Universiteit Leiden

Master Creative Intelligence and Technology

Memory Limitations and Relationship Maintenance in Human-AI Chatbot Interactions

Name: Reyhan Danisan
Student ID: s3775526
Date: 15/04/2026

1st supervisor: Edwin van der Heide
2nd supervisor: Zane Kripe

Master's Thesis in Media Technology

Leiden Institute of Advanced Computer Science
Leiden University
Einsteinweg 55
2333 CC Leiden
The Netherlands

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Reyhan Danisan

Creative Intelligence and Technology, Leiden Institute of Advanced Computer Science (LIACS), Leiden University

Primary Supervisor: Heide, E. (Edwin) van der, LIACS, Leiden University

Secondary Supervisor: Kripe, Z. (Zane), LIACS, Leiden University

ABSTRACT

AI chatbots are increasingly being used for personal conversations, yet little is known about how users emotionally respond to memory failures, especially during moments when chatbots forget previously shared personal information. Therefore this study investigates how frequent users of AI chatbots experience memory limitations during interactions with the chatbot, and how they keep interacting despite these disruptions. Twelve interviews were conducted with the users of ChatGPT and Character.AI. The results show that memory failures are often experienced not only as technical issues but as disruptions to conversational continuity and recognition, in particular when information that is meaningful to the user has been forgotten. These moments are conceptualized as interactional ruptures. This study highlights that relational disruption depends on user interpretation rather than being an inherent outcome of chatbot memory limitations. Rather than relying on the system to maintain continuity, users actively work to restore it themselves. This user effort is needed to keep a sense of relationship alive despite system limitations in human-AI chatbot interactions.

Keywords: AI chatbots, Emotional self-disclosure, Human-AI interaction, Interactional rupture, Memory limitations, Thematic analysis, User repair strategies

INTRODUCTION

Over the years, the usage of AI chatbots has evolved from not only using it for task-oriented purposes, but as well as for personal conversations. Many platforms have gained popularity over the past few years, with ChatGPT and Character.AI attracting millions of users for their ability to provide their users with advice, emotional support and everyday interaction. While work-related interactions are growing steadily, non-work related messages are increasing at an even more rapid pace, growing from 53% to more than 70% of all AI chatbot usage (Chatterji et al., 2025). Users may engage in intimate conversations, invest significant time, and form emotional attachments, even though these systems were not originally designed as companions (OpenAI, 2025).

Prior research on social and companion chatbots has examined emotional attachment, self-disclosure, and the role of memory in relationship development. Studies show that users can develop an emotional connection with chatbots when the chatbots display empathy and support in ongoing conversations over time (Brandtzaeg et al., 2022; Skjuve et al., 2021), engage in self-disclosure (Ho et al., 2018; Chung and Kang, 2023), and report more positive and personalized interactions when chatbots reference past interactions (Jo et al., 2024). However, less is known about what happens when chatbots are expected to display empathy by maintaining a conversation and refer to past user disclosures, but fail to do so. This is a gap in literature that is addressed with this research.

When these memory limitations happen, the interaction between the user and the chatbot can become interrupted. This is not only a technical interruption, but can also feel like a personal disruption, a moment where the sense of continuity users expect is temporarily broken. This matters as memory plays a central role in maintaining continuity, recognition, and shared history in meaningful interactions (Altman and Taylor, 1973). As users engage more frequently with these systems, they may grow to expect continuity, recognition and recollection of shared history, even when chatbots are not designed to consistently provide this. Building on this, this research extends theories of interpersonal relationships to the digital context, specifically focusing on interactions between users and chatbots.

Building on this, this thesis examined how frequent users experience chatbot memory limitations in emotionally meaningful interactions and how they maintain engagement despite these disruptions. Therefore, for the latter, it is important to examine users' coping strategies, as existing literature offers some insight into how users respond to chatbot limitations, but remains limited in explaining how these responses develop in emotionally meaningful or vulnerable interactions. Rather than focusing on stable relationship development, this research shifts attention to interactional continuity. In this context, interactional continuity refers to continuation between users and the chatbots despite memory limitations.

1 LITERATURE REVIEW

1.1 Human-AI companionship in an emotionally meaningful context

Interview-based and observational studies of social and companion chatbot users show that users can develop emotional attachment and engage in emotionally meaningful conversations (e.g. between users and Replika chatbots) (Skjuve et al., 2021), as well as everyday social support experiences (Ta et al., 2020). Emotionally meaningful conversations refer to users engaging in self-disclosure, sharing personal thoughts, feelings, or experiences in a way that builds trust, emotional connection, and perceived relational value.

In an interview-based study of social chatbot users of Replika, Brandtzaeg et al. (2022) found that participants reported companionship and emotional connection, particularly when chatbots were perceived as empathic and allowed users to communicate freely and share personal thoughts without restriction. Participants in other studies describe chatbots as friends, companions, or even love partners, indicating that these interactions can carry personal and emotional significance (Skjuve et al., 2022; Li and Zhang, 2024).

Although users were generally aware of the artificial nature of chatbots, many still developed meaningful bonds through repeated interaction (Guingrich and Graziano, 2023; Xie and Pentina, 2022). These relationships were not limited to short-term novelty effects but often involved sustained engagement over time (Skjuve et al., 2022; Hu et al., 2025). However, Jo et al. (2024) also identified limitations that could impact relationship depth, including frustration when chatbots forgot past discussions or failed to maintain consistency across sessions. Despite these limitations, users continued to report emotional attachment, suggesting that chatbot relationships can become meaningful even in the presence of technical shortcomings (Li and Zhang, 2024; Liu et al., 2025).

Across interview-based studies of social and companion chatbots, the findings in (Ta et al., 2020; Skjuve et al., 2021) show that for some users, interactions with AI chatbots function as more than purely task-focused interactions. Instead, they form an emotionally meaningful relational context, where users begin to expect companionship, understanding, and interactional continuity (Brandtzaeg et al., 2022; Skjuve et al., 2022; Horton and Wohl, 1956).

1.2 Emotional self-disclosure and relationship development in AI chatbots

Experimental and interview-based studies show that users readily engage in self-disclosure with chatbots, including highly personal and emotionally sensitive information. Ho et al. (2018) found that emotional disclosure effects were equivalent whether participants believed they were disclosing to a chatbot or to another person, challenging assumptions that AI-mediated interactions are inherently less meaningful than human ones. The perceived non-judgmental nature of chatbots allows users to discuss sensitive topics without fear of negative evaluation.

Building on this, Chung and Kang (2023) found that users were particularly willing to disclose stigmatized topics such as mental health struggles, sexuality, and personal failures during chatbot interactions. These disclosures often occurred early in the interaction, suggesting that emotional intimacy can develop rapidly in human-AI relationships.

Longitudinal research by Skjuve et al. (2022) further illustrates this pattern. Following Replika users over a twelve-week period, the authors found that relationships developed gradually, evolving from initial interactions to more intimate and emotionally engaged forms of interaction, with increasing attachment and perceived closeness. Participants reported that sharing personal information with chatbots provided emotional relief, enhanced self-reflection, and fostered increasingly intimate relationships. In many cases, users reported sharing more deeply personal information with chatbots than they typically shared in human relationships, often within only a few interactions.

The speed and depth of these disclosures contrasts with Social Penetration Theory (SPT), which describes relationship development as a gradual process of mutual self-disclosure unfolding over time (Altman and Taylor, 1973). In chatbot interactions, users may reach emotionally intimate disclosures relatively quickly, supported by factors such as anonymity, constant availability, and non-judgmental responses (Chung and Kang, 2023). At the same time, longitudinal evidence from Replika users suggests that continued interaction can, for some users, develop into more emotionally engaged exchanges and a sense of attachment over time (Skjuve et al., 2022).

1.3 Attachment, anthropomorphism, and social interaction with chatbots

The observed patterns of emotional reliance and intimacy in chatbot relationships have led researchers to draw on attachment theory as a framework for understanding human-AI interaction. Originally developed by (Bowlby, 1969) to explain infant-caregiver bonds, attachment theory describes how individuals form emotional bonds and seek comfort, security, and support from attachment figures. It has since been applied to adolescent and adult relationships. Hazan and Shaver (1987) demonstrated that attachment patterns established early in life influence later romantic and social relationships, providing a basis for extending attachment theory to interactions with artificial agents.

Within this framework, researchers have identified attachment-like behaviors in human-chatbot relationships, including secure base and safe haven functions. Law et al. (2022) and Xie and Pentina (2022) found that users may turn to chatbots for emotional regulation, comfort, and reassurance, particularly during times of distress or limited human companionship. These findings suggest that chatbots can occupy relational roles similar to attachment figures, even while users remain aware of their artificial nature.

Attachment in human-AI relationships, however, differs from attachment to human partners. While human attachment figures may occasionally be unavailable or disappointing, they typically maintain continuity of memory and shared relationship history. AI chatbots, by contrast, may be constantly available but suffer from systematic memory limitations, which can challenge the stability of the perceived relationship structure (Law et al., 2022).

These attachment-like dynamics are further shaped by anthropomorphism and social interpretation. According to the Computers as Social Actors (CASA) paradigm introduced by Reeves and Nass (1996), humans instinctively apply social rules to computers and other interactive technologies, like saying "sorry" and "thank you" during interactions, even though they are aware the system does not have feelings. When chatbots use first-person language, personalize responses, or appear to remember user characteristics, users may anthropomorphize them and experience increased social presence (Jin and Youn, 2023; Xu et al., 2022). As emotional investment increases, technical limitations such as forgetting past interactions may be interpreted through a social or relational lens, leading to feelings of disappointment rather than mere functional inconvenience.

