available'*. In light of this observation, the relevance of the concept of cognitive authority is worth considering again. Reijo Savolainen has written about the erosion of the traditional picture of authoritative information sources in networked information environments (Savolainen, 2021). However, is the initial definition of cognitive authority – *'The person whom I recognize as having cognitive authority is one whom I think should be allowed to have influence on my thinking'* (Wilson, 1983)– still relevant, even if some of the traditional attributes used to characterize those sources (e.g., objectivity, formal media properties, or references) have eroded?

In this study, we take a closer look at the information behaviour of parents making decisions about their children's vaccinations. Beyond its social importance, this situation provides an excellent context for examining the dynamics of information behaviour, with a focus on the process of selecting information sources: parents of young children are repeatedly required to decide about vaccination on the basis of prior knowledge or newly acquired information. Thus, this study explores parents' information behaviour, focusing on source selection and on the role and formation of trust. To guide the analysis, three research questions were posed:

- **RQ1.** What does the process of information seeking—and avoidance—look like?
- **RQ2.** How do parents select the information they trust and use?
- **RQ3.** Which factors (e.g., social norms, values, emotions, practical issues) are important in this process?

Theoretical framework

In this study, I apply two frameworks to analyse the results. First, I draw on a theory already used in LIS (Hilligoss & Rieh, 2008) and particularly apt in light of literature highlighting the importance of proximity to information sources: the elaboration likelihood model of persuasion (ELM). Although ELM explains how individuals process persuasive communications, in this study I use it as a lens to observe information behaviour in the context of source selection. At the core of ELM is the elaboration continuum, which reflects a person's *'motivation and ability to think about and assess the qualities of the issue-relevant information available in the persuasion context'* (Petty et al., 2003, p. 67). Within the ELM framework, information processing tends toward one of two routes: (1) the central route, when motivation and ability to process information are high and individuals carefully scrutinise issue-relevant information—including the source, message, and context—to reach an accurate judgement; or (2) the peripheral route, when either motivation or ability is low (e.g., due to low personal relevance or distraction), and individuals rely on mental shortcuts rather than deep processing. Such shortcuts may be based, among other things, on perceived source credibility, identification with the source, the sheer number of arguments, or one's own intuition. In the central route, individuals typically not only analyse the conveyed information in greater detail, but also draw on a larger number of information sources; in the peripheral route, the

number of sources they consult is more limited—sometimes to just one. Importantly, ELM treats central and peripheral processing as the endpoints of a continuum rather than a strict dichotomy. I also use ELM to shape my interpretation of information seeking in this study. The definitions of information gathering and information seeking used in the analysis are presented in the Results section and are grounded in participants' accounts

The second framework relates directly to the topic of this study: parents' decision-making about their children's vaccinations. The Behavioural and Social Drivers of Vaccination Working Group, drawing on theoretical models and qualitative studies, identifies four domains of such drivers: (1) thinking and feeling—cognitive and emotional responses to vaccines and vaccine-preventable diseases; (2) social processes—the influence of social norms and vaccination recommendations; (3) motivation—intention, willingness, or hesitancy to be vaccinated; and (4) practical issues—logistical factors that affect access, such as clinic availability or cost (World Health Organization, 2022). Within the behavioural and social drivers of vaccination (BeSD) framework, these dimensions influence vaccine uptake; they can also be viewed as factors shaping the information behaviour that underpins this process. Accordingly, the aim of this study is to examine this process through the BeSD framework using the lens of information behaviour.

Research design

This article presents qualitative findings from a study examining the attitudes of parents with children under six toward vaccinations. The overall study design was an exploratory sequential mixed methods design (qualitative interviews followed by a quantitative survey). Although the quantitative results (Mierzecka & Łączyński, 2025) are not reported in this article, they informed a second, framework-based analytic cycle of the interview data.

