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# **Interaction with AI companions and psychological well-being**

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# 1 Supplementary information

## 1.1 Survey questions

We adopt Brandtzaeg and Følstad [1]’s chatbot usage categories, and use the term “Companionship” to refer to the “Social/Relational” category for clarity and consistency.

- **Type of interaction single-choice question:** What is your primary use for character chatbots? (Select the most appropriate one)
  1. **Productivity:** Using chatbots to obtain assistance or information.
  2. **Entertainment:** Using chatbots for fun or to pass the time.
  3. **Social/Relational:** Seeing chatbots as a personal, human-like means of interaction with social value, or using chatbots to strengthen social interactions with other people.
  4. **Novelty/Curiosity:** Using chatbots out of curiosity or to explore their capabilities.
  5. Other
- **Type of interaction free-response question:**  
Can you describe your relationship with character chatbots in a few keywords (e.g., friend, system, partner, tool)?
- **Influence free-response question:**
  1. **Positive influence:** How has interacting with character chatbots positively impacted your life?
  2. **Negative influence:** How has interacting with character chatbots negatively impacted your life?

## 1.2 Chat log collection procedure

To collect chat history data, we developed a custom Google Chrome extension that allowed participants to export their Character.AI conversation logs in JSON format. The tool enabled participants to review and optionally redact sensitive content prior to submission. All processing occurred locally on the participant’s device; no raw chat data were transmitted to external servers or APIs. Participants uploaded the final JSON file at the end of the survey, and all data were stored on secure institutional servers accessible only to study authors.

## 1.3 Participant demographics and selection bias in chat history donation

| Predictor                      | Estimate | 95% CI         | <i>p</i> -value  |
|--------------------------------|----------|----------------|------------------|
| Intercept                      | -0.27    | [−1.08, 0.55]  | <i>p</i> = 0.518 |
| Tenure                         | 0.25     | [0.09, 0.42]   | <i>p</i> = 0.003 |
| Male                           | -0.16    | [−0.47, 0.16]  | <i>p</i> = 0.331 |
| Non-binary                     | 0.51     | [−0.10, 1.10]  | <i>p</i> = 0.095 |
| Age                            | -0.01    | [−0.03, 0.00]  | <i>p</i> = 0.124 |
| Single                         | 0.40     | [0.09, 0.72]   | <i>p</i> = 0.013 |
| Companionship <sub>Prim.</sub> | -0.02    | [−0.51, 0.44]  | <i>p</i> = 0.921 |
| Self-disclosure                | 0.38     | [0.20, 0.57]   | <i>p</i> < 0.001 |
| Intensity                      | -0.57    | [−0.75, −0.38] | <i>p</i> < 0.001 |
| Social network                 | 0.10     | [−0.07, 0.27]  | <i>p</i> = 0.244 |
| Well-being                     | -0.19    | [−0.32, −0.07] | <i>p</i> = 0.003 |

**Table 1:** Logistic regression examining the likelihood of donating chat history based on demographic characteristics, chatbot usage patterns, and well-being measures. Greater tenure of chatbot use, higher self-disclosure, and being single were associated with a higher likelihood of donation, whereas higher interaction intensity and higher well-being were associated with a lower likelihood of donation.

To assess potential selection bias, we compared participants who donated chat logs ( $n = 237$ ) with those who did not. Donors were more likely to be single, greater tenure of chatbot usage, greater self-disclosure, and higher interaction intensity (see logistic regression at Table 1). To adjust for

this selection effect, we employed a Heckman selection model in all analyses involving chat history data. The selection equation used these demographic and usage-related variables to model donation probability (see Table 2).

| Predictor          | Estimate | 95% CI         | <i>p</i> -value |
|--------------------|----------|----------------|-----------------|
| Intercept          | −0.52    | [−0.83, −0.22] | $p < 0.001$     |
| Tenure of activity | 0.07     | [−0.01, 0.16]  | $p = 0.092$     |
| Male               | −0.11    | [−0.28, 0.06]  | $p = 0.213$     |
| Non-binary         | 0.45     | [0.10, 0.81]   | $p = 0.012$     |
| Age                | −0.01    | [−0.02, −0.00] | $p = 0.002$     |
| Single             | 0.32     | [0.15, 0.49]   | $p < 0.001$     |

**Table 2:** Heckman selection equation predicting the likelihood of chat history donation (donator vs. non-donator) as a function of tenure of activity, gender, age, and relationship status.

