



Information Research – Vol. 31 No. ISIC (2026)

Information behaviours and the inner life

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DOI: <https://doi.org/10.47989/ir31ISIC65234>

Abstract

Introduction. In this paper, I examine internal information behaviours, those information behaviours that deal with information that is already held by a person in their mind or arises from internal information processing. These behaviours have not been a focus in information science research but are critical to how we interact with the external information world.

Method. A review of 10 years of information science literature was undertaken to extract examples of internal information behaviours.

Analysis. Thematic analysis of the information behaviours was conducted to assemble 53 internal information behaviours into 7 overarching themes.

Results. The internal information behaviours cover areas of avoiding, creating, judging, monitoring, realising, seeking, and using information.

Conclusion. What people do with information they have already incorporated into their knowledge of the world has been under-studied. This study reveals what we already know about internal information behaviours and provides a mapping of these behaviours into seven major areas of information behaviours.

Introduction

Information behaviour and practice research examines the various ways in which we engage with information (Given et al., 2023; Pilerot & Ekström, 2025; Savolainen, 2007). These research programmes are often presented under the broad headings of information seeking, information sharing, information use, or information avoidance (Given et al., 2023; Hicks et al., 2025; Huvila & Gorichanaz, 2025; Pilerot & Ekström, 2025). Overwhelmingly, the information that is being sought, shared, used, or avoided is new to the individual and comes in external forms such as documents, speech, or observation of the external world. What is less often studied, and the focus of this paper, is internal information, information that already exists in our minds or comes from our bodies, and the information behaviours which we use to interact with information that we already have incorporated into our knowledge of the world.

The traditional focus in information science on the tangibility of information – see for example, the discussion in Hicks et al. (2025) – has underplayed the importance of what we do with internal information. Additionally, the focus on problem-solving over other uses of information has placed an emphasis on issues such as uncertainty reduction through accessing new information, and under-valued the importance of information processes such as worrying, imagining, or self-appraisal that are important in orientating ourselves towards the world and living successfully in it.

Through an analytic review of the literature, I seek to investigate what I shall refer to as internal information behaviours by answering two questions: (1) what internal information behaviours, defined as information behaviours where the information is already held by the individual, are documented within information science, and (2) what are the main groupings of these behaviours and what do these groupings tell us about internal information behaviours? This is not just a simple categorisation of mental processes but documented information behaviours of internal ways to seek, use, or avoid information. Through this analysis, this paper then contributes to understanding what information behaviours describe the inner life.

Literature review

The inner life refers to a person's internal subjective world (Tashimova et al., 2020), the thoughts, emotions, desires, beliefs, memories, fantasies, and attitudes that take place within the mind and which may not be available to outside observers. The inner life shapes a world view: it is inherently subjective and is constructed by each individual as a way to interact with the world (Tashimova et al., 2020) and therefore for making decisions about the world. The inner life often involves emotions and how they shape our experience of our lives (Voultsos, 2021) and to how we make moral decisions (Allen & Fry, 2023). The inner life is also important in meaning-making, our sense of existential well-being (Nangia & Ruthven, 2022; Ruthven, 2019b), and, more generally, on our self-awareness and identity (Newitt et al., 2023). As a meaning-constructing place, the inner life can be a creative space through daydreaming, what-if thinking, or fantasy creation (Allard & Caidi, 2018). However, our focus in information behaviour has typically been on interacting with information that is external to ourselves rather than what is happening in the interior of our minds.

Several decades ago Dervin differentiated between what goes on inside and outside of our heads when she described 'internal behaviors (e.g. comparings, categorizings, likings, dislikings, polarizings, stereotypings, etc.) and external behaviors (e.g. shoutings, ignorings, agreeings, disagreeings, attendings, listenings, etc.)' (Dervin, 1992, para. 9), but I could not find a discussion in her writing that unpacks this differentiation. Our classical models of information behaviour such as Wilson's model (1981), Kuhlthau's Information Search Process framework (1993), and Savolainen's Everyday Life Information Seeking theory (1995), do contain elements of internal information behaviours such as the focus on information need realisation (Wilson, 1981), the awareness of emotional states in the Information Search Process (Kuhlthau, 1993), and the development of an

existing mental ordering of things in Everyday Life Information Seeking (Savolainen, 1995). However, the focus of these models is very much on interaction with external information rather than what we do with information that we already possess. This focus has been noted several times; for example, scholars such as Ocepek (2017) accuse ‘both IB [information behaviour] and EIB [everyday information behaviour] of privileging expertise in documents and people’ (p. 401). Similarly, from Hertzum: ‘research on information behavior ... [operates] in favor of a focus on how people seek information in documents and by asking other people’ (2023, p. 383), emphasising a focus on external information interactions. Even the cognitive perspectives on information retrieval and information behaviour from the 1980s and 1990s were focussed on cognitive states and representations (not behaviours or practices) and on external dealings with information (Dervin, 1998, 2015; Ingwersen & Järvelin, 2005).