First, to conduct in-depth individual interviews, this study recruited a sample of 25 respondents: 12 interviews were conducted with Ukrainian parents (six supportive of vaccination and six sceptical or opposed), and 13 with Polish parents (seven supportive and six sceptical or opposed). As the Ukrainian minority has become an important part of Polish society and studies indicate a high level of distrust among Ukrainians regarding vaccination (Ganczak et al., 2021; Januszek et al., 2022; Zaprutko et al., 2022), it is important to examine the experiences of Ukrainian parents in this regard. Sampling was purposive (Polish/Ukrainian and vaccine-supportive/vaccine-hesitant), aimed to maximise variation across these groups, and data collection proceeded until thematic saturation was reached.

SAMPLE CHARACTERISTIC	n	%
Gender		
Male	4	16
Female	21	84
Number of children		
1 child	9	36
2 children	8	32
3 children	8	32
Subjective economic wealth		
Living poorly	0	0
Living modestly	6	24

Living average	10	40
Living well	3	12
Living very well	6	24
Education		
Primary	0	0
Vocational	1	4
Secondary	8	32
Higher	16	64
Children's vaccine status		
None	9	36
Some	3	12
All mandatory	6	24
All mandatory and recommended	7	28

Table 1. Sample structure (n=25).

Participants were recruited via questionnaires distributed in 138 kindergartens (with a request to share them with parents), through social media platforms—particularly parent-oriented groups and pages—and among refugees at assistance centres. Participants were selected from recruitment-survey respondents who chose extreme responses to the item '*Childhood vaccines are unhealthy and unnecessary*' (1 = strongly disagree; 5 = strongly agree): 1–2 (vaccine-supportive) or 4–5 (vaccine-hesitant).

Participants received financial compensation for the time spent on interviews. All participants gave informed consent. The interviews were fully anonymous, and respondents were clearly informed that participation was voluntary and that they could withdraw at any time. Ethics approval was received from Rector's Committee for the Ethics of Research Involving Human Participants, University of Warsaw, prior to the start of data collection. The interviewers were fluent in Polish, English, Ukrainian and Russian, allowing respondents to choose their preferred language. The interviews were conducted between February and April 2023, either online or face to face.

For reporting purposes, respondents were assigned pseudonyms (first names). Nationality and vaccination stance are indicated by letter subscripts attached to each pseudonym (P = Polish, U = Ukrainian; S = vaccine-supportive, H = vaccine-hesitant); e.g., Sandra_{PH} (Polish, vaccine-hesitant), Zlata_{US} (Ukrainian, vaccine-supportive).

This study adopted a constructivist grounded theory approach (Bryant & Charmaz, 2007) and used iterative cycles of data collection and analysis with the constant comparative method and memo-writing. Sampling was initially purposive (Polish/Ukrainian × vaccine-supportive/vaccine-hesitant) and, as analysis progressed, I sought to further contrast cases by socio-demographic characteristics (subjective economic situation, education, and number of children). However, recruitment—particularly among Ukrainian parents—was challenging, which limited the extent of theoretical sampling. During data collection, I reviewed early interviews and refined the interview guide to probe emerging issues (e.g., experiences with healthcare professionals). A team of coders

developed and refined a shared codebook and used analyst triangulation; disagreements were resolved through discussion.

First analytic cycle (inductive)

Interviews were coded inductively. Emerging themes informed the development of a detailed quantitative questionnaire (not reported in this article, see also (Mierzecka & Łączyński, 2025).

Second analytic cycle (integrative, framework-informed)

In light of the quantitative results, I re-examined the interviews using constant comparison to refine the inductively derived categories. The quantitative findings drew my attention to the diversity of information seeking patterns, both in terms of trusted sources and the level of proactive engagement. I then used ELM as an interpretive lens to interpret these patterns in the interview data by relating them to differences in information seeking activities, and I used BeSD to indicate the behavioural and social drivers that appeared to shape them. Importantly, ELM and BeSD were used to interpret and communicate the qualitative findings rather than as predefined themes for deductive coding.

The findings below focus on three information behaviour activities—information gathering, information seeking, and information source proximity creation (defined below). I then indicate the main factors that, in respondents' accounts, appear to shape these activities, using the BeSD domains to organise these drivers. Together, these subsections address RQ1–RQ3 by describing information behaviour activities and the drivers that shape them.

