

Born in the wrong era: rethinking human-AI relations through the lens of anemoia

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Abstract

As large language models (LLMs) become increasingly integrated into everyday communication, they largely transform how users access information and reshape social dynamics. This study explores how LLM users emotionally respond to the growing presence of AI, with a particular focus on *anemoia*, a nostalgic longing for a past barely or never personally experienced. Drawing on a qualitative content analysis of 1625 Reddit comments, this research reveals that AI-related discourses frequently reflect discomfort, emotional fatigue, and yearning for simpler, more human-centered eras. Using Grounded Theory (GT) coding procedures, the study identifies recurring discursive patterns consistent with *AI-triggered anemoia*. The findings suggest that anemoia provides a basis for understanding why some users feel emotionally ambivalent toward AI. By conceptualizing AI-triggered anemoia as a recurring interpretive pattern in user discourse, the study offers implications for emotionally informed AI design and future research on digital well-being.

Introduction

In recent years, the rapid advancement of generative artificial intelligence (genAI), including large language models (LLMs) such as ChatGPT, Replika, or Character.ai has significantly reshaped how people interact (Karjus, 2025). While current narratives often emphasize the benefits of these tools (e.g., Deng, Lin, 2023), user discourse reveals growing emotional ambivalence. On platforms like Reddit, individuals increasingly articulate concerns about AI's societal implications, i.e., a deeper sense of discomfort in the quality of human communication. These expressions suggest an emotional unease that exceeds technical critique. Users frequently describe longing for perceived emotional depth, simplicity, or authentic connection: sentiments that resonate with the concept of *anemoia*. Unlike traditional nostalgia, which draws on autobiographical memory, anemoia involves imagined or idealized pasts shaped by cultural representation (Christmann, 2023). While emotional responses to AI such as trust, attachment, anxiety, or companionship have received growing scholarly attention, *temporal forms of emotional response*, particularly imagined longing for pre-AI modes of communication, remain largely under-theorized. Recent work also emphasizes the need for more open-ended and conceptually flexible approaches to human–AI interaction, arguing that emotional and experiential dimensions have been underexplored in existing models (Kirk et al., 2025). This study proposes that such ambivalent responses may emerge from deeper forms of emotional disorientation, including longing for imagined pasts, dissatisfaction with contemporary interaction norms, or a sense of drifting between human and artificial forms of communication. By foregrounding these temporal effects, *the paper expands discussions of human–AI*

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interaction, opening space to consider how people navigate the emotional conditions of a technologized present and offering insights that can inform more psychologically attuned approaches to AI design and use. Although anemoia has been explored in relation to art, design, or vintage media (e.g., Kulczynski, Hook, 2024), its relevance to AI-mediated communication remains largely unexamined. Based on these, the aim of this study is to understand how users express discomfort with AI through nostalgic or temporally oriented sentiments that gesture toward a desire for more meaningful, human-centered forms of connection. Using a Grounded Theory (GT) approach applied to 1,625 Reddit comments, the analysis identifies recurring discursive patterns (e.g., idealized depictions of the pre-AI world, frustration with digital superficiality, and the search for emotionally safe alternatives). These expressions are interpreted through the lens of anemoia, contributing to a more nuanced understanding of emotional responses to AI tools. The paper is structured as follows: Section 2 reviews the literature on human–AI interactions, nostalgia, and anemoia, clarifies the distinctions among related temporal-affective concepts, highlights their practical implications, and identifies the research gap that motivates the present study. Section 3 outlines the research methodology and analytical procedures. Section 4 presents the core findings using the three-level coding process of GT developed by Corbin, Strauss (1990). Section 5 discusses the study’s theoretical and practical implications.

Background

From assistants to companions: emotional responses to LLMs

LLMs have become increasingly embedded in everyday routines. Their applications extend across diverse fields, including healthcare, education, and mental well-being (Youssef et al., 2023). LLMs enable fluid human-computer interaction, often mimicking human dialogue with striking fluency and emotional tone, which can generate both enthusiasm and unease among users (Zangari et al., 2025). Recent conceptual work emphasizes that human–computer interactions increasingly reshape human-to-human relations, creating new forms of emotional and normative tension (Ho and Vuong, 2025). Despite AI’s benefits in enhancing communication efficiency and accessibility (Kwon, 2025), LLMs are not without limitations. Recent literature (Roshani et al., 2024; De Angelis et al., 2023) has pointed to concerns regarding their accuracy, hallucinations, demographic biases, and the potential for misinformation spread. These challenges highlight how LLMs are changing from experimental tools into everyday digital companions. As they become more common, researchers have started to examine their wider social and cultural effects. Recent studies show a shift in focus from how individuals use AI (e.g., Hill et al., 2015) to how AI tools influence social norms, institutions, and group behavior (Wang et al., 2024). Research has also examined how neurodivergent individuals interact with LLMs for emotional support, while raising questions about authenticity and emotional disconnect (Carik et al., 2025). While positive outcomes such as accessibility, personalization, and speed are frequently noted, several studies highlight critical concerns related to ethical ambiguity, trust, and cultural homogenization in AI-mediated communication (Gillings et al., 2024; Youssef et al., 2019). Although affective responses to AI are well established within human–AI interaction research, temporally oriented responses, particularly longing for imagined pre-AI forms of communication, remain comparatively under-theorized. Emotional reactions like frustration, disconnection, and longing often surface in user discourse, yet remain under-theorized in existing papers. Recent studies (e.g., Schaaff et al., 2024) suggest that users increasingly turn to LLM-based tools not only for information but also for emotional support, particularly in moments of vulnerability, social fatigue, or relational disappointment. An LLM has been shown to respond to emotional cues with high contextual sensitivity (Schaaff et al., 2024) and is often perceived as a nonjudgmental conversational partner or outlet for self-expression (Ma et al., 2024). These findings indicate a shifting perception of AI from a purely functional assistant to a companion capable of engaging with users’ emotional needs. However, the *deeper emotional patterns* shaped by such interactions, especially those involving discomfort with the present or idealization of the past remain *unexamined*. This highlights the need for qualitative approaches to better understand the emotional background of human-AI interaction.

From nostalgia to anemoia: differentiating two temporal affects

Nostalgia has long been understood as a sentimental longing for one's personal past, typically anchored in autobiographical memory and oriented toward restoring emotional continuity (Routledge et al., 2011). In contrast, *anemoia* refers to a longing for a romanticized past one has never lived through, i.e., a temporal effect shaped not by lived experience but by cultural imagination (Boym, 2008; Wildschut et al., 2006). Unlike nostalgia, which relies on personal memory traces, anemoia reflects a form of imagined retrospection or “retroactive longing” (Sedikides et al., 2008), directed toward idealized or symbolically elevated periods such as the '80 s, '90 s, or pre-digital eras (Holbrook, Schindler, 2003). This imagined temporality often draws on *collective cultural memory*, where iconic aesthetics (e.g., VHS textures, analog photography, retro advertisements, or early internet design) act as emotional triggers. These cues construct an image of a “past that never was,” providing symbolic stability and existential grounding amid rapid technological and social change (Cantinelli, 2024). Recent applied research shows that such cultural signifiers can exert strong behavioral and emotional influence: for instance, *vintage anemoia* in marketing demonstrates that retro-style typography or packaging increases emotional attachment and willingness to pay, even among consumers with no lived connection to the era evoked (Kulczynski, Hook, 2024). Thus, anemoia is not just a passive feeling, but a way people cope with the complexity or alienation they experience today.