More recently, we have seen recently a greater attention to areas of information behaviour that are less about problem-solving and more about self-discovery, including research on spirituality and contemplative topics (Caidi, 2019; Caidi et al., 2022; Caidi & Innocenti, 2018; Caidi et al., 2025; Gorichanaz, 2016, 2018, 2020a; Gorichanaz & Latham, 2019; Latham et al., 2020; Nangia & Ruthven, 2022, 2023; Robson et al., 2024). We have also seen a recent advance in understanding information behaviours that are about realising one’s own beliefs and knowledge states. Knowing what we think, in the sense of what we believe, is important from two sources: spiritual and secular. Secular activities, such as counselling or behaviour change (Meyer & Elsweller, 2025), often start with asking clients what they already believe as a way of helping clients understand their current beliefs and how to change them. Techniques such as journalling or discovery writing (Heeks, 2012) can be useful here to expose the inner life. Self-dialog can be a way of revealing one’s own thoughts as part of recovery (Zhao et al., 2026) and those engaging with online forums are often trying to work through their own situation and how they feel and think about it (Bronstein, 2014; Choi et al., 2014; Gauducheau, 2016; Ruthven, 2019a; Ruthven et al., 2018a, 2018b; Zhao et al., 2026).

Research into religious or spiritual practices show that practices such as meditation which emphasise inner states can lead to revelation. For example Chabot, in his study of New Kadampa Buddhists (2019), talked about the ‘heart’ (p. 73), which he described as a ‘place in the psychospiritual body’ as ‘a source of, or repository for, realization-like spiritual information’ (p. 73). Further, he noted that realisation is not simply more information but ‘an expansive reconstruction of the worldview of an individual’ (p. 71), indicating that the inner life has been transformed by its own mechanisms.

Nangia and Ruthven (2023), in their study of spiritual seeking, reported participants describing their spiritual seeking through qualitative attributes such as interiority and characterizing their journey as a search ‘inwards’ (p. 931), a search concerned with ‘thoughts, feelings and inner experiences of an intimate and private nature’ (p. 928).

Gorichanaz and Latham have concretely discussed the inner and outer world and the connections between them, stating that ‘[b]eing sits at the heart of the inner world, as it constitutes a person’s engagement with their selfhood, presence and history. Meaning, or more precisely personal meaning, is the activity that springs from being’ (2019, Discussion section, para. 2) but, even though the inner life is important in terms of information interactions, we still lack any coherent model of the information behaviours occurring in the inner life. This paper attempts to examine such behaviours through an analytic review of the literature. This could open up new research directions in to how we use information and also connect what we do with information in the external world to what we do with it in our internal world.

Methods

Data collection

The information behaviours I examine in this paper do not have a standard terminology or classification. Therefore, it was not feasible to undertake a standard search strategy based on indexing terms or key phrases. The aim instead was to create a discovery-based approach to the literature whereby a wide range of material was gathered and then examined. The goal was not to discover all internal information behaviours but to gather a sufficiently wide range to map out the type of behaviours that have been described in the literature. I have only examined information science sources but acknowledge that other disciplines, not least psychology, will also have contributions that can be made here. However, I hope that a framework based on information science research can form the basis for a wider analysis.

Most source material came from exhaustive browsing of all issues of core information science conferences and journals for the 10 years prior to the writing of this paper (all issues/conferences from January 2016 to June 2025). The sources were the Annual Review of Information Science and Technology, the Journal of the Association of Information Science and Technology, the Journal of Documentation, Information Research, the Association of Information Science and Technology Annual Meeting, the Conceptions of Library and Information Science conference series, and the Information Seeking in Context conference series.

All articles were initially screened on titles and abstracts to detect any that might contain information on internal information behaviours. This meant identifying a focus within the paper on the human experience of information and possibly empirical results on information behaviours, although conceptual and theoretical papers were also included at this point. This resulted in 67 articles for analysis; Table 1 presents how many came from each source. Five additional sources (Chabot, 2019; Munro, 2024; Ruthven, 2022a, 2026; Zhao et al., 2026) were added, three from chaining and two in publishers' early view, which seemed to offer a particular focus on internal behaviours.