Results

Firstly, it is important to note that—as in many other health-related situations—information seeking, or more generally information behaviour, is linked to the decision-making process; in this case, the decision whether to take up the vaccine. From the perspective of this information behaviour study, this linkage makes the information behaviour process more visible and temporally concentrated. Typically, information behaviour is non-linear and iterative, involving individual loops and back and forth movements; however, we can distinguish two types of behaviour at stages that differ in their temporal proximity to the decision point: (1) information gathering and (2) information seeking.

Information gathering

Information gathering is used here, following Krikelas (1983), to mean casual, largely undirected activity in which stimuli are noticed and stored for possible later recall. Related behaviours were subsequently described in the LIS literature under other labels, including undirected viewing (Choo et al., 1999), information encountering (Erdelez, 1999) and, in the context of parents' information behaviour, McKenzie's (2003) non-directed monitoring, which involves both regular monitoring of an information source without a specific information-seeking goal and serendipitous encounters of various kinds.

Respondents often mentioned acquiring information about vaccines, sometimes before they had even decided that it might be relevant to their life circumstances. One respondent described the experience as follows—a pattern echoed in other interviews:

There was this woman who was collecting signatures against those vaccinations (...) I was young at the time, I wasn't thinking about children yet, and it all felt distant to me (...). She was also giving fairly medical arguments, which I don't remember, because back then I was only moderately engaged with it—until I had a child, and then the responsibility for his health, for his mental well-being, for his later adult life just became more important to me.
(Paula_{PH})

Others recalled information that had reached them from family or friends—stories about vaccines. Unsurprisingly, these recollections were mostly negative; prior research shows that negatively valenced news tends to spread more readily (Robertson et al., 2023; Rozin & Royzman, 2001). Such accounts were connected with bad experiences or complications: ‘I also know, like, acquaintances in the family who are doctors—people whose views sort of changed after they had problems with their own child, supposedly after vaccinations’ (Hugo_{PS}), and from the media: ‘Here it was mainly the media—both online and TV—that stirred up, like, confusion in me and made me doubt these vaccinations, their rightness, rather than giving me any reliable knowledge’ (Daria_{PS}). These kinds of stories were mentioned by both supportive and vaccine-hesitant parents. Obviously, information relevant to vaccination decisions concerns not only the vaccines themselves but also the credibility and usability of information sources. A range of such information—shaped by social processes (World Health Organization, 2022) and by personal experience—constitutes the knowledge individuals possess at the moment when they feel information need and decide to begin active information seeking. For parents, this most often coincides with the first child’s vaccinations, but it may also occur at other times—for example, when health complications arise or when other events trigger the start of information seeking.

Information seeking

In this article, information seeking is understood as a conscious, need-driven effort to acquire information in response to a gap in one’s knowledge, through reading, conversation, observation, or other ways of locating information (Given et al., 2023). This distinguishes it from information gathering. In this study, such needs most often arise when parents face a vaccination decision. Importantly, if information seeking is understood as a conscious effort, it also includes assessing the quality of the issue-relevant information available—a stage that is crucial from the perspective of ELM. The information seeking patterns described by respondents can be situated on a continuum whose endpoints correspond to central and peripheral processing – in the sense of ELM (Petty et al., 2003)– reflecting differences in personal motivation and ability to engage in this process.

Central information seeking

Central information seeking is characterised by higher motivation to look for and examine diverse information. In our sample, this motivation was linked to several types of situations, most commonly to health-related complications. The quotation below exemplifies a transformation from peripheral to central information seeking:

I remember myself as that kind of mother I trusted specialists uncritically. At first—when my second little boy was getting sick a lot and, basically on the doctors’ advice, I started having him checked for immune deficiencies—it began with me mostly reading the leaflets for those vaccines, because with my first child I hadn’t even thought to read them. (Sandra_{PH})

Central information seeking may also be prompted by a previously negative attitude (resulting from prior information gathering or experience) in which the necessity of child vaccination becomes an impulse for intensive examination of information sources; such behaviours appear particularly in the statements of vaccine-hesitant parents (i.e., Sandra_{PH}, Jacek_{PH}, Paula_{PH}, Alina_{UH}, and Oksana_{UH}).