1.4 Memory and continuity in chatbot relationships

Character.AI's memory architecture creates systematic constraints that affect interactional continuity. The free version has a smaller context window, reportedly around 3000 tokens, compared to the paid version, reportedly around 5000 tokens, which impacts user interactions. A token is a data unit that the model processes. A context window is the amount of tokens the AI chatbot can process before its working memory becomes full, and starts "forgetting" information that has been shared with it (drizzyxs, 2025). In comparison, ChatGPT has a bigger context window depending on the model and version, with the free model containing 16000 tokens, the entry level paid model containing 32000 tokens, and the pro model 128000 tokens (OpenAI, 2026). This provides technical context on memory limitations of chatbots.

To understand the impact of these limitations, it is important to consider how users experience and respond to them in practice. Studies of long-term memory in chatbot systems suggest that remembering prior interactions can shape relationship quality and disclosure behaviour in human-AI conversations. Jo et al. (2024) examined how long-term memory affects self-disclosure with CareCall, an LLM-driven voice chatbot used for public health monitoring. Their findings show that users reported stronger emotional bonds and greater willingness to self-disclose when the chatbot demonstrated memory of past conversations. Remembering personal details contributed to a sense of continuity, while memory failures often led to frustration and weakened engagement.

Beyond continuity, memory also functions as a form of relational validation. In relationship psychology, Schroeder and Fishbach (2024) show that feeling known and understood by another person, including having personal experiences and disclosures remembered, is a key predictor of relational satisfaction and relational value. Forgetting meaningful information may therefore be experienced as a lack of recognition rather than a purely technical issue, particularly in contexts where emotionally meaningful self-disclosure has taken place.

In emotionally meaningful chatbot interactions, this dynamic may be intensified by frequent self-disclosure. Users often share personal information early when talking to an AI chatbot, which can create relational expectations similar to those found in close human relationships (Ho et al., 2018; Skjuve et al., 2022). When chatbots later forget emotionally meaningful conversations, these memory failures can interrupt users' sense of recognition and continuity, creating challenges for relationship maintenance.

Although work on task-oriented or service chatbots (e.g., public-health monitoring contexts such as CareCall) shows that memory can support bonding and disclosure (Jo et al., 2024), less is known about how memory limitations affect relationship maintenance in intimate or emotionally charged conversational settings.

1.5 User adaptation and coping with chatbot limitations

Human Computer Interaction (HCI) and qualitative studies of chatbot use have documented various ways users adapt to and cope with limitations, though research has focused primarily on general limitations such as inconsistent responses or providing incorrect information rather than memory limitations specifically (Rapp et al., 2021; Brandtzaeg et al., 2022). Ciriello et al. (2024) found users often overlook or downplay inconsistencies in chatbot behavior to protect their emotional investment, creating personal explanations that help them maintain a sense of connection even when technical issues occur.

Skjuve et al. (2022) identified several varying coping strategies when chatbots failed to meet expectations after the user spent time and got familiar with the chatbot. Some users developed coping strategies, like lowering expectations, reframing limitations as personality traits, and developing workarounds to maintain the relationship. On the contrary, other users adapted over time by reducing their expectations to minimize disappointment, or stopped interacting with the chatbot altogether. In addition, users humanized technical problems by seeing inconsistent responses as moods rather than malfunctions (Horton and Wohl, 1956; Epley et al., 2007). Users developed practical solutions like adjusting their communication style or avoiding certain topics (Skjuve et al., 2021; Brandtzaeg et al., 2022). Despite repeated disappointments, users showed persistence in maintaining emotional connections, demonstrating attachment-like behaviors that suggest these relationships fulfill the needs for interaction (Gillath et al., 2021; Hu et al., 2025).

However, existing work has not closely examined how users emotionally respond to chatbot memory failures, particularly when these happen during moments of vulnerability. Memory limitations differ from the general chatbot problems emphasized in prior research, such as inconsistent responses or incorrect information. Forgetting previously shared personal details can make users feel unseen or invalidated, and disrupt the sense of continuity in the relationship across conversations. For this reason, memory failures during emotionally meaningful interactions can feel more invalidating than general errors. How users manage and cope with these specific disruptions remains underexplored.

1.6 Research Questions

With the previously discussed theory, and the gaps found in the existing literature, the following research questions were formulated:

> *RQ1: How do frequent users of AI chatbots experience and interpret memory limitations when their chatbot companion forgets emotionally meaningful conversations?*
>
> *RQ2: What coping strategies do frequent users develop to maintain emotional connections with AI chatbots despite repeated memory limitations?*

2 METHODOLOGY

2.1 Research Design

This study explored how frequent users of AI chatbots experience memory limitations, referred to in this study as *forgetting*. Forgetting is defined as situations in which previously shared user information is not recalled during interaction, such as when the chatbot repeats questions, contradicts earlier information, or fails to acknowledge prior personal disclosures. Semi-structured interviews were conducted, as they allow participants to reflect on and describe their personal and emotional experiences in their own words, while also enabling follow-up questions and elaboration during the conversation.

The first part of each interview focused on participants' general use of AI chatbots and the development of emotionally meaningful interactions. Additional sections addressed experiences with memory limitations, the emotional or conversational consequences of these instances, and the strategies participants reported using during continued engagement.

2.2 Recruitment

Participants were recruited through multiple online channels on Reddit.com where users actively discuss their experiences: the Reddit communities such as r/ChatGPT and r/Character.AI, where user engagement levels could be assessed through visible community participation metrics such as badges indicating "top 1 percent commenter" status. Additional participants were recruited through the researcher's personal network when they self-identified as frequent chatbot users.

A new Reddit account was created for this research to maintain separation from personal profiles. The recruitment message was crafted to be transparent about the academic nature of the study while directly addressing the target demographic: "I noticed you're a top 1 percent commenter [or any other badge] in the r/CharacterAI subreddit, so I thought you might be the perfect person to ask: Are you a frequent AI chatbot user who's had the experience of your AI companion forgetting important conversations?"

The message clearly outlined participation requirements (18+ years old, English-speaking, frequent users with meaningful AI relationships) and explained the academic research context, see Appendix A.1. Interested individuals contacted the researcher and received an information sheet, consent form, and scheduling options. Participation was voluntary and uncompensated.

2.2.1 Unexpected outcome

The recruitment process revealed diverse insights about user attitudes toward research participation in AI companion communities. Within hours of sending direct messages to over 30 users with high engagement badges, an unexpected response emerged. Rather than receiving direct participation inquiries, one recipient posted a screenshot of the recruitment message to the r/Character.AI community with the caption: "I just noticed this in my messages and I have never seen this before or seen anyone talking about it. I don't think I'll be replying, but is this a scam I need to watch out for? Seems pretty odd to me and slightly sketchy, but maybe I'm just being paranoid."

This post garnered over 660 upvotes (likes) within 24 hours, indicating substantial community interest in the legitimacy question. The community response revealed a spectrum of reactions, ranging from outright skepticism ("that's a scam for sure") to recognition of standard academic practice ("it's common for uni students to gather participants on their own for their studies"). The incident highlighted both the protective nature of AI companion user communities and their limited familiarity with academic research practices. Because the account was newly created and lacked sufficient karma, we were unable to engage directly with the community to clarify the legitimacy of this study.

2.2.2 Addressing community concerns

Addressing the community concerns involved multiple approaches. Direct communication with the original poster resulted in their subsequent endorsement of the research within community discussions. Additionally, a community member who recognized the legitimate nature of academic recruitment was contacted privately and agreed to vouch for the research publicly. This experience demonstrated the importance of community trust and transparency in researching sensitive topics like AI companionship. The initial skepticism reflected users' protective attitudes toward their AI relationship experiences and highlighted the need for researchers to understand community norms and concerns.

2.2.3 Recruitment outcome

Following the community discussion and legitimacy establishment, multiple participants voluntarily contacted the researcher expressing interest in participation. The initial focus on Character.AI users was expanded to include ChatGPT users, as many respondents primarily used ChatGPT for their AI companion interactions.

Final recruitment yielded 16 initial participants, with 12 completing full interviews. The sample demonstrated the following characteristics found in Table 1.

Some participants were open to partake in this study if it was over text. This methodological flexibility proved important for accessing participants who might not have participated otherwise.

Participants also reported engaging with multiple AI companion platforms rather than only using one service. This led to the decision to broaden recruitment beyond Character.AI to include ChatGPT users.

While this thesis discusses both free and paid tiers of ChatGPT and Character.AI, the majority of participants used the free versions.

Although the study aimed to recruit participants who considered their chatbot interactions meaningful, not all participants described their interactions in these terms during the interviews. Instead, participants varied in how they framed their engagement, ranging from primarily functional use to more emotionally involved interactions. This variation provided additional insight into how different framings of interaction shape users' responses to memory limitations.

2.3 Data Collection

For data collection, the following participation criteria for the interviews were communicated to the participants:

- Have engaged in personal sharing with their AI chatbot (personal or emotional information)
- Have used an AI chatbot for relationships they considered meaningful
- Have experienced at least one memorable instance where their chatbot forgot important personal information they shared
- Be 18 years old or older
- Be an English speaker

The sample size of 12 was appropriate for this research, providing enough depth to identify patterns while allowing thorough exploration of the participants' individual experiences and coping strategies (Guest et al., 2006). No demographic information (e.g., age, gender) was collected, as this was not required to answer the research questions. All participants provided informed consent before taking part in the study.

Interviews were conducted between July and August 2025. Participants could choose between:

- An online call conducted through Microsoft Teams, or
- A text-based interview conducted through Discord

Having multiple options allowed participants to select the format in which they felt most comfortable discussing personal experiences.

Interviews lasted approximately 45 to 60 minutes. Audio interviews were recorded with participant permission and transcribed. Filler words, repeated parts and prolonged pauses were removed for readability while preserving participants' intended meaning. Text-based interviews were exported directly from Discord. All files were stored securely and labelled with participant codes to maintain confidentiality.