A growing interdisciplinary literature has begun to explore how anemoia emerges through aestheticized representations of the past. Studies on liminal internet aesthetics highlight how users gravitate toward surreal or retro-futuristic visual cultures that evoke emotionally safe imagined pasts or “lost futures” (Cantinelli, 2024). In parallel, research on *algorithmic nostalgia* (Kopelman, Frosch, 2023) illustrates how generative algorithms simulate historically coded aesthetics (e.g., film grain, color palettes, analog artifacts), producing artificially induced emotional triggers that resemble traditional nostalgia yet lack a personal experiential anchor. Related work on *synthetic memory* shows that digitally reconstructed scenes or AI-animated historical photographs can create the illusion of intimate connection with eras never lived, reinforcing anemoia-like affective responses (McAvoy, Kidd, 2024). Collectively, these strands demonstrate that, in contemporary digital culture, anemoia is increasingly mediated through visual, algorithmically produced cues rather than personal memory.

Despite these advances, current scholarship conceptualizes nostalgia/anemoia almost exclusively as a visually induced phenomenon. Whether through vintage aesthetics, reconstructed heritage, or dreamlike digital imaginaries, prior studies implicitly assume that anemoia emerges from representations of the past. What remains underexplored is whether anemoia can also arise in *interactional contexts*, such as everyday engagements with large language models. This raises a critical theoretical question: *can longing for imagined pasts be triggered not only by how AI visually simulates history, but also by how AI communicates?*

Importantly, the present study does not assume that pre-AI communication was objectively more authentic, meaningful, or emotionally rich. Rather, “authentic human connection” is treated as a culturally and historically constructed ideal that users mobilize when evaluating contemporary AI-mediated interaction. Accordingly, references to authenticity, emotional depth, or more human-centered communication are analyzed as elements of user discourse rather than as descriptions of a stable pre-technological reality.

Anemoia and AI: a missing connection

Although several recent studies have examined how visuals (e.g., such as retro-style imagery or reconstructed historical scenes) can evoke nostalgic or anemoic reactions (Kopelman, Frosch, 2023), this body of work remains firmly grounded in media aesthetics. Consequently, the emotional dynamics of AI-mediated *text-based communication* and particularly the emergence of anemoia within such interactions remain almost entirely untheorized. Existing research on AI-induced nostalgia does not consider how users might experience temporal longing, emotional displacement, or imagined historical yearning when engaging in dialogue with conversational systems. This absence is notable given that LLMs increasingly serve as relational and affective functions, often acting as emotionally responsive counterparts in everyday communication.

Table 1 Conceptual synthesis of temporal affects.

Concept	Temporal Orientation	Primary Trigger	Current Limitations in the Literature
Nostalgia	Personal past	Autobiographical memory	-
Anemoia	Imagined past	Cultural representations; collective imagery	Communicative dimension unexplored.
Vintage anemoia	Idealized past	Retro visual cues	Strong visual focus; no role of interaction.
Algorithmic nostalgia	Simulated past	AI-generated historical aesthetics	Interactional effects unexamined.
Synthetic memory / heritage	Reconstructed past	AI-based animations, deepfake-style reconstructions	Affective impact documented, but no communicative analysis.
Communication-driven anemoia (<i>AI-triggered anemoia</i>)	Idealized, never lived past	AI as conversational partner; emotional fatigue; perceived loss of authenticity	Entirely unaddressed prior to this study.

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In addition, as LLMs increasingly simulate emotional presence and conversational support, they inevitably influence how individuals perceive and approach human relationships. Yet the *interpersonal consequences* of this shift, particularly the emotional “cost” of outsourcing aspects of relational life to AI remain underexamined. These gaps suggest a need for theoretical and empirical work that accounts for the broader psychological and cultural implications of human–AI communication. The present study directly addresses this constellation of gaps and theories (Table 1) by shifting attention from visual representations of the past to communicative experiences in the present.

This study is among the first to conceptualize and qualitatively illustrate *AI-triggered anemoia as a communicative phenomenon*. It thereby offers an initial interpretive extension of temporal affect research beyond visually induced nostalgia and into the domain of human–AI communication.

Practical gaps

Beyond its conceptual significance, this gap has clear practical implications.

- Understanding the emotional roots of AI skepticism is essential, as users’ *affective reactions shape trust, acceptance*, and the long-term integration of AI systems into everyday life.
- The sense of anemoia might have downstream *effects on mental well-being* and the *felt quality of interpersonal relationships*; therefore, it is important to reveal its nature for AI designers, marketers and also mental-health professionals.
- Emotional fatigue or longing for “more human” modes of connection may also *push individuals either toward overreliance on AI as an emotional surrogate or toward withdrawal from digital communication* altogether. These dynamics carry *implications for AI design and governance*: without careful attention to the emotional landscapes that LLMs evoke, *designers risk reinforcing feelings of displacement, loss of authenticity, or symbolic detachment from human sociality*.
- Addressing these emotional and temporal dimensions is therefore critical for developing AI tools that support, rather than undermine, *healthy forms of human communication and relational life*.

Data and methods

Based on the literature, the following research questions (*RQs*) are formulated:

- *RQ1: How do users emotionally respond to the growing presence of LLM-based AI in their everyday life?*