However, central information seeking does not need to be connected with negative experiences. For some parents, the effort invested in information is identified with care and responsibility for a child’s safety, as described by Anna_{PS}: ‘I double-check that information before [the vaccination], so I don’t—well, as they say, step on a landmine’ or by Zlata_{US}: ‘I’d like someone to explain it to me step by step. As it is, I always say I’ll check a bunch of different sources—as many as I can’.

Interestingly, the reasoning behind the choice of trusted sources was similar regardless of parents' attitudes toward vaccination. The authority of medical professionals (mainly doctors) as direct sources of information assessed very highly:

I didn't look for information, like, on the Internet—stuff like Wikipedia—because that could be written by just anyone. I looked for books written strictly by doctors—doctors who had been trained by [pharmaceutical] corporations, but who had since walked away from that.
(Magda_{PH})

This quotation illustrates a pattern visible in other statements (i.e., Sandra_{PH}, Jacek_{PH}, Marta_{PH}, Ewa_{PH}, Anna_{PS}, and Zlata_{US}): the choice of source was guided not only by the source's education, but also by the format of the message (books). Among people who reported information sources triangulation, family and friends with children were also very often selected as sources, for example:

And of course those private conversations—when it turned out these aren't some far-fetched, one-in-a-million cases, but that in my own circle, my immediate surroundings, there are at least a few such children. (Ewa_{PH})

or

I consult with my sister, who had those vaccinations done for her kids earlier, so I kind of take that into account. And friends who had previously given them to their children as well—so, basically, I turn to people who've already been through it. (Daria_{PH})

These statements point to two main considerations: (i) the possibility of empirically checking experiences within one's close circle, and (ii) similarity of life situation.

Peripheral information seeking

Peripheral information seeking occurs when either motivation or ability is low and individuals rely on mental shortcuts or personal heuristics rather than deep, extensive processing. In this study's sample, several variants of such behaviour were observed. Some respondents (Polina_{US} and Paula_{PH}) indicated that they had no concerns or doubts; their only source of information was the doctor, which they considered sufficient. A slightly different yet similar situation appeared among respondents (e.g., Daria_{PS}, Kasia_{PS}, and Svitlana_{US}) who also indicated the doctor as their sole source, but here the reason was that the information received was perceived as complete and tailored to their specific circumstances. This trust bond was described by Adam_{PS}:

She [the doctor] always remembers. When you come to her after a few years with some illness, or with a question, or even just for a vaccination, she remembers, and she always examines you very thoroughly. And when my youngest son had that thing—when it wasn't clear what was going on—she was really engaged.

Another variant relates to information overload: Dawid_{PS} noted that there is too much information on the topic and, feeling a lack of expert knowledge, preferred to rely on the doctor's opinion. A slightly different behaviour was reported by a mother who, in the same circumstances, decided to trust her sister, citing similarity of experience as the motivation: '(...) my sister—because her kids are a few years older and she's already been through it many times—so she's the one who confirms/validates any potential doubts I have' (Julia_{PS}).

Completely different is the situation in which the primary factor driving reliance on mental shortcuts is affective overload. Ewa_{PH} described her experience after hearing that some children had complications after a vaccine shot as follows:

Stories like that make you think—so you stop and reflect, analyse how to handle it if you do have to decide. But when you don't know what to do next or where to go, or even whom to turn to, it's hard—it's scary—and sometimes it feels better to do nothing. (Ewa_{PH})

Her decision was to trust her own intuition instead of seeking additional information. In the same vein were the words of Alina_{UH}: *'I only trust myself and my intuition, and then every time, believe it or not, I get hysteria, hysteria, because, like you know, I always asked myself',* and Milana_{UH} who stated, *'I have to be responsible for it, because it's my child. I can't say, 'It's the doctor's fault'. This is my decision alone'*. Even in these brief statements, the affective burden is clearly visible. These parents' information seeking relies on observing their own children's behaviour.