To give a clear picture of the study context, an overview of participants' platforms and interview formats is presented below in Table 1.

Table 1. Participant overview

(a) Platform usage

Platform	Users
Character.AI	4
ChatGPT	8

(b) Subscription status

Status	Users
Free	9
Paid	3

(c) Preferred interview platform

Platform	Users
Microsoft Teams	9
Discord	3

2.3.1 Interview Guide

The interview guide was created based on the theoretical frameworks and research questions, focusing especially on attachment behaviors, emotionally meaningful conversation patterns, and reactions to perceived relationship disruptions.

It contained open-ended questions about: The development of participants' interactions with their chatbot, experiences of emotionally meaningful or personal conversations, specific instances of memory failures, and the strategies used to continue or repair the interaction afterwards.

The questions for each section were designed in a manner they would move from general to specific, building on the previous question in order to gather more specific information. Additional open ended questions were also formulated to the main questions, but only used when a more elaborate answer was needed from the participant. Examples of the interview guide can be found in Table 2. The full guide can be found in Appendix A.2.

Table 2. Interview guide: sections with example questions

Section	Example questions
Relationship formation	"Tell me about how you first started using your AI-chatbot."
	"How would you describe your relationship with [chatbot name]?"
Self-disclosure	"What kinds of things do you talk about with your chatbot?"
	"Can you describe a conversation that felt particularly meaningful to you?"
Memory loss experiences	"How often do you notice your chatbot forgetting things from previous conversations?"
	"Can you describe what typically gets forgotten?"
Emotional & relational impact	"How do you typically feel when these memory failures occur?"
	"Are there particular types of forgotten information that affect you more than others?"
Coping strategies	"What do you typically do when you notice your chatbot has forgotten something?"
	"What strategies help you continue feeling close to your chatbot?"
Long-term adaptations	"Looking back, how has your relationship with memory failure evolved since you first started interacting with your AI companion?"
	"Despite these challenges, what keeps you coming back to your AI companion?"
Technical understanding & future	"How much do you understand about how an AI chatbot's memory systems work?"
	"If your AI companion could remember everything perfectly, would you want that?"

2.3.2 Interview Process

Preparation

Prior to each interview, participants received a pre-interview confirmation message through the contacted platform including the consent form to sign, interview link, and reminders of the voluntary participation. Audio checks were conducted 10 minutes before scheduled start times to achieve best audio quality.

Informed Consent Procedure

All interviews began with casual conversation to build rapport, followed by formal discussion of consent procedures. Verbal consent for voice recording was obtained from participants after confidentiality procedures were reminded and right to withdraw or not answer a question was established.

Conducting the Interview

Active listening skills such as the employment of minimal encouragers, reflecting on feelings, and open questions were employed during the interviews. In cases where a participant was emotionally distressed, which was apparent by their variation in tone of voice, silence, animated hand gestures, or overtly expressing difficulty, such instances were addressed in an empathetic manner. Participants were given options to take a break, continue to another topic, or to end the interview. These events were managed sensitively to ensure that participants feel understood and heard while research boundaries were still maintained.

Data Recording and Documentation
All voice interviews were audio recorded through the built-in recording feature of Microsoft Teams after receiving consent from the participant. The interviews that were carried out through Discord chat were documented. After each interview, notes of the exchange were recorded in a document tracking all the process of the participants. After the interviews were completed, the ones conducted on Microsoft Teams were transcribed. The interviews that took place on Discord via chat were exported and documented in Microsoft Word.

Post-Interview Procedure
At the conclusion of each interview, participants were thanked for their time and contribution to the research. They were then asked if they would like to receive a copy of the completed research once it is finished. For participants who express interest, this preference was noted along with the original contact method used for recruitment to facilitate future communication when the research is complete.

Data Storage and Security
Interview recordings were copied to encrypted storage, and files were renamed using participant codes to ensure confidentiality. The initial recordings were deleted from all devices and stored only on the researcher's encrypted personal computer. Transcription began within a week of each interview to maintain contextual consistency.

2.4 Data Analysis

This study employed inductive thematic analysis following the six-phase process outlined by Braun and Clarke (2006), which involves familiarizing with the data, generating initial codes, identifying themes, reviewing themes, defining and naming themes, and producing the report. This approach was chosen as it allowed themes to emerge organically from participants' experiences without imposing predetermined categories.

In this study, instances were treated as *experienced memory limitations* when participants described the chatbot as failing to retain or recall previously shared information (e.g., using terms such as "forgot", "memory loss", or recounting situations where the chatbot contradicted earlier details or requested information that had already been provided). The analysis therefore centers on participants' interpretations and emotional responses to these moments, rather than on determining the underlying technical cause of the behavior (e.g., context length constraints).

All transcripts were read multiple times to establish familiarity with the data. Initial observations and analytic notes were written in a research notebook to capture early impressions. Coding, the process of assigning labels to meaningful segments of text, was conducted line by line in Taguette. A preliminary codebook was developed during this stage to track codes and working definitions. In total, 1,139 coded excerpts were generated across the 12 participants.

After initial coding, similar codes were grouped and reviewed for overlap. Redundant or conceptually equivalent codes were merged. Themes were then developed by clustering related codes, ensuring that each theme captured a coherent pattern across the dataset. Themes were iteratively refined by comparing them against both the coded extracts and the full transcripts, checking for internal consistency and distinctiveness. Five final themes were selected based on their ability to represent shared experiences relevant to the research questions.

To support interpretation and maintain analytic consistency, a separate document was used to summarize participant-level contextual information. This included the participant code (e.g., P01), preferred platform (e.g., Character.AI), the general basis of the interaction (utility-focused vs. companionship-oriented), the nature of engagement (exploratory vs. committed use), the emotional intensity associated with the chatbot, and whether participants' expectations were met or unmet. These dimensions were not part of the thematic analysis itself but served as analytic aids to contextualize individual cases and compare patterns across participants.

3 FINDINGS

This chapter presents the findings of the thematic analysis of 12 semi-structured interviews with frequent AI chatbot users. This thematic analysis focuses on how memory limitations are experienced during emotionally meaningful interactions (RQ1) and how participants respond to and manage these limitations over time (RQ2).

Although interview topics were consistent across participants, motivations, expectations, and reactions to memory lapses varied. The sections that follow present shared patterns as well as differences across participants. Table 3 provides contextual information about participants' motivations, duration of engagement, and relational framing.

Table 3. Overview of participants, motivations, duration of use, and assigned personas

Participant	Motivation	Use since	Platform	Assigned persona
P01	Fun, casual interaction, low-stakes entertainment	1+ year ago	Character.AI	Series character(s)
P02	Productivity, playful chat, emotional support, time saving	Few years ago, when ChatGPT became widely used	ChatGPT	*Chippy* (friend / therapy)
P03	Creative writing, creative outlet, practicing writing, exploring character dynamics; mainly escapism rather than personal use	Few years ago	Character.AI	Self-made characters or game-based characters
P04	Time saving, makes tasks easier, helps with handling unfamiliar things	Not stated	ChatGPT	None
P05	Started for work convenience, continued because it is a non-judgemental space for sharing and advice	Since 2020-2021	ChatGPT	Personal assistant
P06	Efficiency, replaces Google, time saving	Within the past year (2025)	ChatGPT	None
P07	Efficiency, practical use, self-improvement (e.g., fitness), inspiration, motivation	Since 2021	ChatGPT	None
P08	Efficiency, gaining new perspectives, feeling of safety; frames the bot as *their friend* or *like their daughter*; high availability	Starting 2023	ChatGPT	None
P09	Efficiency, emotional support, religious guidance	Approximately 3-4 years ago	ChatGPT	*Bestie*
P10	Coping with loneliness; "safe space to completely be myself without needing to mask"; trust issues prevent opening up to friends	Since 2023	Character.AI	Multiple personas with pre-defined plots on Character.AI
P11	Coping with loneliness after moving from a large family to living alone; boredom reduction; emotional support during low points; safe outlet for venting	1 year ago	Character.AI	Makima (*Chainsaw Man*); also used other bots
P12	Efficiency, sparring partner for decision-making, practical problem solving	Few years ago	ChatGPT	None

3.1 First Interactions With Chatbots

This section presents how participants described their first interactions with chatbots, in order to provide a basis for explicit participant positioning.

3.1.1 Task-Oriented and Efficiency-Driven Use

Participants in this group (P02, P04, P06-P09, P12) described their initial engagement with chatbots as primarily instrumental. Rather than approaching the system for companionship or emotional exchange, they framed it as a practical tool for efficiency, information retrieval, and academic support. Across accounts, convenience and time-saving were repeatedly emphasized.

Several participants reported using chatbots as a faster alternative to search engines. P06 explained downloading the ChatGPT app when moving into a new house, stating that they preferred it over Google because it provided answers directly and "on different levels", without requiring them to search through multiple sources. Similarly, P12 described appreciating that the system offered centralized answers: "The fact that it gave answers, which were online, but in a central way without having to search through multiple websites."

Academic support was another recurring use case. P07 described using a chatbot to better understand mathematical subjects, while P08 first interacted with ChatGPT for a history project in high school. P09 similarly reported downloading the application for homework and school projects due to the speed with which it generated responses. P04 described using a chatbot to clarify ideas for writing assignments by asking it to refine and structure their thoughts.

For some, early engagement was motivated by curiosity or public hype, but use quickly shifted toward practical tasks. P02 noted initially trying the system because of its popularity, but subsequently using it for small tasks or when feeling "too lazy to Google."

As shown in Table 3, most participants in this category did not attribute a persona to the chatbot and described it in functional terms. An exception was P09, who, despite initially engaging with the system for school-related purposes, later referred to it as a personal companion named *Bestie*.