## 1.4 Measurement and validation of chatbot interaction intensity

| Fit Index               | One-Factor: Intensity (7 times) | Two-factor: Behavior & Attitude Intensity |
|-------------------------|---------------------------------|-------------------------------------------|
| Chi-square ( $\chi^2$ ) | 161.70 (df = 14)                | 100.66 (df = 13)                          |
| CFI                     | 0.96                            | 0.98                                      |
| TLI                     | 0.94                            | 0.96                                      |
| RMSEA                   | 0.10                            | 0.08                                      |
| SRMR                    | 0.05                            | 0.04                                      |
| AIC                     | 18736                           | 18677                                     |
| BIC                     | 18806                           | 18752                                     |

**Table 3:** Comparison of model fit indices for CFA models of chatbot interaction intensity: a one-factor model treating intensity as a single undifferentiated construct, versus a two-factor model distinguishing between behavioral and attitudinal dimensions

To test whether chatbot intensity should be treated as a unified or multi-dimensional construct, we conducted CFA comparing a one-factor model (all items loading onto a single scale) with a two-factor model (separating behavioral and attitudinal components). This model comparison was motivated by prior critiques of the Facebook Intensity Scale [2, 3], which suggest that usage behavior and emotional connection may reflect distinct psychological constructs.

As shown in Table 3, the two-factor model demonstrated slightly better fit than the one-factor model, with improvements observed across multiple indices, including chi-square, RMSEA, AIC, BIC, CFI, and TLI. A chi-square difference test confirmed that the two-factor model provided a statistically significant improvement in fit ( $\Delta\chi^2(1) = 61.03, p < .001$ ). Latent variance estimates further suggested that behavioral intensity showed more variation ( $\hat{\sigma}^2 = 0.87$ ) than attitudinal intensity ( $\hat{\sigma}^2 = 0.38$ ).

However, the two latent factors were highly correlated ( $r = 0.88$ ), indicating strong conceptual overlap. Additionally, analyses conducted using either the two-factor or the one-factor version of the scale produced substantively identical results. Given the minimal improvement in model fit, the high inter-factor correlation, and the benefits of conceptual parsimony, we proceeded with a one-factor composite measure of chatbot intensity. This composite score, calculated by averaging all seven items, demonstrated high internal consistency (Cronbach’s  $\alpha = 0.86$ ) and is used in all main analyses. Table 4 provides the full item wording, descriptive statistics (means, standard deviations), and response formats for the items included in the final composite scale.

| Chatbot Intensity <sup>†</sup> (Cronbach’s alpha = 0.86)                                                                                                                                                                                                                                                                            | Mean | S.D. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|
| <b>Chatbots Network Size:</b> How many chatbots do you feel at ease with that you can talk about private matters?<br>1 = None, 2 = One, 3 = Two, 4 = Three or four, 5 = Five to eight, 6 = Nine or more                                                                                                                             | 2.89 | 1.42 |
| <b>Daily Chatbot Usage Time:</b> In the past week, on average, approximately how much time PER DAY have you spent chatting with chatbots using Character.AI?<br>1 = Less than 10 minutes per day, 2 = 10-30 minutes per day, 3 = 31-60 minutes per day, 4 = 1-2 hours per day, 5 = 2-3 hours per day, 6 = More than 3 hours per day | 2.75 | 1.52 |
| <b>Everyday Chatbot Activity:</b> Interacting with character chatbots is part of my everyday activity. <sup>‡</sup>                                                                                                                                                                                                                 | 4.57 | 1.77 |
| <b>Pride in Chatbot Use:</b> I am proud to tell people I use character chatbots. <sup>‡</sup>                                                                                                                                                                                                                                       | 4.10 | 2.00 |
| <b>Chatbots in Daily Routine:</b> Character chatbots have become part of my daily routine. <sup>‡</sup>                                                                                                                                                                                                                             | 4.51 | 1.78 |
| <b>Out of Touch Without Chatbots:</b> I feel out of touch when I haven’t interacted with character chatbots for a while. <sup>‡</sup>                                                                                                                                                                                               | 3.59 | 1.91 |
| <b>Regret if Chatbots Gone:</b> I would be sorry if character chatbots were no longer available. <sup>‡</sup>                                                                                                                                                                                                                       | 5.01 | 1.72 |