Another respondent, Paula_{PH}, who also experienced very strong emotions after hearing stories about autism as a vaccination result, stated: *"I'm scared—I don't want to play around with my child's life'*. After being curtly treated by the doctor when she raised her concerns, she turned to Facebook groups of anti-vaccine mothers who shared similar stories with her.

In our sample, parents sceptical toward vaccination more often spoke about strong negative emotions they had experienced.

Information source proximity creation

Following Kahan (2014) reasoning, people are guided not only by the expertise of sources—many sources may be deemed knowledgeable—but, among these, they choose those that feel close to them. Respondents' statements were examined to identify how such a sense of proximity is formed. A key condition Kahan highlights is direct contact, and this is visible in these data (see also: Mierzecka & Łaczyński, 2025): the most frequently indicated sources include doctors, friends, or family members.

Respondents' expectations toward doctors clearly concern an individualised approach and a readiness to discuss their concerns (Daria_{PS}, Kasia_{PS}, Adam_{PS}, Marta_{PH}), a pattern evident even among vaccine-sceptical parents:

He [doctor] is a real authority for me, because he showed genuine, human interest in my problems. He didn't make fun of me, didn't yell at me, and didn't treat me with that kind of nonchalance—as if I were stupid and not worth talking to at all. (Sandra_{PH})

Interestingly, when doctors use arguments that are not relevant to respondents' everyday situations, the effect can be the opposite:

He [doctor] says it's a danger, that parents are shirking and it's all the fault of parents who don't vaccinate—and then, when you really dig into it, he says it actually happened among the Roma. It's absurd. (Ewa_{PH})

Magda_{PH}, on hearing a doctor say that children had died in hospital from certain illnesses, responded: *'That's no argument. When you work in a hospital, there's always someone dying'*.

This need for understanding and for relevance to one's personal situation also appears as a pattern in choosing sources among friends and family: similarity of experience enables identification with the situation—for example, Anna_{PS} trusted *'Friends who had already given [those vaccinations] to their children as well—so, like, people who had been through it before'*. This pattern can extend to selecting people not known personally, provided their circumstances appear comparable:

[I chose] often groups that are focused exactly on what interests me in everyday life—places where I want to learn from people who simply have experience. (...) For example, ones related to my profession, to my approach to raising children. (Sandra_{PH})

As illustrated, information source proximity creation can be understood as an information behaviour activity in which parents create a sense of closeness to a source through ongoing assessment of its accessibility, shared experience, and perceived understanding. This process, in turn, strongly influences which sources—and which information—they use. The creation of information source proximity does not occur in isolation; it is shaped by behavioural and social drivers, which I outline below using the BeSD domains.

Social processes

Perceptions of the practices referred to in the BeSD framework as social processes are mainly related to health workers' recommendations and to family, peer, and community norms. The study sample was rather homogeneous in this regard, regardless of nationality or vaccine attitude. Respondents unanimously spoke of health workers as people who recommend vaccinating children (although the perceived effectiveness of their communication methods varied). Responses were also similar when participants were asked with whom they discussed vaccine-related issues. Only two respondents (Dawid_{PS} and Iryna_{UH}) reported that they did not discuss the topic with anyone; the remainder admitted that they talked about it with peers and friends who also had children. Among them, some (Anna_{PS}, Julia_{PS}, Marta_{PH}, Magda_{PH}, Ewa_{PH}, Oksana_{UH}, and Olena_{US}) also mentioned discussions with family members. It was clear that the key criterion for selecting interlocutors was similarity of attitude, as in Magda_{PH}: *'I talk with family or friends. I have two female friends who are flat-out opposed [to vaccinations], like I am'*.