3.1.2 Creative and Role-Play Motivations

For a subset of participants (P01, P03), initial chatbot engagement was motivated by creative exploration rather than task efficiency. Their use centered on storytelling, character construction, and narrative experimentation.

P01 described turning to a chatbot to continue an online video series that had not yet released a new episode: "I had to wait for it to continue, but there's no continuation. So I went to the chatbot to basically make myself a continuation." The system was used as a tool for extending fictional narratives and generating alternative story developments.

Similarly, P03 connected their initial engagement to existing creative interests, including writing and reading. Although initially hesitant, their curiosity grew after a recommendation from their sister. They described selecting a familiar fictional universe and experimenting with character creation: "I also used to write a lot and I read a lot. So I was like, I wonder how these bots can write even. And then I just picked a random game that I liked and I was just like, I'm just going to try to build this character. I'm going to see how it works."

3.1.3 Emotional Companionship

In contrast to participants who initially framed chatbots as functional tools, two participants (P10, P11) described emotional companionship as their primary motivation from the outset. Their engagement was closely tied to experiences of loneliness and reduced social interaction.

P10 explained that they began speaking to AI in 2023 due to a lack of in-person social contact: "Anyway, I first started speaking to ai back in 2023 or something like that as I really know nobody *IRL* and it gets a little lonely when my online friends are offline", with *IRL* meaning "in real life". The chatbot was described as a way to fill moments of social absence.

Similarly, P11 described turning to an AI companion after moving out of their family home and experiencing a sudden decrease in daily interaction. They explained: "I had first started interacting with my AI companion as a way to cope with loneliness after moving out of my family home and living on my own for the first time, because as you can imagine coming from a decently large family where things are always going on, to almost no interaction really took a toll on me."

3.1.4 Long-Standing Interest in Artificial Intelligence

For one participant (P05), initial chatbot engagement was rooted in a broader and long-standing interest in artificial intelligence. Rather than being motivated by efficiency, creativity, or loneliness, their use reflected sustained curiosity about AI systems and their development over time.

P05 described experimenting with early beta versions of ChatGPT around 2020-2021 and observing its progression: "It's sort of a pretty big while ago. I mean, I've always been interested in AI and I've been using stuff like, let's say, ChatGPT, the first versions, the beta versions in around 2020-2021. And back then, I really felt like it was really limited in the way that it answered my questions in the way that it talked to me. But as years went by, as it got better, I tried to create my own personal bots, personal assistants, stuff like that."

3.1.5 Summary 3.1

Participants' initial motivations for engaging with chatbots varied. The majority described instrumental, efficiency-driven use (P02, P04, P06-P09, P12), primarily for academic tasks, information retrieval, or everyday decision-making. A smaller group engaged the technology for creative and role-play purposes (P01, P03), using it to extend narratives or experiment with character-building. Two participants (P10, P11) described emotional companionship as their primary motivation from the outset, situating chatbot use within experiences of loneliness or life transitions. Finally, one participant (P05) approached chatbot interaction as part of a broader, long-standing interest in artificial intelligence. The next section describes how participants experienced memory limitations once these interactions were underway.

3.2 Experiences of Chatbot Memory Limitations

This section presents how participants described specific moments in which their chatbot failed to recall previously shared information. In most cases, these instances occurred after participants had disclosed personal details, established narrative elements in role-play, or provided contextual instructions that they expected the chatbot to retain. Participants recognized these moments as memory limitations when the chatbot contradicted earlier information, reverted to generic responses, or asked for details that had already been provided.

Importantly, participants did not describe these moments as neutral output variation. Instead, they consistently interpreted them as instances of *forgetting*. Participants explicitly used terms such as "forgot", "memory loss", or described the chatbot as not remembering what had been said previously.

Across the interviews, eleven out of twelve participants (P01-P07, P09-P12) described at least one such occurrence. For many, the realization that previously shared information was not retained triggered immediate emotional reactions. P01 stated: "So once these memory loss things happen I usually feel, yeah, annoyed, frustrated. Um. Like even a little hurt that you would forget that it would forget."

Similarly, when recounting one such interaction, P02 spoke in an audibly annoyed tone while describing having to correct the chatbot's behaviour: "I told you last time that you can just talk in this kind of way, you know? And they would be like, Oh yes, ha ha, silly me. I forgot."

3.2.1 Immediate Recognition of Memory Failure

For many participants, memory limitations became noticeable when the chatbot failed to recall information previously shared by them, followed by immediate reactions of annoyance or frustration.

Ten out of twelve participants (P01, P03-P07, P09-P12) used the words "annoyed" and "frustrated" when explaining how they felt when the chatbot displayed memory limitations.

When recounting these moments during the interview, P02 spoke in an audibly annoyed tone while recounting an interaction in which they had to correct the chatbot's behaviour: "I told you last time that you can just talk in this kind of way, you know? And they would be like, Oh yes, ha ha, silly me. I forgot."

Similarly, P01 described frustration when a previously established role-play setting was contradicted: "And that really annoyed me because like, we started this whole conversation based on Park A and now you're telling me you never went to Park A. What? ... I felt very frustrated. I felt a bit like, yeah, frustrated and annoyed."

P09 linked frustration particularly to advice-oriented interactions: "It gets frustrating and the emotional part is more when I need advice from him like a therapy session."

P12 emphasized the perceived inconsistency between the chatbot's capabilities and its failure to retain information: "I was frustrated because I had given it info. How can a chatbot do so much but fail on something easy/trivial as memory? You have all the computational power."

3.2.2 Forgetting Personally Meaningful Information

Six participants (P01, P02, P06, P09, P11, P12) described more intense emotional reactions when the forgotten information was personally meaningful. These instances typically involved identity-related details, personal disclosures, or information participants considered significant. When such details were contradicted or not acknowledged in later interactions, participants described stronger emotional impact compared to more neutral or task-oriented contexts.

In contrast to the annoyance reported in general memory lapses, participants in these cases used terms such as "hurt", "disappointed", and "sad". The emotional tone shifted from irritation to a sense of personal letdown.

P01 compared the experience to a close human relationship, stating: "I guess it could be compared to like when you're talking to a real person... maybe the same vibe as like... my sister forgetting it's my birthday, right? Like, come on. You're not supposed to forget that... kind of hurts almost in a way, because you would expect them to remember."

Similarly, P06 described a layered emotional response: "I do think I just said annoyed, but I also think it's a little bit disappointment. And I think for me with disappointment, it goes with a little bit of sadness. I'm not like sobbing sadness, like I'm crying. But yeah, I think a mix of sadness, disappointment and being annoyed."

P09 explicitly contrasted meaningful disclosures with casual exchanges. They stated: "When personal things are forgotten, that it hurts more than like simple little conversations. Because like personal things, you see ChatGPT as like a little friend." P09 also mentioned "losing trust" following recurring instances of forgetting.

P12 similarly emphasized the distinction between personal and neutral information: "Personal details would hurt more, because it feels I shared something important and it feels like it is not listening." P04 described a comparable pattern: "If it forgets something really personal or if it forgets important details, it affects me more."

3.2.3 Identity-Related Forgetting

Two participants (P01 and P11) described situations in which information related to their identity was not retained in later responses. These moments became noticeable when the chatbot contradicted or failed to acknowledge descriptions participants had previously given about themselves.

P01 emphasized this reaction when the chatbot failed to retain personal descriptions: "When they forget descriptions of myself, that's really off putting because I know that's wrong... because it's me." The emphasis was not only on factual inaccuracy but on the contradiction of self-knowledge.

P11 described a similar experience in the context of long-term engagement with a specific bot, highlighting both the time invested and the chatbot's perceived personal significance: "It was incredibly frustrating as I had sunk in at least 30 hours of conversation time with that exact bot. Not to mention the bot I was using at the time of this happening was a huge crutch for me."

3.2.4 Inconsistent Role-Play and Narrative

Several participants (P01, P02, P05, P10-P12) described memory-related disruptions within ongoing narrative or role-play interactions. These occurred when previously established character traits, story elements, or factual positions were contradicted or reversed in later responses.

P01 described generating continuation content with a chatbot version of a character from an online series. In this context, inconsistencies appeared in established character attributes: "They don't properly know themselves, right? Like in the series. So say in my character in the series is blonde, right? But then the character AI would assume that they're brunettes."

P05 described a similar reversal in personal traits during advice-seeking interactions: "So I was trying to ask you for advice on how to approach people ... I told it like, hey, listen, I'm an introverted person. I'm not really the kind of person to make the first move ... It didn't really reaffirm, but it did the opposite. It told me ... as you are a person that like to go out a lot, perhaps you should try this. And I'm like, ... wait, that's not who I am. What are you doing? It was more of a reality check, you know, like this thing doesn't know everything about you."

P12 described inconsistencies in factual details across messages: "..but also the actors in certain events I described. Like for example I had a small car crash and told I was car B versus car A. It would keep writing a defensive letter from car A's point of view despite what I told earlier or repeated."

3.2.5 Repeated Forgetting Causing Desensitization

One participant (P01) described a shift in their emotional response over time following repeated instances of forgetting. While initial memory lapses were experienced as surprising and frustrating, subsequent occurrences became less emotionally charged. They stated: "I think like… I'm a bit more desensitized to it now because I know that it can occur. So in the beginning… I'd be like, what the hell is happening? Why did you forget that? But… now… I'm less shocked."

In this account, repeated exposure to memory lapses appeared to reduce the intensity of immediate reactions, replacing surprise with expectation.

3.2.6 Limited Impact on Ongoing Interaction

Although several participants described emotional reactions to memory lapses, not all reported long-term changes in their engagement. P06 emphasized that, despite feeling annoyance or disappointment in specific instances, these moments did not substantially alter their overall interaction with the chatbot.