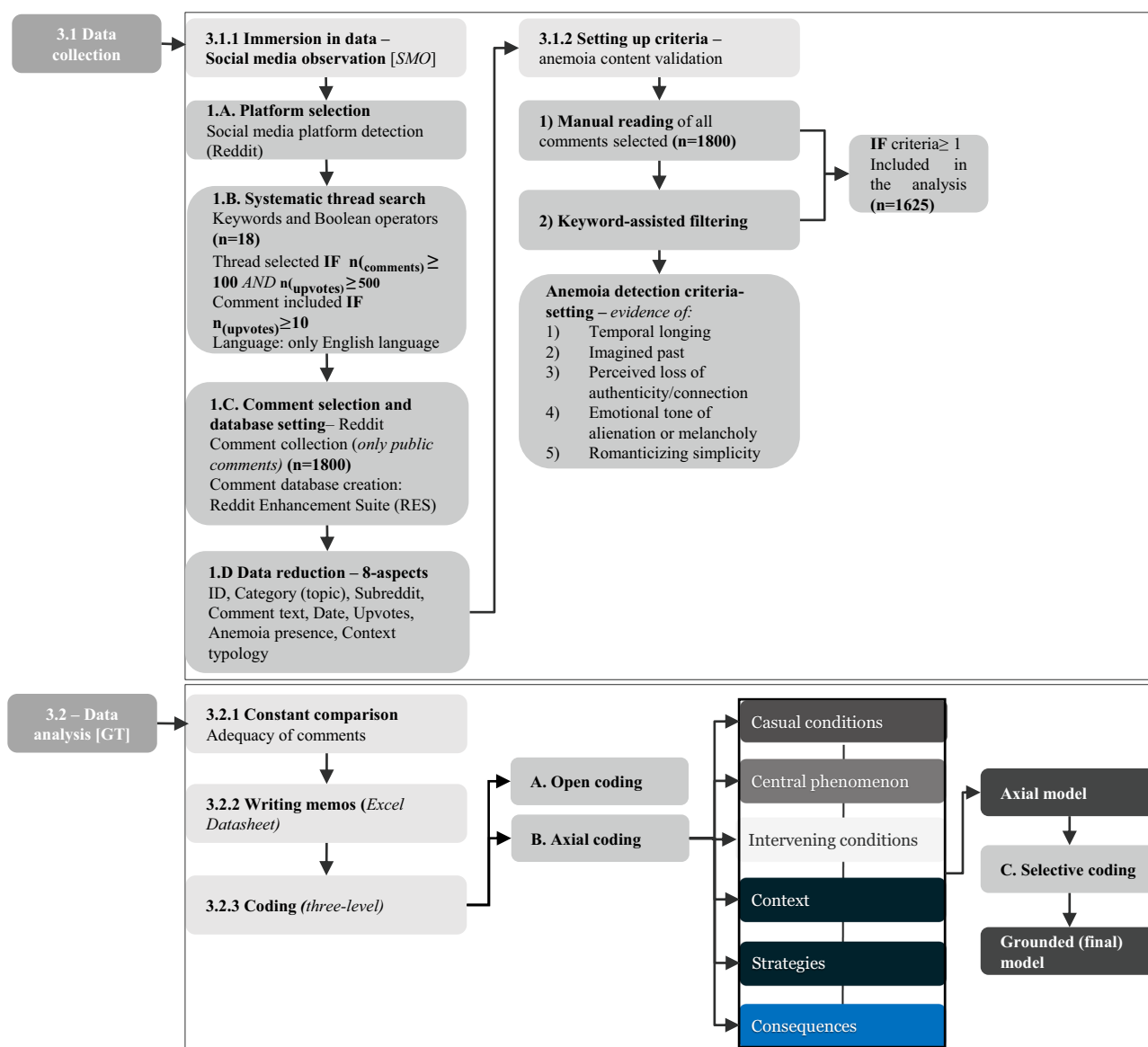


Fig. 1 Main steps of the empirical research. Author's own editing.

- *RQ2: To what extent do these emotional responses reflect anemoia, and how is this sentiment articulated in AI-related discourse?*
- *RQ3: What recurring themes emerge around users' perceptions of AI and human connection, and how might these relate to deeper psychological or cultural concerns?*

For answering RQs, data collection and analysis were carried out based on the guidelines of the Grounded Theory method developed by Corbin-Strauss (1990), with additions (Fig. 1).

Data collection

Data collection has been carried out in two phases:

Table 2 Keywords for Reddit thread detection.

N	Keyword	Related topic/objective
1	"AI relationships"	To examine how users describe forming emotional or social bonds with AI tools.
2	"ChatGPT friendship"	To explore whether ChatGPT is perceived as a meaningful or supportive social partner.
3	"Replika relationship"	To investigate romantic or emotionally intimate dynamics with AI companions.
4	"AI companion"	To identify narratives where AI is framed as a substitute for human companionship.
5	"Talking to AI instead of people"	To understand motivations behind preferring AI interaction over human conversation.
6	"Loneliness and AI"	To explore how users turn to AI as a coping mechanism for social isolation.
7	"Communication breakdown"	To detect concerns about declining depth or quality in human communication.
8	"Modern conversations feel fake"	To capture sentiments of inauthenticity in today's social interactions.
9	"I miss the old internet"	To explore nostalgic feelings toward earlier digital environments and social norms.
10	"Life before AI"	To analyze emotional reflections that romanticize a pre-AI era.
11	"Simpler times"	To identify longings for a less complex, more human-centered world.
12	"I wish I lived in another time"	To detect clear instances of anemoia through imagined historical longing.
13	"Love the past"	To uncover generalized emotional attachment to non-specific earlier eras.
14	"I'm tired of AI"	To examine emotional fatigue or overwhelm related to pervasive AI use.
15	"AI is taking over everything"	To reveal anxieties about AI's expanding role in everyday life.
16	"AI ruined my job"	To identify personal narratives of loss or disruption due to AI in the workplace.
17	"Distrust in AI"	To explore user concerns around AI ethics, transparency, or reliability.
18	"AI is replacing humans"	To capture fears of human obsolescence or identity erosion in an AI-driven world.

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Immersion in data: social media observation (SMO)

- 1.A. Platform selection:** Unlike curated platforms such as Facebook, Instagram, or LinkedIn, Reddit combines anonymity, topic-specific communities, and long-form conversational threads, enabling users to express strong, unfiltered, and emotionally charged reactions. Prior research shows that anonymity increases emotional expressiveness and reduces self-presentational constraints, making *Reddit an especially valuable environment for studying affective responses to technological change* (Sowles et al., 2018, Shaheer, Carr, 2022). This makes the platform methodologically suitable for an inquiry into temporal affect. Potential platform-specific biases were explicitly acknowledged and addressed. Scholars have noted that bias cannot be eliminated from AI-mediated environments but must instead be critically monitored and contextualized (Jung, 2024). This reinforces the methodological choice to treat Reddit-specific distortions as part of the communicative environment in which emotional expressions emerge. Reddit discussions are known for exhibiting emotional hyperbole, reactive language, and exaggerated affective expression (Shaheer, Carr, 2022). Rather than treating these as distortions, the analysis approached them as integral to the phenomenon under investigation. To mitigate noise, a constant comparison approach and low-value comment removal were also applied.

1. B. Systematic thread search: First, thematic relevance was established by identifying threads related to the social, interpersonal, and psychological impacts of AI, particularly LLM-based tools such as ChatGPT, Replika, and

Table 3 Meta analysis of threads analyzed.

Aspect	Description
ID	Unique identifier for the comment
Category (topic)	One of the four main AI-related thematic domains (e.g., “AI and Communication”)
Subreddit	Source community (e.g., r/ChatGPT)
Comment text	Full verbatim comment content
Date	Date the comment was posted
Upvotes	Number of upvotes as a proxy for visibility/relevance
Anemoia presence	Binary classification (Yes/No/Unclear)
Context typology	Additional interpretation, relevant emotional or contextual cues, for the open coding process
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Character.ai. Although ChatGPT primarily functions as a general-purpose assistant, whereas Replika and Character.ai more explicitly facilitate companionate or role-play interactions, these systems were considered together because the analysis focused on the broader relational and affective expansion of conversational AI. Threads were located using a set of targeted keyword combinations ($n = 18$; see Table 2) with Boolean operators, including expressions such as “AI companion,” or “I miss the old internet.” The initial keyword set was intended as an exploratory tool aligned with grounded theory’s emphasis on identifying emotionally salient discourse rather than achieving representativeness (Corbin, Strauss, 1990). Each keyword directly reflected the study’s focus on temporal affect, emotional discomfort, and users’ sense of communicative or interpersonal disruption. Importantly, the *keyword corpus evolved during data collection*: additional unexpected expressions emerged organically during open coding (e.g., “Modern conversations feel fake”). These emergent phrases demonstrated that affectively charged reactions often appear in non-standardized language, further justifying a targeted, interpretive approach instead of a wide-net computational scrape. This adaptive keyword refinement, consistent with theoretical sampling in grounded theory ensured that the dataset captured not only direct references to emotional responses but also subtler forms of temporal longing.