Source	Articles sourced
Annual Meeting of the Association for Information Science and Technology	3
Annual Review of Information Science and Technology	3
Conceptions of Library and Information Science conference series	5
Information Research	7
Information Seeking in Context conference series	10
Journal of the Association for Information Science and Technology	15
Journal of Documentation	24

Table 1. Sources of articles

Analysis

The analysis was a form of inductive textual analysis in which each article from the set of 67 was read in full for any description or example of an internal information behaviour. Ultimately, 29 sources provide at least one instance of internal information behaviours. Sometimes these were described as behaviours, sometimes as practices, most often as neither. Pilerot and Ekström (2025) characterised information behaviours as primarily about individuals, psychological functions, and cognition, whilst information practices are about individuals/groups, materiality, actions, and habits. The more individual psychological nature of behaviours seems to better fit with studying the inner life as it pertains to that individual rather as it pertains to the outside world, so I have chosen to use information behaviour as the term to cover both. However, the behaviours discovered can have a practice perspective as they are recognisable by most people as ways of

interacting with information, they can form habitual ways of engaging with information, and they are part of common, social, ways of talking about the world and how we interact with it.

To count as an internal information behaviour, I established one main criterion that the information behaviour had to describe a way of interacting with information that was already held by the individual or arose from the individual, such as bodily or emotional states. This includes creating new information based on existing information, forgetting information, and seeking information in the sense of trying to remember something. Interacting with information not already held by the individual, such as reading, or using external information to validate internal information did not count. Some private behaviours such as prayer were also not included as, even if they occur within one's head, they are directed to an external entity.

Any segment of text that described a behaviour that met this criterion was stored and provisionally labelled. In very few cases was there a definition of the internal information behaviour provided and in nearly all cases meaning had to be inferred from the context in which the behaviour was discussed. In several cases, it was not clear whether the information being described was already held or not. I tried to go wide here and if there was an interpretation of the behaviour that fitted with this 'already held' criterion I kept the behaviour in the list as it *could* be an internal behaviour. I expand on this in the discussion.

Text segments were then subject to an iterative thematic analysis (Braun & Clarke, 2006); firstly, creating loose definitions and codes for the behaviours, then compressing duplicates or close-duplicates into single codes, then grouping related codes into emergent themes and using constant comparison approaches for several rounds of coding to improve the definitions and the differences between codes. Next, theme labels were derived, and a further round of code refinement was carried out, including small movements of behaviours between themes.

Findings

The analysis uncovered 53 internal information behaviours arranged into 7 major groupings of behaviours which I describe below.

Avoiding

The first area of internal information behaviours are avoidance behaviours. It may seem strange to be able to avoid information that we already possess, but humans are adept at reducing the impact of what they already know or ignoring inconvenient information (Hicks et al., 2025). In this theme, we see behaviours such as deliberate *forgetting*, a method by which we do not mentally rehearse unpleasant information in order to try to reduce memory creation and thereby make it difficult to encounter the information later; *self-deceiving*, in which we alter our interpretation of a situation or information to avoid dealing with information (e.g., pretending that we are competent at a task so that we do not have to deal with our knowledge of our lack of competence); and *minimising*, in which we try to reduce dissonance by selectively ignoring some existing information. All these behaviours are ways of managing one's inner life and its impact on how one interacts with the world.

Information behaviour	Definition	Indicative sources
eliminating negative thinking	not attending to or trying to change negative belief patterns	(Ruthven, 2026)
forgetting	not rehearsing negative information to make it more difficult to retrieve later	(Hicks et al., 2025)
minimising	selectively ignoring internal information to minimize dissonance	(Ruthven, 2022a, 2022b)
self-deceiving	altering an interpretation of information to avoid having to deal with its consequences	(Ruthven, 2026)
suppressing information	actively trying not thinking about a situation	(Ruthven, 2026)

Table 2. Internal information avoidance behaviours

Finally, there are two related behaviours, both of which are about trying to avoid thinking about negative things, either negative belief patterns (*eliminating negative thinking*), or negative information (*suppressing information*). Not thinking about something also relates to what is referred to as magical thinking (Zusne & Jones, 2014), the belief that one's thought processes can influence the external world, as expressed in statements such as '*don't think of it or it may come true*'.

Creating

A major set of behaviours involves using existing information to create new information or information artefacts. New information forms the basis for how we view ourselves, our experiences, and how we orientate ourselves towards the external world.