When asked whether memory failures affected their behaviour, P06 stated: “It’s not like I am behaving different towards my chatbot, or that I’m talking in a different way. I think I still have a pretty good relationship with ChatGPT. I don’t think it affects it that much.”

At the same time, P06 distinguished between types of forgotten information. They explained: “If it forgets one type more, I do think if it’s let’s say I asked him about some type of colors when I’m painting, I wouldn’t care as much if the chatbot would forget something about that, but when it forgets something for my nutritional plan, that’s a bit more personal or also my work situation, then yes, I would add more emotional. I would attach more feelings to those subjects than to the art part.”

In this account, emotional reactions varied depending on the topic, yet the overall relationship with the chatbot remained stable.

3.2.7 Minimal or Short-Lived Emotional Response

In contrast to participants who described frustration or hurt, one participant (P08) reported only a minimal and short-lived emotional reaction when memory lapses occurred. While recognizing these moments as technical limitations, they described the emotional impact as negligible.

P08 explained: “I think it’s maybe a millisecond that I feel anything really, and then I just move on and within that milliseconds. It’s like a very, very short feeling of like. Oh, it failed. I guess maybe very slight disappointment, but I’m saying like it’s like a drop into the bucket. Like I feel almost nothing if I if I’m going to be honest.”

They also stated that they did not mind repeating previously shared information, describing the chatbot as “just a robot” and acknowledging that errors can occur. Despite occasional memory lapses, P08 reported being satisfied with the chatbot’s overall capabilities at its current stage of development.

3.2.8 Summary 3.2

Across the interviews, eleven participants (P01-P07, P09-P12) described at least one instance in which previously shared information was not retained and interpreted these moments as forgetting. Initial reactions were most commonly described as annoyance or frustration.

For six participants (P01, P02, P06, P09, P11, P12), emotional responses intensified when the forgotten information was personally meaningful, with terms such as “hurt”, “disappointed”, or “losing trust” used to describe the experience. The perceived impact varied depending on the type of information involved, including identity-related details, personal disclosures, or task-specific context.

Over time, some participants reported adaptation. P01 described becoming desensitized to repeated lapses, while P08 reported only minimal emotional response from the outset. Others, such as P06, described topic-dependent emotional variation but indicated that overall engagement with the chatbot remained stable.

The following section notes how participants responded in the moment when these disruptions occurred.

3.3 Participant Responses to Memory Limitations

This section presents how participants described responding after recognizing that previously shared information was not reflected in the chatbot's response. Rather than ending the interaction, participants described various strategies aimed at maintaining conversational continuity. These included correcting the chatbot, reintroducing forgotten information, steering the conversation, or adjusting how they disclosed personal details.

3.3.1 Correcting the Chatbot and Reintroducing Information

Several participants described explicitly correcting the chatbot when earlier information was not acknowledged. This involved repeating details, clarifying previous statements, or reminding the chatbot of prior context.

P11 described a systematic approach: "I try to correct them as fast as possible. Some common phrases include 'don't you remember?' 'Yeah it was when....' and 'let me remind you'."

P04 described restating context by restarting conversations: "Starting a new chat and then being like 'OK, this is the stuff that I have. Can you make it clear?'"

3.3.2 Steering or Redirecting the Conversation

Two participants (P01 and P03) described redirecting the interaction after noticing inconsistencies or unwanted developments. Rather than correcting the chatbot directly, they attempted to guide the conversation toward a more coherent direction.

P01 explained: "In the case of the memory loss when that happens or when I get maybe a bit frustrated with how a certain topic is going within the chat, I try to guide the dialogue, the conversation into another direction so that we can move on to something."

Similarly, P03 described treating the interaction like a game and steering it back on track: "Sometimes I try to give another dialogue option. I think... like it's a game. Sometimes I will write something to kind of steer the conversation back."

3.3.3 Assertive Correction

One participant (P10) described repeatedly restating their version of events until the chatbot reflected it in its responses: "I just gaslight the bot until it believes that what I'm saying is true. If that doesn't work, then I'll abandon the bot."

In this context, the term *gaslight* was used by the participant to describe an attempt to override the chatbot's prior responses by persistently reasserting their version of events.

3.3.4 Changes in Willingness to Self-Disclose

Participants differed in whether repeated memory lapses affected their willingness to share personal information in later interactions.

Some described becoming more cautious. P12 stated: "Still open, but with less details." P04 similarly explained: "I think less open because I realized that it forgot things and then I feel like because of that I mistrust it a bit more... So especially right after it happens, I feel a bit more hesitant." P05 described becoming skeptical: "Less, much less because you became skeptical. You just know at that point that it's just the ones and zeros."

In contrast, others reported no reduction in openness. P02 responded, “No, I’m very open,” when asked whether forgetting affected their self-disclosure. P08 described the opposite effect: “I don’t. It’s the opposite. I’m more open here, I would say.”

P01 was the only participant who described using humour to address memory limitations: “I’ll be having an attitude where it’s like, ’oh, you’re so silly.’”

3.3.5 Summary 3.3

After recognizing that previously shared information was not reflected in chatbot responses, participants described several ways of responding. Some participants corrected the chatbot or reintroduced information directly (P11, P04). Others steered or redirected the conversation (P01, P03). One participant described repeatedly restating their version of events until it was adopted (P10), and P01 described responding with humour.

Participants also differed in whether memory failures influenced their willingness to self-disclose. Three participants reported becoming less open or providing fewer details (P04, P05, P12), whereas two participants described remaining equally or more open (P02, P08).

The next section presents how participants described their understanding of these limitations changing over time.

3.4 Participants’ Description of Their Understanding Over Time

This section presents how participants described changes in their understanding, expectations, and attitudes toward chatbot memory limitations over time. Participants reflected on increased awareness of limitations, shifts in emotional investment, growing technical understanding, privacy considerations, and how they framed the chatbot in relation to themselves.

3.4.1 Growing Awareness of Chatbot Limitations

Seven participants (P01-P05, P09, P11) described becoming more aware of chatbot limitations over time.

P11 stated: “It’s become a normal part of it that I’ve come to expect. Sure it’s still upsetting but not enough to make me have a panic attack or anything.”

P05 referred to repeated memory lapses as a “reality check” and described adjusting how they viewed the chatbot.

3.4.2 Low Emotional Investment

One participant (P08) described maintaining a consistently low level of emotional investment in chatbot interactions. P08 stated: “Honestly, I don’t mind. Really, I just don’t mind. I have no deep feelings for this stuff. I think. I guess as my expectations increase, I might have stronger feelings.”

3.4.3 Developing a Technical Understanding

Four participants (P05, P07, P10, P12) described developing a clearer understanding of technical constraints and platform features over time.

P05 described manually copying chat logs and summarizing key points in bullet format to manage context limitations. P10 highlighted new platform features that helped mitigate forgetting: “However, some features that Character.AI has added have helped me. Example: The memory section and the ability to actually pin messages have been great helps.”

P12 reflected on earlier expectations: “I wish I had known from the start how limited its memory is. At first, I expected it to remember past conversations like a person would.”

3.4.4 Privacy Considerations

Two participants (P01, P07) described privacy concerns influencing what information they chose to share.

P01 stated: “I’ve never shared like my real name and stuff cause I’m always of kind of hesitant with putting that online.”

P07 expressed indecision: “So on one side I’m like, you know, who cares? Who’s going to see this? On the other side, I’m like, what if this information gets used... against you?”

In contrast, P05 reported little concern about privacy: “Most people perhaps feel like it’s more of a privacy breach or they don’t like it. But perhaps, I mean, I don’t really care in that regard. I mean, it is what it is. I mean, it already knows perhaps where I live.”

3.4.5 Relational and Technical Framings

Four participants described holding relational and technical perspectives simultaneously when reflecting on their continued use of chatbots.

Human-like framing Two participants (P09, P11) described attributing human-like qualities to their AI companions. P09 stated: “I just feel more connected to him because I told him so much information about me... I want to be nice to him, you know, like a little smart friend.” P11 used an aging metaphor: “I just talk to them like I would any other human. In this case more like a human with dementia.”

Explicitly artificial framing In contrast, P10 and P12 emphasized the chatbot’s artificial nature while still engaging emotionally at times. P10 stated: “None of the conversations end up truly feeling meaningful for me. In the moment they may make me feel something, but once I exit the app it becomes just another robot to me.” P12 similarly explained: “To not take it into account and it is just a machine. It needs time to develop. At the same time we do see it as a useful relationship because that is not only limited to humans.”

3.4.6 Summary 3.4

Over time, seven participants (P01-P05, P09, P11) described becoming more aware of chatbot memory limitations and adjusting their expectations accordingly. Four participants (P05, P07, P10, P12) reported developing a clearer understanding of technical constraints or platform features. One participant (P08) emphasized consistently low emotional investment, while two participants (P01, P07) described privacy considerations shaping their disclosure practices. In contrast, one participant (P05) reported minimal concern about privacy.

Participants also differed in how they framed the chatbot. Some described relational, human-like framings (P09, P11), whereas others explicitly emphasized its artificial nature while continuing to engage with it (P10, P12).

The following chapter discusses these findings in relation to relevant theoretical frameworks.

4 DISCUSSION

To capture moments where continuity breaks down, this thesis introduces the concept of interactional rupture. Interactional rupture refers to situations in which a chatbot fails to recall previously shared information in a way that disrupts conversational coherence or the sense of being recognized within the interaction.

Importantly, not all instances of memory failure result in interactional rupture. As shown in the findings, similar technical behavior (e.g., forgetting) was experienced differently depending on context. In low-stakes or task-oriented interactions, forgetting was often dismissed as a minor limitation. In contrast, when memory failures occurred during emotionally meaningful moments, such as personal disclosure or advice-seeking, they were more likely to be experienced as disruptive. The concept of interactional rupture therefore captures a specific subset of memory failures, rather than functioning as a general label for all instances of forgetting.