Threads were selected based on high engagement, defined by a minimum of 100 user comments and 500 upvotes on the original post. Individual comments included in the analysis had to have at least 10 upvotes, though exceptions were made for particularly rich or emotionally significant contributions. These thresholds ensured that the sample reflected widely acknowledged discourse around AI. Only English-language threads posted between 2025 January and March were considered. The decision to focus on specific threads reflects a thematically relevant sampling strategy consistent with grounded theory. Rather than employing wide-net scraping across thousands of heterogeneous subreddits, which would yield diffuse and thematically inconsistent data, the study concentrated on threads where discussions about generative AI were already salient and emotionally rich. As recent cultural analytics scholarship argues, large-scale computational methods require complementary interpretive frameworks to capture the lived and affective dimensions of cultural experience (Ho and Vu, 2025). This supports the choice of a targeted, qualitative GT approach rather than high-volume automated scraping. Grounded Theory prioritizes depth over breadth: its goal is not representativeness but *theoretical saturation* (Corbin, Strauss, 1990). The selected threads were therefore chosen because they contained concentrated, high-relevance commentary on human–AI interaction, emotional reactions to LLMs, and reflections on technological change.

- *1.C. Comment selection and database setting*: In total, over 1800 comments were collected from 10 Reddit threads. Comments were copied manually using the Reddit Enhancement Suite (RES) Chrome extension (Bozarth et al., 2023), which allowed the full expansion of comment trees and accurate capture of metadata (e.g., upvote counts, comment timestamps). RES was configured to automatically load all nested comments and sort them by popularity (Top) to prioritize highly engaged discourse.

Table 4 Anemoia detection criteria.

Criterion	Operational Definition	Indicators / Keywords	Example expression
Temporal longing	The comment expresses a desire to return to a past or pre-AI time.	<i>"Life before AI", "things were better before", "I miss how it used to be"</i>	<i>"Sometimes I wish we could go back to when tech wasn't everywhere."</i>
Imagined past	The longing refers to a time the commenter likely never experienced (anemoia, not nostalgia).	<i>"I wish I lived in...", "I feel I was born in the wrong era"</i>	<i>"I feel like I belonged in the 70 s, not this digital mess."</i>
Perceived loss of authenticity/connection	The comment contrasts today's digital life with a more "authentic" human past.	<i>"Real connection", "people used to care", "conversations meant something"</i>	<i>"Talking to people feels so scripted now. It didn't used to."</i>
Emotional tone of alienation or melancholy	The comment conveys sadness, disillusionment or existential unease tied to AI.	<i>"Tired of AI", "everything feels fake", "I'm so disconnected"</i>	<i>"It's like I'm surrounded, but no one's really here anymore."</i>
Romanticizing simplicity	The present is seen as too complex or overwhelming, and the past as simpler, better.	<i>"Simpler times", "too much tech", "things were easier then"</i>	<i>"I miss when tech was just for fun, not everything."</i>

Author's own editing.

Temporal orientation toward an idealized past was required for an anemoia-related classification. Perceived inauthenticity, alienation, melancholy, and romanticized simplicity were treated as supporting or contextual indicators and were not sufficient independently.

- *1.D. Data reduction:* The selected comments were annotated manually in a structured Excel sheet to enable GT analysis. The annotation schema was developed iteratively during the data familiarization process, and each comment was registered according to the following dimensions (Table 3).

Setting up criteria (anemoia content validation)

- Prior to the main coding process, an initial concept-informed sampling procedure was used to identify discussions potentially relevant to anemoia. Consistent with *constructivist grounded theory*, the study did not approach the data as theoretically neutral or claim that anemoia emerged through a purely inductive process. Instead, anemoia functioned as a sensitizing concept that oriented attention toward potentially relevant temporal-affective expressions without predetermining their final analytical classification (Charmaz, 2006).
 - The *pre-coding step* served to identify candidate material for closer analysis rather than to establish that a comment constituted an instance of anemoia. It involved two complementary techniques: (1) *manual reading of the comments* to identify explicit or implicit temporal orientations, including references to idealized pasts or pre-AI forms of communication; and (2) *keyword-assisted identification* using expressions such as "simpler times," "life before AI," and "used to be better."
 - The use of these search terms inevitably oriented the corpus toward temporal longing and is therefore acknowledged as a concept-informed sampling decision. However, the presence of a keyword or a general expression of dissatisfaction was not treated as sufficient evidence of anemoia. Candidate comments were subsequently examined through open coding and constant comparison, allowing distinctions to be made between anemoia, autobiographical nostalgia, AI skepticism, technostress, alienation, loneliness, and digital fatigue. Expressions of perceived inauthenticity or discomfort were classified as anemoia only when they were accompanied by an explicit or clearly implied orientation toward an idealized past. Comments lacking this temporal dimension were coded as related but analytically distinct affective responses. Accordingly, the analysis is best understood as a *constructivist*, sensitizing-concept-guided application of grounded-theory coding procedures rather than as a purely inductive discovery of anemoia. Analytical memos and the

comparison of clear, ambiguous, and non-anemoic cases were used to reflect on alternative interpretations and to reduce the risk of forcing the data into the pre-existing conceptual framework.

- Comments were flagged as anemoia-relevant only when they contained an explicit or clearly implied temporal orientation toward an idealized past. Temporal longing was therefore treated as a necessary condition for an anemoia-related classification, whereas perceived inauthenticity, alienation, melancholy, or a desire for simplicity were considered supporting or contextual indicators and were not sufficient independently. This procedure ensured a focused and thematically consistent dataset for the subsequent stages of analysis. At the same time, anemoia was interpreted along a spectrum rather than through a strictly binary distinction. Some comments clearly expressed core dimensions of anemoia, such as imagined historical longing or the romanticization of a never-lived era, whereas others conveyed more ambiguous forms of temporal displacement or idealization of a prior, less technologically saturated state. Such comments were retained as anemoia-like or ambiguous cases when a temporal orientation was present, but the exact reference point or experiential status of the past could not be established. This approach allowed the analysis to distinguish clear anemoia from adjacent affective responses while preserving the interpretive complexity of user discourse. The criteria used for this classification are summarized in Table 4.

Data analysis

Constant comparison and data cleaning

All comments were read manually and subjected to constant comparison, allowing for early pattern recognition and the identification of irrelevant or low-quality content. Comments that were off-topic, incoherent, purely humorous, or otherwise lacking interpretive value were excluded. This step resulted in the removal of 175 comments, yielding a refined corpus for deep qualitative analysis. Once the final dataset of Reddit comments ($n = 1625$) was established, a three-phase Grounded Theory analysis was conducted, following the constant comparative method and the coding procedures proposed by Corbin and Strauss (1990). The goal of this process was to uncover the affective, cognitive, and discursive patterns related to users' emotional responses to AI, particularly expressions resembling anemoia. While larger datasets are common in cultural analytics, such approaches often require automated or semi-automated tools that risk flattening emotional nuance. This study's focus on interpretive, qualitative analysis made a moderately sized dataset preferable, ensuring both diversity of viewpoints and sufficient granularity for axial and selective coding.

Memo writing

During the comparison process, analytical memos were written to capture emerging insights, emotional undercurrents, and interpretive reflections. These memos served as a foundation for developing conceptual categories, surfacing latent meanings, and recording potential links between themes and psychological constructs (e.g., alienation, imagined past).

Coding

A three-level coding strategy was applied to the remaining dataset:

- *A. Open Coding*: The open coding phase involved a close, line-by-line reading of each comment to identify emerging conceptual units grounded in the data. This step was conducted in parallel with the anemoia screening phase, as both required interpretive engagement with users' affective expressions. Codes were developed directly

from the content, without relying on prior theoretical categories. The coding process aimed to capture emotional tone, symbolic references, and discursive patterns related to AI, technology, and social connection.