Practical issues

With regard to practical issues, variation in views was more pronounced. First, Ukrainian respondents, describing prior experiences, spoke about uncertainty regarding vaccine quality and the need to pay for a better vaccine. They also often complained about the lack of explanations from health workers: *'I don't really understand, what's inside that vaccine, and no one would explain; not doctors, no one'* (Iryna_{UH}, see also Alina_{UH}, Ksenia_{UH}, Lina_{UH}, Milana_{UH}, Vita_{US} Zlata_{US}). Some Polish respondents likewise noted that doctor appointments were too short and routinised: *'Honestly, you can learn very little from a doctor about vaccination. If they're mandatory, it's just a routine, so to speak, visit'* (Julia_{PS}, see also Marta_{PH}, Ewa_{PH}, Sandra_{PH}). In general, vaccine-sceptical parents more often reported disrespectful treatment from doctors, e.g., *'There's awful hostility toward the mother once the paediatrician decides you're one of those anti-vaxxers'* (Sandra_{PH}).

Thinking and feeling

Examining parents' emotions, it was evident that much stronger feelings accompanied those who were sceptical toward vaccination. Their stories were saturated with negative emotions, indicating a lack of belief in vaccine safety: *'I'm scared—I don't want to end up suffering later, having to watch my little boy suffer (...) I think that's the hardest part—that I'm afraid I may have hurt him, kind of not knowing what the truth about [vaccines] is'* (Paula_{PH}). Besides fear, they spoke about guilt, sadness, and the burden of responsibility for their children's health: *'parents are often left alone with their problems'* (Ewa_{PH}).

However, negative emotions concerned not only potential vaccine complications but also the way their doubts were treated by health workers, as noted by Marta_{PH}: *'I got told off—that's a normal reaction after a vaccination, and why are you even coming here anyway?'* Moreover, their accounts also raised the issue of being pigeonholed by others:

That we're anti-vaxxers, that we're flat-earththers—that's how people start labelling the sceptical ones (...). The ones who vaccinate are the 'good' ones who want everyone to be healthy, and the anti- ones are the 'bad' ones. (Marta_{PH})

Positive emotions mentioned by respondents did not concern vaccines themselves but rather positive experiences with health workers: *'I'm delighted, because there are always—there are plenty*

of people, doctors. Even if our family doctor can't see us, other doctors will take us, explain things well' (Svitlana_{US}).

Another important observation concerns not only the type of emotions, but also the moment at which they play a crucial role—when parents are especially vulnerable and fragile. Undoubtedly, one such moment is parenting a newborn during the child's first vaccinations. At this time, information processing can be challenging, and affective modes of communication tend to be remembered—both in the case of positive emotions:

I have good memories of my stay in that last hospital where I gave birth to my daughter—there was no pressure, but there was a thorough intake and a serious, nice conversation, and together we reached a consensus to rule out any potential risks. It was great, and that's exactly what I would expect. (Sandra_{PH})

Negative experiences were also remembered, as in the case of Paula_{PH}, who, after being criticised by doctors, turned to vaccine-hesitant mothers who shared similar experiences.

Discussion and conclusion

Using the combined lens of the ELM and BeSD frameworks enabled a fresh examination of patterns in parents' health information behaviour. Existing health-behaviour models (e.g., the Transtheoretical Model, the Health Belief Model, and the Theory of Planned Behaviour) do include information practices—typically as patterns of resource use (Greyson & Johnson, 2016). However, deepening this area of research remains recommended, as information behaviour has predictive potential for some health behaviours (Greyson & Bettinger, 2022; Greyson et al., 2021). This study's findings could inform the development of such a model, albeit with several caveats.

First, vaccine attitudes: respondents were recruited to represent supportive or hesitant stances. Nevertheless, this study does not view vaccine attitude as binary. As shown in (Mierzecka & Łączyński, 2025), a typology was developed—vaccine/authority sceptics, unengaged adopters, expert-guided supporters, advocates of evidence-based decisions, and unquestioning supporters—to encompass a fuller spectrum of attitudes toward vaccination. The present interviews were not analysed through this typology, as doing so would overcomplicate the narrative. Second, parents' health decision-making and related information practices evolve as their children grow (Greyson & Bettinger, 2022; Orhierhor et al., 2023), a dynamic captured in this study only to a limited extent.