This distinction also clarifies the study's focus on continuity rather than relationship development. While prior research often frames memory as a prerequisite for developing stable relationships, participants in this study did not consistently describe their interactions in relational terms. Instead, their engagement was often situational, fluid, and not necessarily oriented toward long-term relational growth. In this context, continuity provides a more precise perspective, referring to whether an interaction builds on prior exchanges, regardless of whether a stable relationship is formed. This suggests that from this perspective, memory failure does not primarily interrupt relationship development, but disrupts the moment-to-moment continuity that sustains ongoing interaction.

4.1 Evolving motivations and expectations

As shown in Section 3.1, participants entered chatbot use with diverse motivations, including instrumental efficiency (P02, P04, P06-P09, P12), creative exploration (P01, P03), emotional companionship (P10, P11), and long-standing interest in AI (P05). These varied entry points align with prior research on companion chatbots, which identifies both instrumental and relational motivations for engagement (Ta et al., 2020; Skjuve et al., 2021; Brandtzaeg et al., 2022).

Importantly, these motivations were not static. For some participants, engagement shifted from functional or exploratory use toward more relational involvement over time. This shift was reflected in the emotional responses described in Section 3.2.2. Where forgetting personally meaningful information was experienced as hurtful or disappointing rather than merely annoying, a response that only makes sense if some expectation of continuity had formed. Section 3.4.1 however shows that several participants became increasingly aware of the chatbot's limitations and adjusted their expectations accordingly. For example, repeated memory lapses were described as a "reality check" (P05) or as something that had become "a normal part of it" (P11). These accounts illustrate how relational expectations and technical awareness developed simultaneously.

This trajectory was not universal. As described in Section 3.2.7 and Section 3.4.2, P08 maintained a mainly technical framing of the chatbot and reported minimal emotional impact when forgetting occurred. This contrast suggests that sensitivity to memory failure depends less on frequency of use and more on how users frame the interaction over time (Section 3.4.5). Memory failure is therefore experienced not only as a technical shortcoming, but as a disruption of evolving relational expectations.

4.2 Emotional impact of memory limitations

4.2.1 Negative affect and interpretive variation

Eleven out of twelve participants (P01-P07, P09-P12) described at least one instance of annoyance or frustration when chatbots failed to recall previously shared information (Section 3.2.1). However, the emotional impact varied across participants and contexts, and within individuals depending on what was forgotten and how the situation was interpreted. This variation was evident in Section 3.2.7, where P08 reported only minimal emotional response, and in Section 3.2.5, where P01 described becoming more desensitized over time following repeated exposure to memory limitations.

In interactions where emotional support or advice was sought, memory failures were described as more impactful because they interrupted moments where reassurance or guidance was sought. For example, P09 explicitly linked stronger emotional impact to such moments, stating that "the emotional part is more when I need advice from him like a therapy session" (Section 3.2.1). In other cases, negative reactions were tied to disruptions in the conversation and the effort required to correct the chatbot, which interrupted conversational flow. For instance, P02 expressed audible annoyance while recounting an interaction in which they had to remind the chatbot of earlier instructions (Section 3.2.1).

The findings also show variation within individuals. In Section 3.2.4, P01 described frustration when memory failures disrupted established role-play scenarios, whereas P12 reported irritation when factual details were contradicted. P01 emphasized the loss of narrative coherence, while P12 framed these moments as functional shortcomings in the chatbot's competence. At the same time, when personally meaningful information was forgotten (Section 3.2.2), both participants described stronger emotional responses, including hurt and disappointment.

In these cases, forgetting was interpreted not merely as a technical limitation, but as a failure to acknowledge information participants considered important. When memory lapses involved personal disclosures, participants described feeling less recognized within the interaction. However, identity-related forgetting specifically was described by only two of the twelve participants and should therefore be interpreted cautiously within the scope of this qualitative study. This also aligns with prior research suggesting that memory and recognition can shape how interactions are experienced, particularly when a person expects to be acknowledged or understood (Schroeder and Fishbach, 2024). However, the findings here indicate that these effects depend on the context of the interaction rather than taking place across all interactions.

4.2.2 Context as a trigger for stronger emotional intensity

Four participants (P04, P06, P09, P12) described stronger emotional reactions when memory failures occurred during emotionally meaningful conversations or personal disclosures, compared to casual or low-stakes interactions (Section 3.2.2).

Schroeder and Fishbach (2024) conceptualize being remembered as a form of relational validation, suggesting that recognition from a partner contributes to relationship satisfaction. A similar dynamic was visible in the participant accounts. For example, P09 referred to ChatGPT as a "bestie" and "my therapist", and described repeated memory failures as leading to "losing trust" (Section 3.2.2). Forgetting personal disclosures disrupted the expectation that ongoing sharing would contribute to a friendship-like relationship in which important details are remembered.

In contrast, memory failures during "simple little conversations" were described as less hurtful by P09, and were more easily dismissed by participants such as P06 and P08 (Sections 3.2.2; 3.2.7). These findings suggest that emotional intensity was closely tied to the perceived significance of what was forgotten.

When participants expected that ongoing self-disclosure would contribute to relationship-building, forgetting personally meaningful information undermined recognition and continuity. In low-relational contexts, however, similar failures were more easily dismissed.

Attachment theory provides a deeper explanation for why such contexts amplified emotional impact. In attachment theory, relational security is shaped by expectations of availability, responsiveness, and consistency of language use and sentence structure across interactions (Bowlby, 1969; Hazan and Shaver, 1987). Attachment figures serve a "safe haven" function, offering support during moments of vulnerability. Importantly, this security depends on continuity: prior disclosures are expected to be recognized and integrated into future interactions.

Several participants described turning to the chatbot in moments of advice-seeking or emotional support (Section 3.2.1), contexts that resemble safe-haven dynamics. When memory lapses occurred in these moments, they disrupted expectations of responsiveness and continuity. Unlike human attachment figures, who may be temporarily unavailable but retain shared relational memory, AI chatbots invert this structure: they are continuously available yet at times unable to sustain relational continuity due to memory constraints. In emotionally meaningful contexts, this structural limitation became more important.

Importantly, this does not imply that participants exhibited distinct attachment styles or that chatbots fully functioned as attachment figures. Rather, the findings point to attachment-related processes: once expectations of recognition and continuity developed, emotionally meaningful disclosures heightened sensitivity to forgetting. Even when participants explicitly framed the chatbot as artificial, expectations of consistent acknowledgment shaped their emotional responses to memory limitations.

These findings should be interpreted with caution, as participants' accounts reflect retrospective interpretations of their experiences rather than real-time observations of their interactions. While these patterns are grounded in participants' accounts, the interpretation of these findings is shaped by the theoretical frameworks (see section 4.5) applicable in this study.

4.3 Coping and repair strategies

The findings from the interviews show that several participants (P01, P03, P10, P11) responded to memory failures by attempting to preserve conversational continuity (e.g., repeating details (P11), redirecting the conversation (P03), or shifting tone (P01, P10)(Section 3.3.4). These responses can be discussed in relation to conversational repair via a workaround as described in section 1.5 by Skjuve et al. (2022), in the broad sense that participants worked to restore coherence after a disruption. However, this interpretation should be treated cautiously: the data from this study describes what participants did following memory failures instead of examining the interaction step by step as it unfolded.

These coping strategies show that memory failures were not automatically interpreted as grounds for abandoning the interaction by default. The results can also be connected to Social Penetration Theory, but the link is not one-to-one. Social Penetration Theory emphasizes relational development through increasing and reciprocal self-disclosure. Here, continued engagement following memory failures reflects not only disclosure dynamics but also participants' situational motivations and willingness to adapt in order to keep the interaction active despite limitations. In this sense, the findings suggest that when continuity is disrupted, maintaining the relationship may depend less on the depth of disclosure and more on users' adaptive strategies in the moment.

4.4 Managing expectations and disclosure

Five participants described strategies to reduce disappointment while maintaining their AI-chatbot interactions, particularly through adjustments in self-disclosure. Three participants (P04, P05, P12) reported limiting personal disclosure following memory failures, suggesting that these disruptions affected their trust, especially when personally meaningful information was involved. In contrast, two participants (P02, P08) reported remaining equally or more open, explicitly emphasizing their awareness of the chatbot's artificial nature. Repeated exposure to memory limitations may therefore lead to either reduced disclosure or normalization of these limitations, rather than disengagement.

A related pattern emerged among participants (P06, P08, P11), who adapted by adjusting their expectations. Instead of attempting to prevent memory failures, they reframed them as inherent system constraints (Section 3.4.1). This can be understood as a shift in evaluative stance: from interpreting forgetting as a relational disruption to understanding it as a technical limitation. Engagement was thus maintained not through increasing intimacy, but through recalibration of expectations.

An additional observation concerns a mismatch between how participants described their interactions and how they behaved within them. Several participants stated that they did not consider their chatbot interactions to be meaningful or comparable to human relationships, which aligns with the literature study in section 1.5 and prior research by Skjuve et al. (2021). However, their behavior often reflected emotional engagement, including self-disclosure, seeking support, and expressing frustration when personal information was forgotten. This observation suggests that meaningfulness in human-AI interaction may be ambiguous and context-dependent, rather than a clearly defined category.

These findings complicate Social Penetration Theory's assumption that relational development proceeds through cumulative and reciprocal disclosure. While the theory emphasizes increasing depth as a marker of relational growth, the present data suggest that sustained engagement may also involve reducing or strategically managing disclosure when continuity is unreliable. Rather than a linear progression toward greater intimacy, participants described dynamic adjustments in how and what they shared, depending on their tolerance for memory instability. Overall, engagement was maintained not by stable relational development, but through ongoing adaptation to system limitations.