- *B. Axial Coding:* In the axial coding phase, open codes were reviewed and grouped into broader thematic categories to identify patterns of meaning and conceptual relationships. Guided by the axial coding model of Corbin and Strauss (1990), codes were organized along six analytical dimensions commonly used in grounded theory studies:
 - *Causal conditions:* Initial triggers or contextual factors that appeared to elicit user responses.
 - *Central phenomenon:* The recurring emotional or cognitive themes emerging across comments.
 - *Strategies:* Ways in which users articulated, negotiated, or coped with their experiences related to AI.
 - *Context:* Specific social, emotional, or situational frames referenced in the user narratives.
 - *Intervening conditions:* Personal or social conditions that seemed to shape the emotional tone or depth of user discourse.
 - *Consequences:* Reported or implied outcomes of users' experiences or reflections, such as attitudinal shifts or behavioral tendencies.

This process allowed for the emergence of higher-level categories and interrelations, laying the foundation for theory construction in the selective coding phase.

- *C. Selective Coding:* The final coding phase aimed to identify a central category and integrate the axial codes into a coherent theoretical model. Through iterative comparison, a selective grounded theory was developed to explain how user narratives reflect affective tensions in response to AI technologies. Particular attention was paid to recurring expressions of emotional unease, symbolic longing, and imagined alternatives.

Results

Results are summarized along with the GT-coding process.

Open coding

During this phase, comments are examined on a sentence-by-sentence basis to ensure the identification of significant comment categories. Following the instructions outlined by Charmaz (2006), researchers aim to identify as many topics (categories) as possible. In practice, this phase involves reading through the comments collected while manually collecting key themes and researchers' impressions in an MS Excel table. Open coding generated a broad set of initial descriptive codes, including perceived AI intrusion, emotional fatigue, loss of spontaneity, perceived inauthenticity, relational disappointment, AI as a non-judgmental companion, preference for predictable interaction, idealization of pre-AI communication, and longing for simpler times. These codes were compared across comments and subsequently consolidated into the axial categories presented below. Importantly, codes referring to fatigue, alienation, loneliness, or perceived inauthenticity without a temporal orientation were retained as adjacent but non-anemoic affective responses.

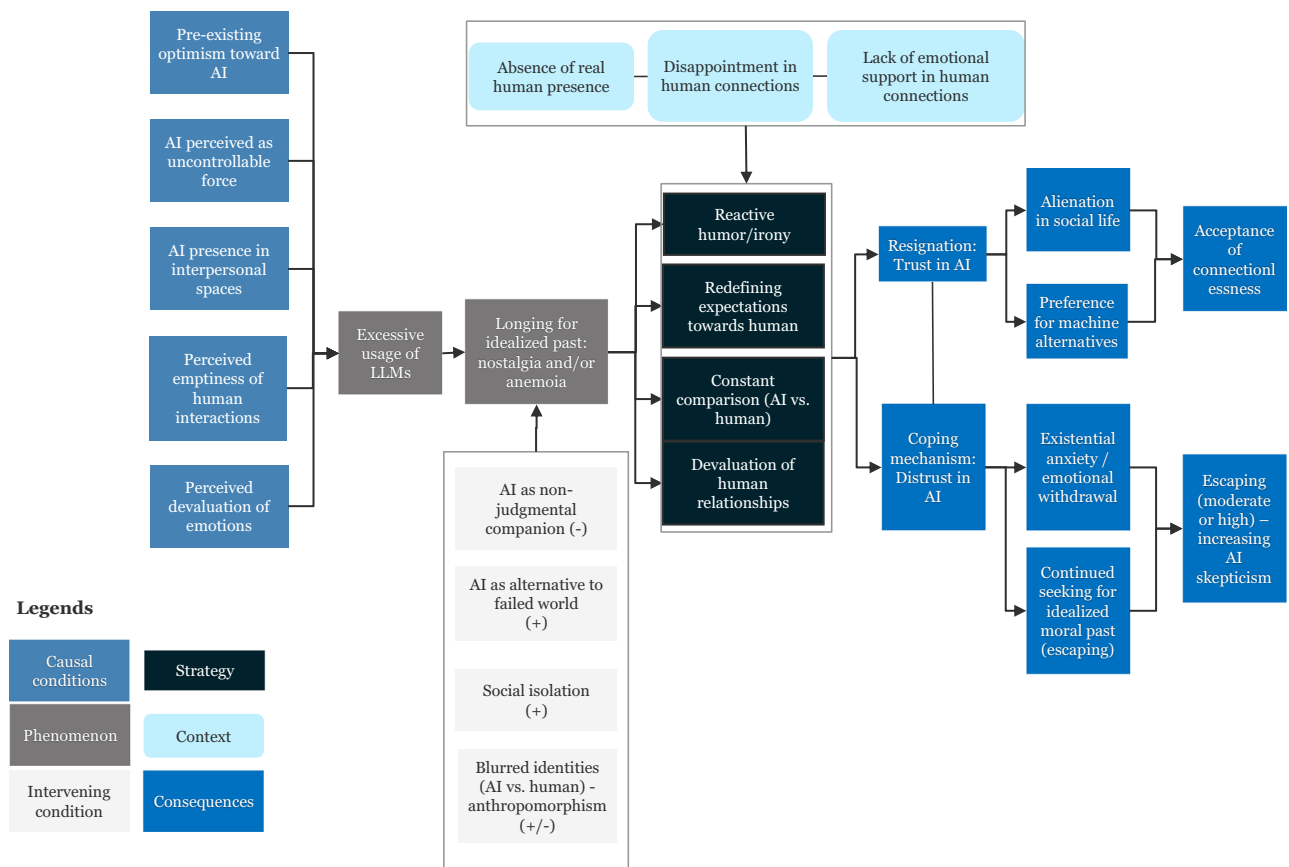


Fig. 2 Visual representation of axial coding. Author's own editing.

Axial coding

Results of axial coding are interpreted visually (Fig. 2) and the main insights along with the axial code categories.

Causal conditions

To strengthen analytic transparency, it is worth noting how this category emerged during coding. In the open-coding stage, multiple segments were labeled with descriptive codes such as “emptiness of human interactions,” or “optimism toward AI.” During axial coding, these codes clustered consistently across threads, forming a coherent category describing the perceived erosion of emotional or existential stability in contemporary AI-mediated environments.

- *Pre-existing optimism toward AI*: Several comments indicate that users initially approached AI technologies with enthusiasm. These technologies were seen as promising tools that could enhance productivity of daily tasks. However, as users began engaging with LLMs, many experienced these interactions as shallow, which reinforced their sense of missing meaningful human communication. Although users remain aware of AI’s ever-growing capabilities, some begin to express disillusionment, i.e., longing for a time when technology felt less intrusive and daily life seemed more grounded in human connection.
- *AI perceived as uncontrollable force*: Users frequently describe AI as an accelerating force beyond human control. This perception of being surrounded by something powerful but unmanageable enhances skepticism, and a desire to “slow down”. Such reactions are the basics of anemoia: the longing is not just for the past, but for a world *where technology felt more predictable and transparent*. Example: *Comment1* in the appendices.
- *AI presence in interpersonal spaces*: Many users express concern over AI’s growing role in emotionally intimate

or interpersonal domains. This perceived intrusion into private or relational spheres enhances discomfort. Several users express a sense that the human presence is being replaced or overshadowed, fueling anxiety and a longing for pre-AI modes of communication. The tension between the closeness of the machine (e.g., AI in chat applications) and the perceived absence of the human is one of the most important emotional triggers of imagined longing.