Starting with influencing factors, vaccination is treated as a social norm: it is recommended by health workers and expected by peers—something that vaccine-hesitant parents also experienced as inconvenient or pressuring. Accessibility of childhood vaccines was not viewed as a problem in Poland, whereas Ukrainian parents' prior experiences were less positive. The importance of communication with healthcare professionals—well established in prior studies (Bettinger et al., 2016; Forster et al., 2016; Greyson & Bettinger, 2022; Gust et al., 2005; Leask et al., 2012; Orhierhor et al., 2023; Wiley et al., 2015) – was evident here as well; extended, individually tailored

communication was associated with satisfaction and positive feelings, while routinised, overly brief encounters were associated with frustration.

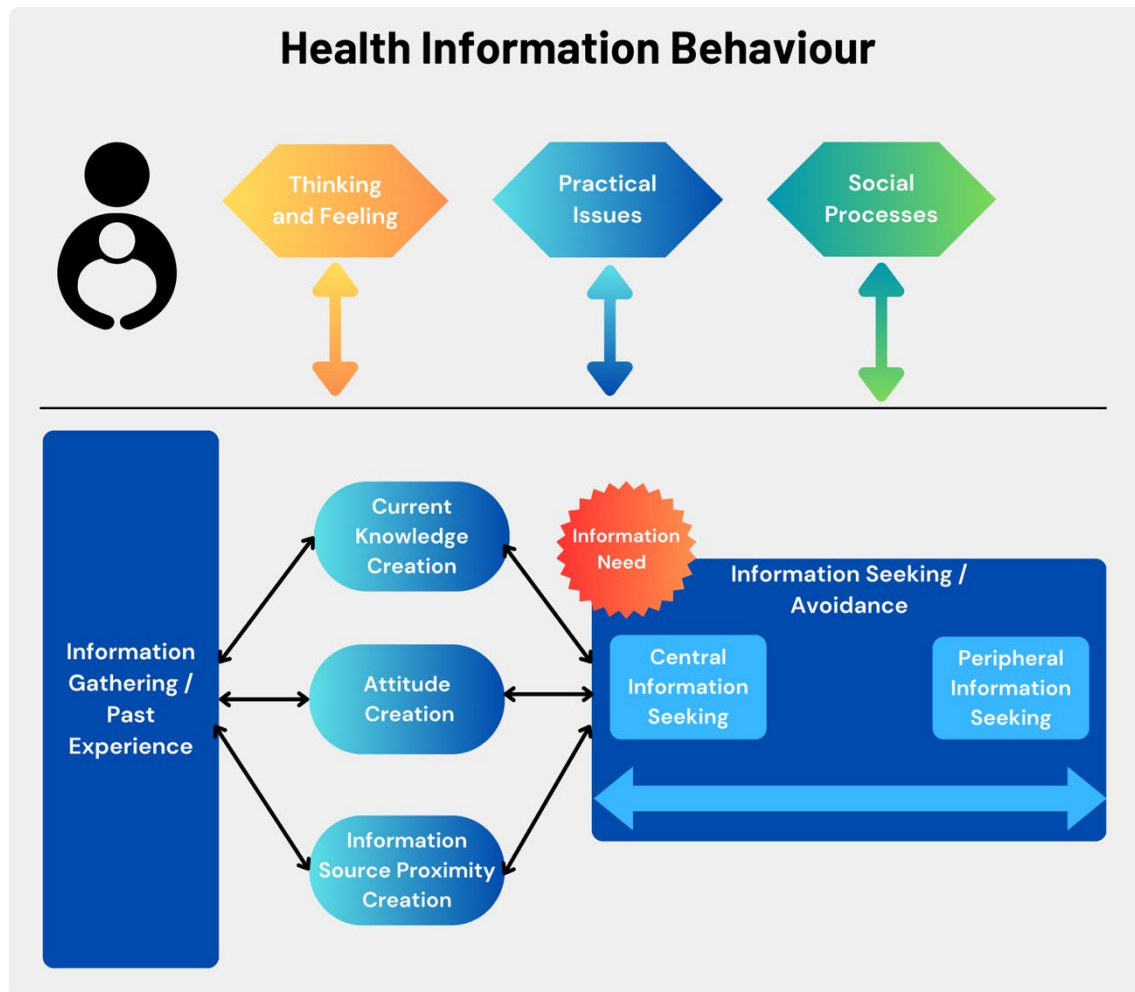


Figure 1. Vaccine-related health information behaviour model.