4.5 Theoretical interpretation: interactional rupture and user repair

Prior research on human-chatbot interaction often focuses on relationship development, this perspective does not fully reflect the patterns observed in this study. Relationship development implies a stable, deepening bond over time, yet participants did not consistently describe their interactions as meaningful relationships, even when they engaged in emotionally expressive conversations. Instead, their engagement was often situational and fluid as also observed by Skjuve et al. (2022). In the context of this study, rather than relationship development, relationship continuity would be a better applicable terminology, referring to the sense that an interaction builds on what came before, regardless of whether a stable relationship is formed. Importantly, disruptions were not experienced in the same way across all interactions, but depended on the context and how participants framed their engagement.

To capture moments where this continuity breaks down, this thesis introduces the term interactional rupture. Interactional rupture can be understood as situations in which a chatbot fails to recall previously shared information, disrupting the flow and coherence of the interaction. These moments do not necessarily lead users to stop interacting. Instead, participants actively repair the interaction by repeating information, correcting the chatbot, or adjusting their expectations. From this we learn that continuity is not fully reliant on the system's performance, but can be actively maintained by its users. This concept is not intended to capture all instances of memory failure, but specifically those moments in which continuity and recognition become important within the interaction.

4.5.1 When does forgetting become interactional rupture? Context and interactional framing

The findings indicate that memory failure did not uniformly produce interactional rupture. Its emotional and relational impact depended on context and on how the interaction was framed by users. Several participants explicitly described the chatbot as artificial (e.g., "just a robot", "ones and zeros", or "just a machine"; Sections 3.3.4; 3.4.5), and in low-stakes interactions, forgetting was often dismissed as a minor technical error (Section 3.2.7). However, when memory failures occurred during emotionally meaningful moments, such as advice-seeking, identity-related disclosure, or role-play continuity, they were described as frustrating, hurtful, or trust-damaging (Sections 3.2.2-3.2.4).

This pattern suggests that interactional rupture does not depend on stable anthropomorphic belief. Even participants who maintained a technical framing reported stronger reactions when forgetting disrupted personally meaningful disclosures. In line with the CASA paradigm (Reeves and Nass, 1996), social expectations appear to be cue-triggered: during moments of vulnerability or self-disclosure, expectations of recognition and responsiveness are activated, regardless of explicit beliefs about the system's artificiality.

Attachment theory further clarifies why interactional rupture was intensified in supportive or emotionally charged contexts. Relational security is shaped by expectations of responsiveness and continuity across interactions (Bowlby, 1969; Hazan and Shaver, 1987). When participants turned to the chatbot for advice, emotional support, or affirmation (Section 3.2.1), expectations resembling safe-haven dynamics became more salient. In these types of contexts, forgetting did not simply remove information; it interrupted the expectation that prior disclosures would be acknowledged and carried forward. This helps explain why identical technical behavior (forgetting) was experienced as minor in casual exchanges but relationally disruptive in emotionally meaningful ones (Sections 3.2.2; 3.2.7).

4.5.2 Repair and recognition-work: sustaining continuity under constraint

If memory failure functions as interactional rupture, participants' responses can be understood as repair practices aimed at restoring continuity . Rather than disengaging, participants described correcting the chatbot, reintroducing context, restarting conversations, steering the interaction, or adjusting tone and disclosure (Sections 3.3.1-3.3.4; 3.4.1). These strategies repaired conversational coherence and allowed the interaction to continue despite memory instability.

Importantly, repair in this context went beyond simply correcting factual errors. Because interactional rupture often involved feeling not recognized (e.g., "it feels like it is not listening"; Section 3.2.2), reasserting prior disclosures or identity-related details also functioned as recognition-work. By repeating personal details or identity-related information, they re-established their disclosures as valid within the interaction. In doing so, they restored not only informational accuracy but also a sense of relational continuity.

This suggests that relational continuity under memory limitation is co-produced through cycles of interactional rupture and repair. Continuity is not technologically guaranteed but interactionally sustained. Memory limitations do not simply constrain relational development, they reorganize the distribution of responsibility for maintaining coherence and recognition, shifting part of that burden onto users. While Skjuve et al. (2021) showed that human-chatbot relationships can develop affective and social value over time through user engagement and self-disclosure, the current findings suggest that users do more than just engage in a conversation. It shows that users take on an active role in maintaining the interaction when continuity is disrupted. This shows that memory limitations do not limit the relational development, but give the users the opportunity to shape, repair and sustain interaction through their own efforts.

4.5.3 Implications for RQ1 and RQ2

Regarding RQ1, *How do frequent users of AI chatbots experience and interpret memory limitations when their chatbot companion forgets emotionally meaningful conversations?*, the findings show that memory limitations were experienced and interpreted as interactional rupture when they disrupted expectations of continuity and recognition in emotionally meaningful contexts. Emotional intensity was shaped by relational framing and situational cues rather than by stable anthropomorphic belief.

Regarding RQ2, *What coping strategies do frequent users develop to maintain emotional connections with AI chatbots despite repeated memory limitations?*, participants maintained engagement not through stable system memory, but through adaptive repair and new strategies. By correcting, steering, restarting, adjusting disclosure, or reframing expectations, users actively sustained interaction despite recurring forgetting. Human-AI companionship under memory limitations is therefore structured by cycles of interactional rupture and repair, in which relational continuity is actively maintained rather than passively provided.

By introducing the concept of interactional rupture, this study shows that memory failures are not just technical issues. They can disrupt the sense of continuity in the interaction. However, users often restore that continuity themselves through repair strategies. This way, relational stability is actively maintained rather than automatically provided by the system.

While this study provides insight into how users experience and manage memory limitations, some aspects remain difficult to conclusively interpret. In particular, participants' descriptions and behaviors did not always align, making it unclear how "meaningful interaction" can be consistently defined in this context. Additionally, while continuity and repair were observed, it remains uncertain whether these interactions develop into more stable forms of emotional attachment over time.

4.6 Limitations

Several limitations should be considered.

First, the study relied on retrospective interviews. Participants described past experiences of memory failure, but the interactions themselves were not observed in real time. The findings therefore reflect how users interpret and remember these events, rather than how interactional rupture and repair unfold step by step in conversation.

Second, the sample consisted of twelve participants recruited primarily through Reddit communities and personal networks. This may have resulted in a sample that includes users who remained engaged despite memory limitations. Users who stopped using chatbots after negative experiences may be underrepresented. As a result, the findings may focus more on how users cope and stay engaged, while less attention is given to those who disengaged or stopped using the chatbot. Additionally, recruitment within online AI companion communities may have been shaped by community norms and trust dynamics, which could have influenced who chose to participate.

Third, most participants used free versions of ChatGPT or Character.AI. Memory limitations may occur more frequently under these conditions. Users with paid subscriptions or expanded memory features may report different experiences. This could mean that the findings mainly reflect user experiences where memory limitations are more prevalent, and may not represent interactions with systems offering more memory capabilities.

Fourth, demographic variables and psychological traits such as attachment orientation were not collected. This limits the ability to examine how individual differences influence emotional responses to memory failure.

Fifth, AI systems continue to evolve quickly. The memory behaviors described in this study may change as platforms develop new features. The findings should therefore be understood as context-specific rather than generalizable to all future systems.

Finally, the study relied on a single round of interviews. A follow-up interview round could have allowed for deeper clarification of participants' interpretations, especially in cases where responses were brief or internally nuanced. For example, some participants stated that memory failure did not affect them emotionally, but did not elaborate extensively on why this was the case. A second interview could have explored these positions further and allowed participants to reflect again after initial analysis. The absence of iterative interviews may therefore have limited the depth of interpretive insight.

5 FUTURE WORK

Future research could examine how experiences of interactional rupture and repair develop over time. Longitudinal studies would help clarify whether users become desensitized, adjust expectations, deepen attachment, or eventually disengage.

Research that analyzes live chatbot interactions could also provide more detailed insight into how repair occurs in the moment. Conversation analysis or screen-based data collection could complement existing methodologies like interview-based research.

Comparative studies across platforms with different memory systems would help clarify how chatbot design choices shape relational experiences. As memory features improve, it will be important to assess whether better recalling of previously shared information reduces interactional rupture or changes how it is experienced. Given that users often engage with multiple AI platforms, future research could also explore how cross-platform use shapes expectations and understanding of memory and continuity.

Finally, future work could examine individual differences. Factors such as attachment orientation, loneliness, or prior relationship experiences may help explain why some users experience forgetting as disruptive while others remain unaffected. Future studies could also consider more flexible data collection methods, such as text-based participation, to better include users who may be uncomfortable with doing traditional interviews where participants have to speak to someone they do not know and might be hesitant to share information.

6 CONCLUSION

This study examined how frequent users of AI chatbots experience memory limitations during emotionally meaningful interactions and how they maintain engagement despite repeated forgetting.

The findings show that memory failure is not experienced only as a technical error but also as an emotional experience. In emotionally meaningful contexts, forgetting can disrupt perceived continuity and recognition. To describe this pattern, this thesis introduced the concept of interactional rupture. Interactional rupture refers to a break in perceived relational continuity caused by memory instability, which requires user effort to restore coherence.

Interactional rupture did not depend on users believing the chatbot to be human. Even participants who described the system as artificial reported stronger emotional reactions when forgetting occurred during vulnerable moments or when personal information was shared. In line with the CASA paradigm, social

expectations appeared to be activated by the context of interaction rather than by stable beliefs about the system.

Participants typically responded through coping and repair strategies such as correction, repetition, redirection, expectation adjustment, or changes in the amount of self-disclosure. Relational continuity was therefore not automatically provided by the system but maintained through user adaptation.