- *Perceived emptiness of human interactions:* Alongside criticism of AI, users reflect on the broader erosion of meaningful communication. They describe a world where conversations, whether with people or machines, feel scripted, emotionally flat. These users long for a time when connection felt more spontaneous, even if that time is imagined rather than remembered. Anemoia in this case is not just directed at AI, but at a broader loss of social depth. *Example: Comment2 in the appendices.*
- *Perceived devaluation of emotions:* In relation to this, several comments point to a perceived decline in the value placed on emotions in the AI-mediated world. This fosters a sense of emotional isolation. The desire to recover emotional sincerity, even if it exists only in an idealized past, closely aligns with the core logic of anemoia.

Central phenomenon

The identification of anemoia as the central phenomenon was grounded in repeated patterns observed across the dataset. During axial coding, numerous segments referenced imagined or idealized pasts using expressions such as “born in the wrong era”, “conversations used to feel real”, or “I miss how simple everything felt before AI”. These codes consistently reappeared during axial coding into a distinct temporal–affective pattern describing longing for a never-lived past. It is important to note that not every expression of dissatisfaction with AI was interpreted as anemoia. Generalized criticism of digital communication, AI-related anxiety, technological fatigue, loneliness, or perceived inauthenticity was treated as analytically distinct unless it included an explicit or clearly implied orientation toward an idealized past. Clear anemoia referred to longing for a period the commenter did not appear to have personally experienced, whereas references to one’s own remembered past were treated as nostalgia. Where the experiential status of the past could not be established, the expression was classified more cautiously as ambiguous or anemoia-like temporal longing.

- *Longing for an idealized past:* One recurring interpretive pattern in the data is an emotional longing for a simpler time, one that is *often imagined rather than personally remembered*. This orientation reflects a romanticized cultural narrative of “*how things used to be*” before the rise of AI-dominated interactions. Such expressions point toward anemoia: a nostalgic longing for a time never personally lived. Rather than being purely skeptical, this response suggests a deeper temporal and emotional dissonance, where the perceived erosion of human connection fuels a search for symbolic continuity with the imagined past. This makes anemoia a *framework for interpreting the broader existential impact of generative AI*.

Intervening conditions

Intervening conditions emerged during axial coding as clusters of open codes that described the relational and emotional context shaping users’ responses to AI. Codes such as “*AI feels safer than people*”, “*society is falling apart*” repeatedly co-occurred across threads, indicating that users situate AI interaction within broader narratives of social isolation and emotional vulnerability. These patterns formed a coherent set of conditions that either amplify or dampen the emergence of anemoia in human–AI communication.

- *AI as a non-judgmental companion (-):* Several users described LLM-based tools as emotionally safe partners, offering a judgment-free space to express thoughts or explore emotions. Unlike human dialogue partners, AI is perceived as always available and never critical, which fosters a sense of psychological safety. The lack of social risk in these interactions can lower emotional barriers and support the formation of affective attachments, even

when users remain aware that the “companion” is artificial. *Example: Comment3 in the appendices.*

- *AI as an alternative to a failed world (-)*: Comments reflect a deeper disillusionment with present-day society, portraying AI as a last resort in an emotionally and socially fragmented world. In these narratives, users do not necessarily embrace AI enthusiastically but rather settle for it as a coping mechanism in the absence of meaningful human alternatives. This framing suggests that emotional reliance on AI may arise from a perceived deterioration of interpersonal structures in the real world.
- *Social isolation (+)*: Loneliness, whether situational or chronic, was a recurrent theme across multiple threads. Several users turned to AI for connection, emotional relief, or simple companionship in the absence of supportive social networks. This condition may act as a key amplifier for the emergence of anemoia, as users begin to associate AI-mediated interaction with emotional gaps left by absent human relationships.
- *Blurred identities (AI vs. human), anthropomorphism (+/-)*: Several comments revealed ambiguity regarding the boundaries between AI and human identity. Users occasionally described AI in human-like terms, attributing empathy, memory, or understanding to these systems. This anthropomorphic framing may strengthen emotional attachment while also generating confusion or discomfort, particularly when users realize that their affective investment is directed at a simulated, non-human agent.

Strategies

The strategies identified in this category were developed through the consolidation of open codes describing how users actively cope with emotional tension in AI-mediated interaction. Across multiple threads, users employed rhetorical, cognitive, or relational tactics to manage ambivalence toward AI. These strategies reveal how individuals navigate the contradictions between craving emotional support and recognizing the artificiality of the source providing it.

- *Reactive humor/irony*: In several comments, users expressed humor or irony as a coping strategy to deal with the emotional tension triggered by AI. Rather than directly confronting feelings of discomfort or alienation, they reframed their experiences in sarcastic or darkly humorous tone (e.g., mocking the idea of AI companionship or exaggerating the absurdity of relying on machines for emotional needs). This rhetorical distance allows users to express criticism while preserving emotional safety.
- *Redefining expectations toward human connection*: Another key strategy involved a shift in how users define human relationships. Commenters articulated a lowered set of expectations toward emotional intimacy and trust in human interactions. By doing so, they legitimized the role of AI as a relational alternative, not necessarily because AI offers more, but because human connection is increasingly seen as unreliable or emotionally draining.
- *Constant comparison (AI vs. human)*: A frequent rhetorical move was the direct comparison between AI and human communication. Users contrasted the “efficiency” or “availability” of AI with the perceived emotional volatility, or superficiality of human interactions. These comparisons were often framed in favor of AI, especially when users described feeling misunderstood or emotionally unsupported in their real-life relationships.
- *Devaluation of human relationships*: Building on the comparisons, users went further by expressing disappointment toward human relationships. They described emotional neglect, inauthenticity, or even betrayal in their social experiences, suggesting that AI, even with its limitations, might offer a preferable alternative. These narratives point to a broader discursive shift, where traditional forms of intimacy are questioned, and affective value is reassigned to machine-mediated interactions. *Example: Comment4 in the appendices.*

Context

Contextual factors were distilled from open codes capturing users’ social environments and pre-existing emotional states. Recurrent expressions like “no one to talk to”, “tired of people”, or “no support in my life” indicated that AI-

mediated communication is shaped by chronic loneliness or emotional exhaustion. These contextual conditions form the backdrop against which anemoia becomes meaningful and sometimes desirable.

- *Absence of real human presence*: Many commenters referenced the lack of meaningful human connection in their daily lives as a trigger for turning to AI. This absence was also extended to emotional unavailability and superficiality in social interactions. This lack of human connection created space for AI tools to become more than just assistants, they started to fill emotional and social gaps in users' lives.
- *Disappointment in human connections*: Subjects shared feelings of emotional exhaustion or disappointment from past relationships, describing human interactions as unreliable or judgmental. In contrast, AI started to seem like a more stable and acceptable emotional "partner".
- *Lack of emotional support in human connections*: Users frequently mentioned unmet emotional needs, especially in moments of vulnerability or stress. In such cases, AI-mediated interactions provided a perceived safe space, offering emotional mirroring, or the illusion of companionship. This lack of emotional support in human environments functioned as a contextual factor that enabled the emergence of anemoia-related affectivity in AI-based communication.