Emotions were a significant part of respondents' accounts. Positive emotions were mentioned mainly in relation to high-quality communication with doctors and—among Ukrainian parents—to access to good-quality vaccines. Stronger arousal was visible in negative emotions, often not tied to specific health experiences but triggered by fear-evoking stories. This is an important context for health information behaviour in communities with broad access to effective medicines and vaccines: such access quickly becomes standard and does not elicit positive emotions. The reflection of this dynamic is visible in public discourse and media coverage, which, in Kahan's (2014) view, can have harmful, counterproductive effects.

The ELM lens – viewing information seeking as a continuum with endpoints of systematic and heuristic processing – captures parents' behaviour well. In this study, I use 'central' and 'peripheral' to label ELM-informed modes of engagement that accompany information seeking and source selection, not to claim that ELM is a standalone theory of seeking strategies. Similar distinctions in behaviour have also been observed in other studies, for example, the contrast between deliberative and non-deliberative decision-making (Forster et al., 2016). Notably, in this approach, information avoidance, recently reconceptualised in LIS scholarship by Hicks et al. (2025), is an integral element of peripheral information seeking. This perspective is also evident in the Risk Information Seeking and Processing model (Choo, 2017; Yang et al., 2014), which is likewise

grounded in ELM. The parallels are to be expected, as health information seeking can be understood as a specific form of risk information seeking (Hicks, 2023, 2025). In the original formulation, Griffin et al. (2004) introduced the notion of an ‘information insufficiency threshold’, referring to the level of confidence one seeks in one’s knowledge about a risk. Here, I propose using the concept of information need, more firmly grounded in LIS research (Given et al., 2023), as the trigger between information gathering and information seeking, where information gathering is understood, following Krikelas (1983, p. 9) as casual, largely undirected noticing and storing of information for possible later recall. Information seeking is then a conscious, need-driven effort to acquire information (Given et al., 2023). In this approach, the stage of assessing the quality of the issue-relevant information and the level of individual engagement in the process (motivation, ability) are crucial for the whole process. The results presented in this study show that, in the case of central information seeking, ways to locate information lead to the triangulation of information sources, a phenomenon described by Greyson (2018), even though this statement needs further empirical and theoretical reflection to confirm the relation.

I introduce the idea of information source proximity creation, drawing directly on Kahan’s (2014) explanation of source choice via *‘immersion in networks of other people’* (p. 49), on Goldenberg’s (2021) call to recognise alternative expert sources as legitimate, and on ELM’s account of mental shortcuts (Petty et al., 2003). The results show reliance on one’s own intuition, understood here as *‘the ability to use nonconscious information for conscious decision making’* (Fellnhöfer, 2022, p. 492); the importance of source choice related to professional status (e.g., doctors) or message format (e.g., books); appeals to the number of sources supporting a claim; and, above all, identification with a source based on shared experience and feelings. The importance of the affective load of messages has been demonstrated in numerous studies (Bettinger et al., 2016; Greyson & Bettinger, 2022; Larson & Bersoff, 2025; Ruthven et al., 2018). In sum, information source proximity rests on epistemic trust—a necessary but not sufficient condition. It also requires closeness, understood as both immediate accessibility and an emotional bond that includes understanding. The concept of information source proximity is closely related to cognitive authority: it refers to someone permitted to influence my thinking, yet it does not assume the irrefutability of arguments and encompasses what Savolainen (2021) calls affective authority.

One limitation of this study is that participating parents were those for whom vaccination was already a salient issue, so the findings may not be representative of the broader parent population. However, as Greyson and Bettinger (2022) note, the purpose of modelling of the kind presented here is to identify times and places in the parenting trajectory when parents may be most receptive to changes in vaccine attitudes, as well as the ways in which new trust might be built and information provided to inform vaccine-promotion interventions. In this light, the limitation may be viewed as an advantage rather than a concern. Further research is needed to deepen these findings.

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