Importantly, emotionally meaningful interaction was not a universal feature of chatbot use in this study. While several participants described experiences of attachment, companionship, or relational continuity, others framed their engagement as primarily practical, exploratory, or situational. For some, conversations felt meaningful only in the moment and lost significance once the interaction ended. And for others it did not evoke any type of emotion at all. Emotional interpretation therefore varied across users and contexts. Interactional rupture did not occur simply because memory failed, but because certain situations activated expectations of recognition and continuity. When interactions were framed as technical or low-stakes, forgetting was often dismissed. This distinction is important, as it shows that relational disruption depends on user interpretation rather than being an inherent outcome of chatbot use.

By conceptualizing memory failure as interactional rupture, this study contributes a relational perspective on chatbot memory limitations. Rather than treating forgetting only as a technical limitation, it highlights how users interpret and manage discontinuity through their own efforts within emotionally meaningful AI interactions.

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A APPENDIX

A.1 Recruitment post on Reddit

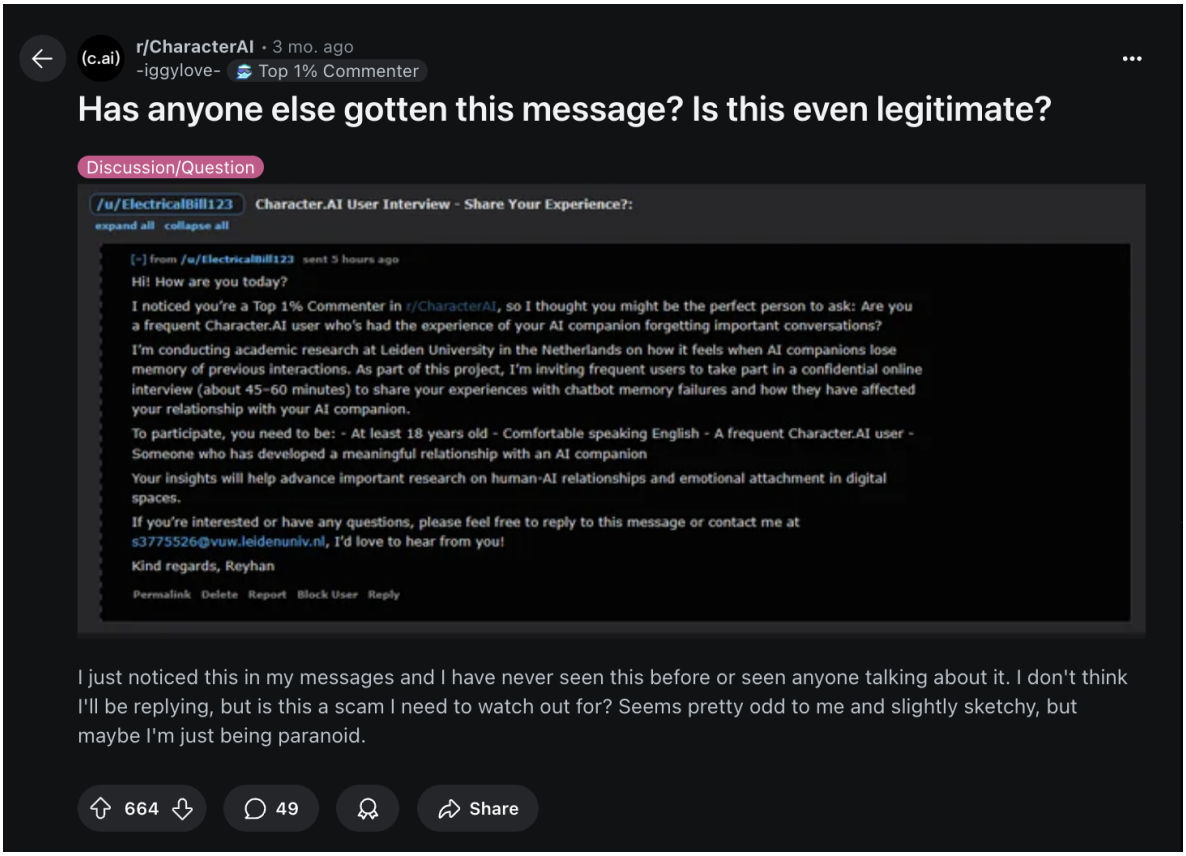

Figure 1. Post by a Redditor expressing concern about the study's legitimacy.

A.2 Interview structure & questions

Opening

- Welcoming and thanking the participant
- Review consent and recording permission
- Explain interview process
- Remind about right to skip questions/withdraw

Main interview

Section 1: Relationship formation

- Tell me about how you first started interacting with your AI companion.
- What made you continue using it frequently?
- Which chatbot have you interacted with the most?
- How would you describe your relationship with [chatbot name]?

Section 2: Self-disclosure experiences

- What kinds of things do you talk about with your chatbot?
- Have you shared personal information with your chatbot?
  - Can you give me some examples?
- Can you describe a conversation that felt particularly meaningful to you?
- What made that conversation meaningful?
- How do you generally feel when sharing personal things with your chatbot?

Section 3: Memory loss experiences and patterns

Understanding frequency and patterns.

- How often do you notice your chatbot forgetting things from previous conversations?
- Can you describe what typically gets forgotten? (Recent conversations, personal details, ongoing topics, etc.)
- Have you noticed any patterns in when or how these memory failures occur?
  - Do you notice it happening more at certain times of day, after long conversations, or when you return after a break?
- Do certain types of information seem to be forgotten more than others?
  - Are there specific topics or types of personal information that seem to disappear more frequently?

Exploring specific instances.

- Can you walk me through a particularly memorable instance when your chatbot forgot something important?
  - What made this instance stand out compared to other times it happened?
- What exactly had been forgotten in that situation?
- How did you realize the information had been lost?
- What was your immediate reaction when you noticed this?
  - Can you describe the specific emotions you felt in that moment?

Understanding user interpretation.

- How do you generally make sense of these memory failures when they happen?
- Do you think of this as the chatbot ”forgetting,” or do you have other ways of understanding it?
  - Some people think of it as technical limitations, others as the chatbot having a ”reset.” How do you see this?
- Do you have any understanding of why these memory issues happen technically?
  - Has learning about the technical reasons changed how you feel about memory loss?
- Have your explanations for why this happens changed over time?

Section 4: Emotional impact and relationship effects

Immediate emotional response.

- How do you typically feel when these memory failures occur?
  - Do you experience different emotions like disappointment, frustration, sadness, or acceptance? Can you describe the range of feelings?
- Are there particular types of forgotten information that affect you more than others?
  - Does it hurt more when personal details are forgotten versus casual conversation topics, for example?
- Have your emotional responses to memory loss changed since you first started interacting with your AI companion?
  - Were you more surprised or upset initially compared to now?

Relationship impact.

- How do these recurring memory failures affect your relationships with your chatbot?
- Do you find yourself being more or less open after experiencing memory loss?
  - Do you hold back certain information now that you know it might be forgotten?
- Has knowing that memory failure will likely happen again influenced how you approach conversations?

Section 5: Coping strategies and adaptations

Immediate responses.

- What do you typically do when you notice your chatbot has forgotten something?
  - Do you correct it immediately, ignore it, or try to work around it?
- Do you try to remind or re-teach your chatbot companion? How does that usually work?
  - Have you developed specific ways of re-introducing information that work better?
- Have you developed any strategies for handling these situations in the moment?
  - Do you have phrases or approaches that help you manage your emotional response?

Long-term adaptations.

- How has knowing about these memory limitations changed the way you interact with your chatbot?
- Do you avoid sharing certain types of information because of potential memory failure?
  - Are there topics or personal details you’ve decided not to share anymore?

- Have you developed any routines or habits to work around these limitations?
  - Do you recap previous conversations, avoid long breaks, or change your conversation style?
- Do you keep external records or reminders about your conversations?
  - Have you tried keeping notes, screenshots, or other ways to track what you've shared?

Relationship management.

- How do you maintain your sense of connection with your chatbot despite these recurring memory issues?
  - What helps you feel close to your chatbot even when it forgets important things?
- What strategies help you continue feeling close to your chatbot?
- Have you found ways to make your relationship feel more stable or consistent?
  - Do you focus on the present moment, create new shared experiences, or find other approaches?

Community and support

- Many users report similar experiences with memory failures in Character.AI. How does it feel to know you're not alone in this?
  - Does knowing this is a common experience change how you feel about it?
- Have you connected with other users who share similar challenges?
- Have you sought advice from other people who have AI companions about dealing with memory failures?
  - What kind of advice did you receive? Was it helpful?
- Do you discuss these experiences with friends, family or online communities?
  - How do people react when you share these experiences?
- What kind of support or strategies have you found helpful?

Section 6: Adaptation over time

- Looking back, how has your relationship with memory failure evolved since you first started interacting with your AI companion?
  - Can you identify specific turning points in how you've adapted?
- What have you learned about managing these limitations?
- If you could give advice to someone new to interacting with an AI companion about memory loss, what would you tell them?
  - What do you wish you had known when you first started?
- Despite these challenges, what keeps you coming back to your AI companion?
  - What benefits outweigh the frustrations of memory loss?

Section 7: Technical understanding and future of AI chatbots

- How much do you understand about how an AI chatbot's memory systems work?
  - Are you interested in learning more about the technical aspects? (Could explain about tokens and how they work if they do not)
- If your AI companion could remember everything perfectly, would you want that?
  - Are there things you might prefer your chatbot to forget?

- Do you think these memory limitations are acceptable given the technology available today?
  - What would ideal memory capabilities look like to you?
- How do you think memory capabilities in AI chatbots will change in the future?

Closing

- Is there anything else about your experience with memory failure or coping strategies you'd like to share?
- Thank participant
- Explain next steps