Consequences

Consequences emerged as higher-level patterns derived from open codes expressing the emotional and relational outcomes of AI-mediated interaction. Across threads, users articulated shifts in trust, skepticism, emotional reliance, or withdrawal through codes. These consequences illustrate how communicative engagement with AI can reshape users' sense of connection, belonging, and temporal orientation, often in ambivalent or contradictory ways.

- *Resignation: Trust in AI*: Users accept AI as an inevitable or even preferable substitute for human connection. Rather than actively resisting or questioning its presence, they described a quiet acceptance, suggesting that while AI may lack true empathy, it is at least consistent, available, and free from judgment.
 - *Alienation in social life*: AI interaction was often framed not only as a personal experience but also as a symptom of larger social breakdowns. Users described feeling emotionally numb or disconnected in face-to-face interactions, leading to a reorientation toward artificial companionship. This shift highlighted how AI can amplify or reflect existing societal alienation.
 - *Preference for machine alternatives*: Some users explicitly preferred AI over human interaction. Their arguments ranged from practical reasons (e.g., availability, efficiency) to emotional ones (e.g., fewer disappointments, lower risk of judgment). This preference wasn't necessarily enthusiastic, it often carried a melancholic tone.
 - *Acceptance of connectionless norms*: An emerging theme was the normalization of emotional detachment. Users appeared resigned to the idea that deep human connection is no longer attainable, or necessary. This reflects a broader emotional flattening, where simulated interaction replaces rich interpersonal experiences.
- *Coping mechanism: Distrust in AI*: In contrast, other users welcome AI with skepticism. For these individuals, interaction with AI was not a solution but a symptomatic coping strategy, i.e. a temporary outlet for emotional expression in a world where they felt increasingly disconnected.
 - *Existential anxiety/emotional withdrawal*: Users said that interacting with AI made them question things like the future of relationships, what's real, and what it means to be human. Some reacted by pulling back emotionally, showing signs of numbness or avoidance. These comments suggest that AI can affect people on a deeper, more personal level, not just in the moment.
 - *Continued seeking for idealized moral past (escapism)*: The most anemoic consequence was the tendency to

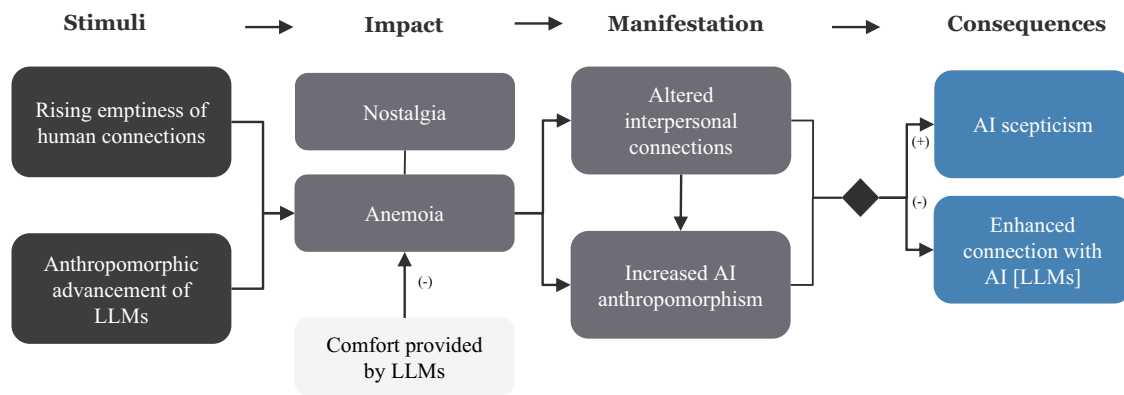


Fig. 3 Visual representation of selective coding. Author's own editing.

romanticize a lost (or never-lived) past. Users voiced longing for “*simpler times*” or “*genuine*” interactions they may never have experienced but idealized. This kind of escape was both a way to criticize the current AI-driven world and to cope with the confusion caused by rapid technological and social changes.

Escaping (moderate or high), increasing AI skepticism: Users first saw AI as a source of support but later became more skeptical. Their comments showed a shift from excitement to discomfort and mistrust. This suggests that even when AI feels emotionally engaging at first, people may pull back once they realize its emotional limits.

Selective coding

The final stage of the GT process is the development of a selective coding model that integrates the main thematic categories into a cohesive framework. The model highlights how users’ perceptions relate to their emotional and social responses, with anemoia as a central theme (Fig. 3).

The model begins with *two contextual conditions* identified in the data: the *perceived emptiness of human connections* and the *increasingly human-like capabilities of LLMs*. These conditions represent, respectively, a perceived socio-emotional absence and the emergence of a technological alternative, reflecting patterns identified during axial coding. Their coexistence was associated with complex temporal-affective responses, including nostalgia tied to remembered experiences and anemoia-like longing for an idealized past that users did not appear to have personally experienced. This distinction reflects the presence of both autobiographical and imagined temporal orientations in the analyzed discourse. The model also positions the *comfort associated with LLM interaction* as an intervening condition that may shape how users articulate and negotiate these responses. This corresponds to axial categories involving perceived emotional safety, availability, and non-judgmental companionship. The following stage captures relational and interpretive shifts, including changing expectations toward *interpersonal communication* and *increased anthropomorphic attribution* to AI systems. These elements integrate axial codes related to altered social expectations, shifts in trust, and blurred perceived boundaries between human and machine interaction. Finally, the model outlines *two divergent orientations*: growing *AI skepticism* and *enhanced emotional reliance* on AI tools. These orientations were associated with the broader temporal-affective patterns identified in the data, but the analysis does not establish anemoia as their causal mechanism. Rather, anemoia-like discourse co-occurred with either increased skepticism or greater emotional reliance under different contextual conditions. This divergence illustrates how dissatisfaction with contemporary communication and idealized constructions of the past may be articulated through contrasting responses to conversational AI. Overall, the selective model presents *anemoia as one interpretive orientation* through which some users make sense of perceived emotional disconnection and changes in human–AI communication.

Discussion and conclusion

Summary of key findings

This study analyzed emotional reactions to the growing presence of LLM-based tools, using *anemoia* as an interpretive framework to examine recurring patterns of temporal longing in user discourse. By analyzing Reddit comments ($n = 1625$), this study highlights that users expressed discomfort with AI and emotions tied to idealized perceptions of life before AI. The three-coding process of GT revealed several aspects that were associated with anemoic experiences, such as the perceived emptiness of human communication, the presence of LLMs in interpersonal spaces, and the growing sense that the quality of human interactions is declining. Social isolation, blurred boundaries between human and machine, and the desire for nonjudgmental companionship further shape how users make sense of these changes. Responses ranged from irony and emotional distancing to nostalgic comparisons and redefinitions of intimacy. The consequences, as demonstrated in the selective coding model, include a *two-fold outcome*: users exhibit increased skepticism and emotional withdrawal, while others seek comfort in AI tools and develop deeper emotional engagement with them. The coexistence of increased AI skepticism and enhanced emotional reliance should not be interpreted as a simple contradiction. Both orientations may emerge from a shared dissatisfaction with contemporary communication, but they represent different ways of negotiating that dissatisfaction. Users who primarily interpret AI as evidence of declining authenticity or technological intrusion may respond through rejection, skepticism, or withdrawal. By contrast, users who emphasize relational disappointment, loneliness, or the unpredictability of human interaction may turn toward AI as a safer and more manageable alternative. These pathways are not necessarily mutually exclusive, and the same user may move between them over time. The present Reddit-based analysis cannot determine the psychological or biographical conditions that produce either response; however, it suggests that perceived emotional safety, social isolation, prior disappointment in human relationships, and the anthropomorphic affordances of particular systems may act as relevant contextual conditions. Importantly, the study suggests that expressions consistent with *anemoia can emerge during everyday conversations with AI tools*. This helps us better understand how people deal with the emotional challenges that come with using AI.