Information behaviour	Definition	Indicative sources
creating a memory	creating an internal record	(Gorichanaz, 2019a; Ruthven, 2022a)
creating a plan	using information to create a series of proposed actions to fulfil a goal	(Ruthven, 2022a)
creating beliefs	creating an acceptance of an idea or proposition	(Chabot, 2019)
creating internal states	creating an internal state, e.g., a state of readiness	(Chabot, 2019; Munro et al., 2025; Ruthven, 2022a)
creating narratives	creating a version of an experience or life story	(Ruthven, 2022a, 2022b)
creating identities	creating or changing a view of oneself	(Chabot, 2019; Ruthven, 2026)
engaging in 'what-if' thinking	creating alternative cause and effect scenarios	(Ruthven, 2026)
imagining	creating mental representations of possible futures	(Allard & Caidi, 2018; Ruthven, 2022a, 2022b)
meaning-making	creating a sense of oneself in relation to the external world	(Fourie, 2020)
realising limits	creating an internal representation of one's ability to act	(Ruthven, 2022a, 2022b)
visualising	creating a visual representation of a situation or event	(Chabot, 2019; Gorichanaz, 2019a)

Table 3. Internal information creating behaviours

A cluster of behaviours are about creating new internal artefacts, which may be *memories*, *beliefs*, internal *narratives* of what we believe happened or are preferred accounts of what happened, *identities* that involve creating a new (and usually favoured) version of oneself, creating a *plan* in the form of an internalised set of proposed actions, or creating an *internal state* that becomes the basis for action. The latter may also involve a process of self-reinforcement to use internal information to bolster a decision, view, or plan. Creating memories refers to the conscious production of a representation of a factual experience or information and, like *forgetting* in Avoiding, does not depend on immediate interaction with external information but can refer to information that has been held for some time.

We may also create internal representations such as *visualisations*, which may be an attempt to understand something (e.g., 'I'm trying to visualise how it happened') or a means to make decisions (e.g., 'I'm trying to visualise what this wallpaper will look like in the living room').

A second cluster of behaviours is about creating a sense of our relationship with the external world, including *meaning-making*, a process of creating a mental model of how we believe the external world operates and our relationship to it, (Park, 2005), and *recognising limits*, a process of recognising the limits of one's ability to change the external world. The latter is an internal process in the sense that it often reflects an acceptance of a known situation.

Finally, there are two related behaviours about creating possible futures, *engaging in 'what-if thinking* and *imagining*. Imagining is a core internal activity involving creating mental representations of possible futures, one which emphasises visual and sensory exploration (see the Using theme about the related behaviours of *meditation*, *wondering*, and *contemplation*), whereas *engaging in what-if thinking* emphasizes problem solving. In both cases, imagined futures are being created as mental representations from existing information.

Judging

This set of behaviours involve judging in the sense of ascertaining the level of something or the meaning of something. There are three groups of behaviours in this theme. The first is about evaluating an internal state as to its level. This might be judging *emotional states*, such as judging one's level of happiness to decide if a course of action is working, judging if we are dissatisfied enough to make a change, *judging normality* to determine if our inner states are comparable to what we have previously observed in others, or *judging our readiness for action*. Finally, we may be engaging in *self-evaluating* or self-re-evaluating behaviours, judging our own behaviour or attitudes possibly against some internal moral code or schema.

A second group of behaviours relates to sense-making activities, including *determining causes* based on existing information, that is creating an explanation of why something happened, and *interpreting feelings*, which involves creating an explanation of one's own feelings towards a situation or an explanation for a feeling such as dissonance. Here we are judging between options. Finally, we have *developing interpretative abilities*, which refers to being able to reason about one's body, such as what is the reason for individual sensations such as pain.

The final group involve attaching significance to possible outcomes, either *predicting* positive or negative *outcomes*, including threats, and *assigning significance to the future*, which involves attaching an emotional or cognitive reaction to these possible outcomes, (e.g., fear or anticipation).

Information behaviour	Definition	Indicative sources
assigning significance to the future	attaching a reaction, e.g., fear, to a possible outcome	(St. Jean, 2017)
determining causes	working out reasons for an event or situation	(Ruthven, 2022b)
developing interpretative abilities	developing the ability to reason about one's body	(Ruthven, 2022a)
interpreting feelings	working out how one feels about a situation including the process of identifying why something does not feel right	(Ruthven, 2022b)
judging emotions	evaluating emotions to assess a state, e.g., am I happy with this situation	(Ruthven, 2022b)
judging normality	estimating how standard a situation is with respect to other known examples	(Gauducheu, 2016; Ruthven, 2022b)
judging readiness	judging one's readiness for action	(Tsai et al., 2019)
predicting outcomes	judging positive or negative consequences	(Gauducheu, 2016; Gorichanaz, 2018; Ruthven, 2022b)
self-evaluating	judging one's own actions and attitudes	(Ruthven, 2022b, 2026; Urquhart et al., 2024)

Table 4. Internal information judging behaviours

Monitoring

A minor theme is monitoring behaviours regarding already held information. Our brains and bodies engage in constant subconscious monitoring of internal states, but monitoring refers to conscious behaviours to detect changes in the inner world.

Three forms of monitoring were uncovered. The first two are *body listening*, monitoring bodily states such as tiredness or pain, and *cognition observing*, where one becomes aware of cognitive states. The latter, alongside other behaviours such as planning, self-evaluating, and self-inquiring, forms part of a general process of meta-cognition which Chabot, quoting Shapiro, defines as ‘a type of mental activity wherein individuals develop and maintain an observer status to their mental and bodily awareness, thereby changing their relationship to their process of thinking’ (Chabot, 2019). Finally, there is self-observing, which involves monitoring behaviours around one's actions. Unlike *self-evaluating* in the Judging theme, which involves evaluation and reasoning about one's actions, self-observing simply involves monitoring one's actions.

Monitoring emotional states, such as in anger management or possibly spiritual states, could form monitoring behaviours if they are used as informative states, but I did not find any examples of these in the literature.

Information behaviour	Definition	Indicative sources
body listening	monitoring one's bodily states	(Huttunen et al., 2019; Munro, 2024; St. Jean et al., 2018)
cognitive observing	monitoring one's cognition	(Budd, 2020; Chabot, 2019)
self-observing	taking notice of oneself and ones' actions	(Huttunen & Kortelainen, 2021)

Table 5. Internal information monitoring behaviours

Realising

Information behaviours involving realisation is another major theme. Realisation here is about awareness and the coming to the surface of subconscious, or unattended to, states or sensations as conscious information about oneself that require focus. They relate to the Judging theme in that Judging, such as of internal states, often happens after these states are realised as informative, and to the Monitoring theme, as monitoring often involves monitoring a state that has been previously realised as important.

There are three sub-themes in this theme. One is the realisation of internal states, either *realising cognitive states*, such as confusion, *realising emotional states*, such as happiness, *realising bodily states*, such as tiredness or warmth, or *realising desired states*, a realisation of what one wishes to happen and separate to the realisation of desire itself which is realising an emotional state.

The second is the *realisation of information of knowledge gaps* and corresponds to the classical notion of information need.

Finally, there are three realisation behaviours that relate to a realised sense of incongruity, either a *realisation that something is 'missing'* from one's life (a sense of incompleteness), a *realisation of some kind of dissonance* (a sense of internal conflict), or a *realisation of dysphoria* (a sense of general unease and unhappiness, often used in the context of gender dysphoria). These realisations may have emotional aspects and often involve perceptions of uncertainty and anxiety, but I have separated them out as the focus of the realisation is not of emotional states themselves.

Information behaviour	Definition	Indicative sources
realising bodily states	becoming aware of one's bodily states, including changes	(Gorichanaz, 2018; Munro, 2024; St. Jean, 2017; St. Jean et al., 2018)
realising cognitive states	becoming aware of one's cognitive states, including changes	(Gorichanaz, 2020b; Huttunen et al., 2020; Jia et al., 2022; St. Jean, 2017)
realising desired states	realising a state that one wishes to obtain	(Nangia & Ruthven, 2022; St. Jean, 2017; St. Jean et al., 2018)
realising dissonance	realising a sense of 'wrongness'	(Huttunen et al., 2020; Jia et al., 2022; Nangia & Ruthven, 2022)
realising dysphoria	realising a sense of dysphoria	(Huttunen et al., 2020; Huttunen & Kortelainen, 2021)
realising emotional states	becoming aware of one's emotional states, including changes	(Gorichanaz, 2019a; Huttunen et al., 2020; Ruthven, 2022b; Ruthven et al., 2018a)
realising knowledge gaps	realising a lack of knowledge	(Gauducheau, 2016; Huttunen et al., 2020; Huttunen & Kortelainen, 2021; St. Jean, 2017; St. Jean et al., 2018)
realising something missing	realising a feeling that something is missing	(Nangia & Ruthven, 2022, 2023)

Table 6. Internal information realising behaviours

Seeking

Although information seeking is a fundamental area of information behaviours when dealing with external information, in the case of internal information behaviours, I could only find one behaviour which is the core activity of remembering information. Remembering may be a deliberate activity in which memories are called upon for use, or they may appear spontaneously (Gorichanaz, 2018). The latter may be a form of unconscious information seeking, (see, for example, (Moshfeghi et al., 2016).