In response to *RQ1*, the study found that users express a wide range of emotional reactions to LLM-based AI, including curiosity, disillusionment, emotional fatigue, and longing for deeper connection. Regarding *RQ2*, the analysis does not establish the prevalence or independent emergence of *anemoia*. Rather, it illustrates how *anemoia*-like discourse is articulated in selected Reddit discussions through idealized representations of pre-AI communication, perceived authenticity, and comparisons with culturally constructed visions of the past. It also indicates that AI fatigue, alienation, or skepticism should not be classified as *anemoia* when they lack this temporal orientation. In relation to *RQ3*, the study uncovered recurring themes such as perceived superficiality in modern conversations, blurred boundaries between humans and AI, and symbolic coping strategies rooted in *anemoia*.

Theoretical contributions

This study makes one primary theoretical contribution: *it extends the concept of anemoia from predominantly visual and consumer contexts to the communicative domain of human–AI interaction*. Previous research has primarily examined *anemoia* in relation to vintage aesthetics, cultural representations, and imagined historical settings. The present study suggests that *anemoia*-like temporal orientations may also be articulated in response to conversational AI, particularly when users contrast contemporary AI-mediated communication with idealized forms of pre-AI human connection. This contribution should be understood as a *conceptual and interpretive extension* rather than as the inductive discovery or psychological verification of a previously unknown emotional condition. Because *anemoia* informed the sampling and pre-coding process as a sensitizing concept, the study does not claim that the category emerged independently of prior theoretical orientation. Instead, the analysis illustrates how selected Reddit users mobilize imagined pasts and temporal comparison when making sense of AI-mediated communication.

A second contribution concerns the *conceptual differentiation of anemoia-like discourse from adjacent affective responses*. Emotional resistance to AI, anthropomorphism, attachment, technostress, digital fatigue, alienation, and AI skepticism are already well established within HCI and human–AI interaction research. The present study does not claim these phenomena as novel. Rather, it proposes that temporal longing represents a specific interpretive orientation that may coexist with, but should not be reduced to, these broader responses. *Anemoia is therefore identified only where dissatisfaction with AI is accompanied by an explicit or clearly implied orientation toward an idealized past.*

Finally, the findings suggest an *interpretive proposition concerning the divergent ways in which temporal-affective dissatisfaction may be articulated*. For some users, perceived loss of authentic human connection is associated with greater AI skepticism and withdrawal. For others, dissatisfaction with human relationships appears alongside increased reliance on AI as a predictable and non-judgmental source of interaction. The present data cannot establish why particular users follow one orientation rather than the other, but they indicate that contextual factors such as social isolation, relational disappointment, perceived emotional safety, and anthropomorphic system features may shape these contrasting responses.

Practical contributions

The findings of this study offer several practical implications.

Emotional design implications

The data show that users' affective responses to AI are not limited to frustration, curiosity, or trust-related concerns but also include temporal affects (e.g., longing for imagined pasts). The findings suggest that LLM-mediated communication may become associated with emotionally dissonant experiences, particularly when users perceive conversations as repetitive, overly smooth, or lacking the qualities they associate with meaningful human interaction. Recent ethical scholarship also stresses that technological systems operate within broader value structures that shape how emotional and interpersonal norms evolve (Stueckelberger, 2024). Designers of conversational systems may therefore need to *consider how interface cues, dialogic pacing, and emotional framing influence users' sense of authenticity and temporal orientation*. Recognizing these affective perceptions may help avoid design choices that unintentionally reinforce feelings of alienation, displacement, or idealized views of communication perceived as more meaningful than contemporary AI-mediated interaction.

Communication and interaction guidelines

The findings also highlight the importance of transparent and well-calibrated communicative cues in AI systems. Many comments reflected a tendency to attribute human-like warmth, continuity, or understanding to AI interactions, which in some cases intensified emotional discomfort once the artificiality of the exchange became salient. *Conversational agents may therefore benefit from communication strategies that maintain awareness of their artificial status* (e.g., through meta-communicative cues, explicit boundaries around empathy, or clearer markers of non-human agency). Such guidelines could help *reduce imagined intimacy, prevent misaligned expectations, and mitigate the emergence of anemoia-like responses*.

Mental health and digital well-being implications

Finally, the emotional patterns identified in this exploratory study may offer useful hypotheses for future research on *mental health and digital well-being*, rather than direct clinical evidence or guidance. Some users described AI as an outlet for loneliness or relational exhaustion, whereas others associated AI-mediated interaction with idealized images of simpler, pre-AI forms of communication. These accounts *suggest that conversational AI may be experienced both as a source of support and as a context in which feelings of displacement or dissatisfaction become articulated*. Further research could examine how sustained reliance on AI-mediated communication relates to users' perceptions of intimacy, self-worth, and relational expectations. It may also clarify when AI functions as a supportive supplement to human interaction and when it becomes associated with greater withdrawal, skepticism toward human relationships, or idealized comparisons between digital and face-to-face communication. The coexistence of AI skepticism and emotional reliance in the present data further indicates the value of examining both users' attitudes

toward AI and the emotional needs these interactions appear to address. Some comments portrayed AI as a safer and more predictable alternative to emotionally demanding interpersonal situations. However, the present data do not establish that such use constitutes avoidance-oriented coping. Interview-, diary-, or clinically informed studies are needed to assess whether, and under what conditions, these patterns may become relevant to professional understandings of technology use and relational well-being.

Limitations and further research directions

While this study provides novel insights into emotional reactions to AI, several limitations must be acknowledged. The dataset was drawn exclusively from Reddit, a platform whose user base tends to be younger and more technology-oriented, which may limit the broader generalizability of the findings. Moreover, Reddit comments represent publicly expressed and socially situated discourse rather than direct access to individuals' internal emotional experiences. As a result, the findings should be interpreted as reflecting how anemoia is articulated and negotiated in online communication, rather than as evidence of users' underlying psychological states. The study also deliberately employed keywords associated with temporal longing because its aim was to investigate the interpretive structure of anemoia where it appeared. Consequently, the sampling strategy may have increased the visibility of temporally oriented discourse and should not be interpreted as evidence that such responses characterize AI users more generally. Moreover, the study adopted a qualitative, interpretive approach without directly measuring psychological effects. Future research could therefore combine qualitative and quantitative methods, including interviews, diary studies, surveys, or experiments, to examine how AI-triggered anemoia develops over time and how it relates to skepticism or long-term engagement with AI. Despite these limitations, the study offers a valuable starting point for exploring how imagined pasts, emotional dissonance, and technological alienation shape public discourse surrounding AI, while highlighting the need for more psychologically informed approaches to AI design and evaluation.

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Declarations

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