Information behaviour	Definition	Indicative sources
remembering	bringing a piece of information to conscious attention	(Chabot, 2019; Gorichanaz, 2018)

Table 7. Internal information seeking behaviours

Using

The largest collection of behaviours was under the theme of Using information. The Using theme is closely related to the Creating theme in which information is being used to create new information or information artefacts such as plans. However, in this theme, the emphasis is not on the output of information use but the process and experience of using information.

A large group of behaviours involve examining internal information such as contemplating, pondering, and wondering. In the literature I examined, these terms are sometimes used as

synonyms but sometimes used with specific meaning. I have tried to create definitions that respects the differences between these related concepts.

First, there are three big behaviours that may act as umbrella terms: *introspecting* refers to the process of turning inwards to think about internal information or thoughts, including motivations and feelings. *Contemplating* refers to the broad activity of deliberate, thoughtful focus on a situation or object. This often refers to external objects but can refer to internal information as well. *Meditating* is usually invoked in the form of a practice of what Chabot calls '*non-conceptual understandings*' (p. 88), in which there is an absorptive nature to the practice and an attempt to create a close relationship with the focus of the meditation. Chabot repeatedly separates these two practices in his writing (2019), whereas others see either contemplation or meditation as an overall term, see for example the discussion in Gorichanaz and Latham (2019).

Also in this category are more specific behaviours that are also about reflection. *Pondering* is a slow form of consideration that is reflective and often used in the sense of weighing up options and so has an outcome focus. *Wondering* also involves consideration, but the sensation is lighter, and more curiosity driven. It is related to imagining, but the process of wondering is more speculative and open. *Worrying* involves repetitive thinking about the future but is characteristically negative and may be seen as a form of anticipatory preparation by which one prepares oneself for a feared outcome. It is related to *engaging in what-if thinking* but is less about creating possible outcomes. *Ruminating* captures the behaviour of repetitive and negative thinking but is usually focussed on the past or present whereas worrying is about the future. Both involve repetitious thinking, but ruminating has the sense of being unproductive and a feeling of being 'stuck'. Finally, *reminiscing* is the process of thinking about the past but with a more positive sense of pleasure or nostalgia.

A second group of behaviours involve using information to make sense. *Sense-giving* is often seen as a process by which one entity provides a way of thinking to another entity, as in political campaigning or marketing (Giuliani, 2016). Here, it refers to the process by which one attaches meaning to information and so is a form of sensemaking. It is related to *assigning significance* from the Judging theme, which attaches emotional or cognitive significance to information based on its possible future implications. A second behaviour is *scaffolding*, in which thoughts are linked and build on each other to build a larger picture. Thirdly, *determining norms* refers to the process of determining what is normal in a situation, usually referring to social norms and acceptable behaviour. This use activity creates a view on what is normal, whereas *judging normality* in the Judging theme is about detecting when something is not normal and therefore may need action. Finally, we have the core process of *understanding*, which involves making sense of information.

Information behaviour	Definition	Indicative sources
contemplating	engaging in deep, considered, and reflective thought	(Chabot, 2019; Gorichanaz & Latham, 2019; Ruthven, 2026)
decision-making	making a choice between alternatives	(Ruthven, 2022b)
introspecting	turning thoughts inwards to reflect on internal information and thought processes	(Gorichanaz & Latham, 2019; Ruthven, 2026; Zhao et al., 2026)
meditating	practicing deep conscious thought on an object or information to gain understanding	(Chabot, 2019)
pondering	considering options in a reflective and deliberate manner	(Samson, 2022)
determining norms	reasoning about what is socially acceptable	(Gauducheu, 2016)
ruminating	thinking repetitively, often in negative or unproductive ways	(Ruthven, 2026)
reminiscing	thinking about past experiences, often in a positive light emphasising fondness or nostalgia	(Dinneen et al., 2024)
scaffolding	linking thoughts to create a bigger picture	(Chabot, 2019)
self-inquiring	asking questions of oneself	(Gauducheu, 2016; Gorichanaz, 2018)
self-realising	using information to realise the possibilities of one's character or abilities	(Ruthven, 2026)
sense-giving	ascribing meaning to internal information	(Urquhart et al., 2024)
understanding	making sense of something	(Huttunen et al., 2020; Ruthven, 2022a)
using intuition	listening to one's unconscious to make decisions	(Munro et al., 2023)
wondering	engaging in curiosity driven speculation	(Allard & Caidi, 2018; Ruthven, 2022b)
worrying	thinking repetitively about future events, usually in a negative context	(Gauducheu, 2016; Ruthven, 2022a)

Table 8. Internal information using behaviours

A third group of behaviours are about behaviours that are focussed on the self. *Self-inquiring* involves asking questions of oneself to realise what one feels or thinks to make concrete, and *self-realising* is the process of realising one's abilities or seeing oneself in a new light with an emphasis on positive potentials. This could be classified under the Realising theme but is listed here as Realising behaviours are all unprompted whereas self-realising, as used in the literature, involves conscious reasoning based on internal information.

Finally, we have the classical process of conscious *decision-making*, using information to create a decision, and *using intuition*, a particular process whereby one uses subconscious information to guide a decision but with a conscious awareness that one is doing so.

The findings are summarised in Figure 1.

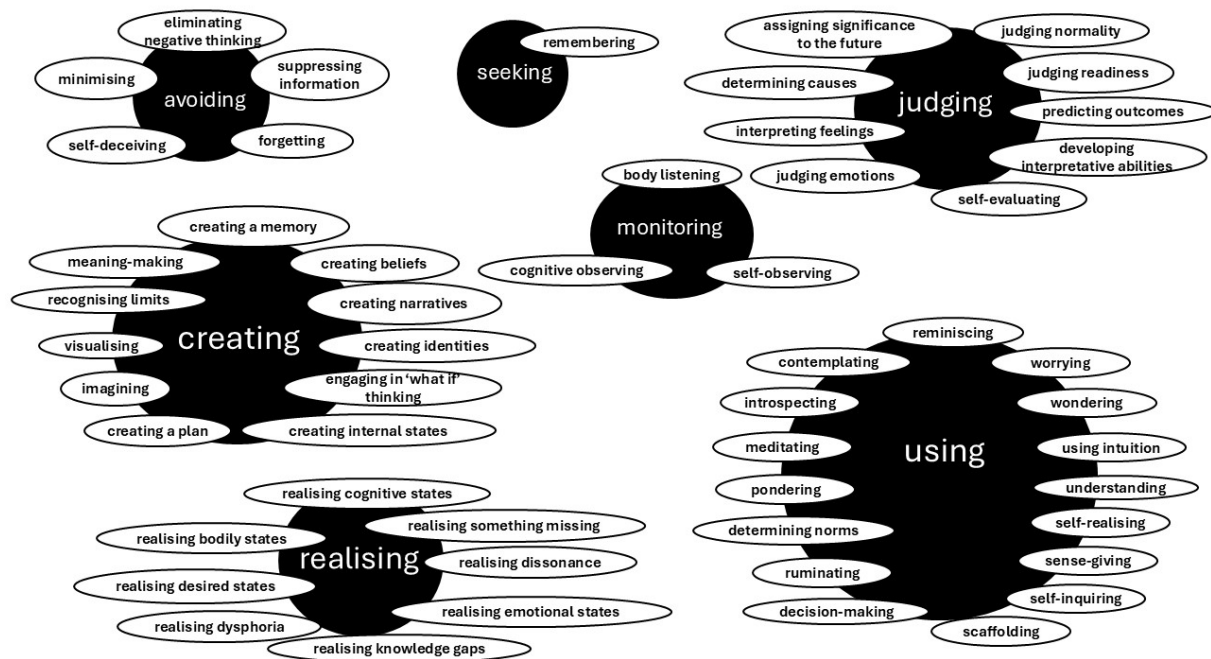


Figure 1. Internal information behaviours

Discussion

The aim of this paper was to investigate internal information behaviours. This was achieved by examining behaviours described in recent information science literature that were internal to the person. In practice, this was challenging in two ways. Firstly, as noted earlier, it was not always clear whether the information was purely internal or not and sometimes using internal information may lead to interacting with external information. Nevertheless, I believe that the behaviours discussed above can all refer to ways in which people engage with information that is only internal even if they end up doing other things later based on this information. Secondly, it was often difficult to decide under what theme a behaviour should appear. I used an inductive approach to broadly organise the behaviours into themes and when naming the themes tried to respect existing categories of information creation, information seeking, information use, etc. so that, later, we could relate internal information behaviours to external ones. However, 'using' information is quite a loose term and there are overlaps with other categories as creating information and judging information which are also ways to use information. I have tried to explain my categorisation in the Findings section, but I think this issue with information creation versus information use is a wider problem with how we use these terms, one that is not unique to this paper but perhaps brought into relief when the same person is creating and using information. Other scholars have pointed to the fact that *'the majority of previous models and empirical research in information behavior tend to focus just on information seeking and use'* (Koh et al., 2015). The research helps support the need to consider other types of information behaviour.

The analysis has uncovered seven clusters of internal information behaviours. Of these, Creating, Using, Realising, and Judging had the most instances of behaviours, especially the themes of Creating and Using. In comparison to accounts of external information behaviours (such as (Given et al., 2023; Pilerot & Ekström, 2025; Savolainen, 2007), there was little on information seeking and no examples of information sharing. The latter is not impossible, as many of us create internal dialogues with imagined figures, for example to practice a conversation, or with imaginary figures as part of fantasy. People with dissociative disorders may have multiple personalities who can

communicate with each other and therefore engage in types of internal information sharing. However, these were not uncovered within the information science literature that I used here. Some of the internal information behaviours related to the body but I believe this counts as part of the internal world and, as Bates points out, even though sensations are felt in the body, they are created in the brain (2018).

The themes do relate to each other. For example, information must be realised to be judged and information that has been realised may be monitored. Some behaviours may be linked; for example, *creating a plan* may happen because of *realising a desired state* and so there may be interesting relationships between the themes and behaviours to be developed. For example, information that is avoided may be less likely to be realised, monitored, or used. However, these relationships are not simple: it is not the case, for example, that information is simply created, realised, then used but rather there may be a more complex set of relationships where created information may be used, avoided, or monitored depending on the context. This is related to the idea of information behaviour patterns suggested by described in Lee, Ocepek, and Makri (2022), who ask us to go beyond conceptual clarification of discrete information behaviours to consider the relationships between behaviours and also Polkinghorne's (2021) elegant discussion on why we need to consider the interconnectedness of information practices as they are actually employed within situations.

It may also be useful to reflect on which internal information behaviours were not observed in this analysis and why they do not appear in information behaviour studies. What I have covered are conscious information behaviours or, at least, they result in conscious information use. Including unconscious ones may be pushing the discussion too far as to what are information behaviours (Gorichanaz, 2022), but even investigating conscious behaviours provides a bridging link to the areas of neuropsychology and neuroscience and their relationship to information behaviour (Moshfeghi et al., 2016).

The work here extends discussion on contemplative studies but also on existing ideas on how the inner and outer information worlds interact with each other (Gorichanaz & Latham, 2019) and how internal information behaviours related to wider concepts such as meaning-making (Gorichanaz, 2019b; Ruthven, 2019b). It also directly relates to novel discussions on different types of information including Gorichanaz's coining of abtrinsic information (information about a person's mental state) and adtrinsic information (personal historical information) (2018). Theoretically, we can also use these internal information behaviours to expand and explain parts of existing theories and models, for example to enhance the externally-focussed aspects of the Information Search Process or Everyday Life Information Seeking, such as seeking, sharing, assessing, etc., with the corresponding internal processes that lead to these behaviours.

Even though the search strategy covered a large time period and a reasonably wide range of resources, the behaviours came from a relatively small set of 29 articles, most of which were focussed on transitions, spirituality, and conceptual papers on contemplation. It is perhaps not surprising that domains such as spirituality and transition (Caidi et al., 2025; Huttunen et al., 2020; Ruthven, 2022b), which place a focus on identity, discuss more information behaviours about the inner life. However, maybe the question is why more studies, including in life critical areas such as health, do not result in learning more about internal information behaviours. In particular, the large area of research on embodiment did not provide much discussion on internal information behaviours, perhaps because the attention in embodiment is on the immediate external environment. The typology here, however, provides a foundation for applied information domains such as mental health information behaviour, creative processes, or spiritual information seeking.

One reason that we may have fewer documented internal behaviours is that we do not ask about them in our research studies, focussing instead on the more easily observable external information even though our internal information behaviours orientate us to the world and create the basis

upon which we act with the outside world. By only focussing on information behaviours oriented to the outside, perhaps we are only seeing half the picture of what we do with information.

Conclusions

This paper has presented a novel categorisation of information behaviours that are internal to the person. Through a literature analysis, it has uncovered 53 distinct behaviours in 7 themes reflecting the various things that people do with information they already hold or are created from internal information. This opens new opportunities to link our inner information world with the external information world and better understand how our inner information world influences how we engage with information.

Acknowledgements

I am very grateful to the insightful reviewers who provided many useful comments to improve this paper and to Kieran Robson for the interesting observations about this research. I am also grateful to the many authors, and their reviewers, whose interesting and insightful research enabled this paper and to the conference chairs and kind proofreaders.

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