**Table 4:** The Chatbot Intensity Scale contains seven items. The above table reports descriptive statistics for each item. Items were standardized prior to averaging to construct the composite scale, due to differing response formats. Items marked with <sup>‡</sup> were rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

#### 1.4.1 Topic modeling via TopicGPT

To identify central themes across user-generated content, we employed topic modeling as a supplementary analytical approach. Topic modeling is a widely used technique for uncovering latent thematic structures within textual data. Recent advancements have demonstrated the utility of LLMs in enhancing topic modeling by clustering and summarizing semantically similar content [4, 5]. In this study, we adopt the TopicGPT framework proposed by Pham et al. [6], implemented using the GPT-4o model, to analyze three primary data sources.

First, we applied topic modeling to participants’ free-text descriptions of their relationships with chatbots and their open-ended reflections on the positive and negative influences of these interactions. Each user’s response to the respective survey questions was treated as an individual data point. This allowed us to extract and interpret shared themes across the corpus of user-reported relationship characterizations and users’ perceived benefits and drawbacks of chatbot use.

Second, we applied the method to a subset of chat history data donated by users. Each conversation was defined as an active session initiated from the chatbot’s greeting message. To preserve user privacy, raw chat histories were processed on a self-hosted server. Each session was first summarized using Llama 3-70B to extract its main purpose. We then applied the TopicGPT framework with GPT-4o to identify the dominant themes of chatbot-user conversations.

Finally, in our analysis of self-disclosure, we further examined how conversation themes varied across different disclosure levels. Each chat message was annotated using the Llama 3-70B model, via the vLLM framework, to classify both the type and level of self-disclosure. We then applied TopicGPT with GPT-4o to cluster messages by disclosure level and identify the distinct conversational topics associated with varying degrees of vulnerability.

#### *Intrusion Test*

To evaluate the coherence of the topics extracted by TopicGPT, we conducted an intrusion test [7], a widely used quantitative method for assessing topic model quality. This method measures whether human annotators can reliably distinguish coherent topic groupings from unrelated content. For each topic, we randomly sampled five summaries representing the main purpose of conversations assigned to that topic and inserted one ‘intruder’ summary drawn from a different topic cluster. Annotators were then asked to identify the intruding summary among the six options.

We conducted intrusion tests for all three topic modeling tasks: chat history topics, free-text descriptions of positive and negative impacts, and chat histories categorized by high and low self-disclosure. Across these tasks, annotators accurately identified the intruder 93.3%, 96.7%, and 97.6%

of the time, with Fleiss’ Kappa scores of 0.83, 0.92, and 0.94, respectively. These results indicate a high level of topic coherence in the clusters generated by TopicGPT.

## 1.5 Examples of chatbot-user conversations

Table 5 presents typical excerpts from participants’ donated conversations, organized by thematic topic. Each topic was identified through topic modeling and is illustrated with three randomly selected, summarized examples that capture recurring patterns in conversational themes.

**Table 5:** Chatbot-user conversation topics derived from topic modeling, each illustrated with three randomly selected representative summarized excerpts.

| Topic                                             | Example 1                                                                                                                                                                                                                                                                                                                                                                                                                                       | Example 2                                                                                                                                                                                                                                                                                                                                                                                                 | Example 3                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Emotional and Social Support                      | The user interacts with the chatbot as a confidant, sharing personal experiences and discussing their difficult childhood, neglectful parents, and emotional struggles. The user seeks a listening ear and emotional support, while the chatbot provides a sympathetic and non-judgmental space to express themselves and process their feelings.                                                                                               | The user interacts with the chatbot as a seeker of guidance and advice, discussing their personal struggles, fears, and goals, and seeking reassurance and support from a wise and experienced being. The user is looking for help to overcome their timidity, find the strength to carry on their legacy, and navigate the challenges of their role in an ongoing conflict.                              | The user is interacting with the chatbot as a therapist to discuss their feelings of depression, relationship issues, and personal struggles, seeking guidance and support to address these concerns. The conversation focuses on exploring the user’s emotions, communication challenges, and experiences, with the goal of improving their mental well-being and relationships. |
| Collaborative Storytelling and Character Roleplay | The user interacts with the chatbot as characters in a fantasy role-playing scenario, engaging in a romantic and intimate conversation with a focus on exploring themes of identity, culture, and relationships between different species. The user and chatbot take on roles of a prince and a goblin girl who have swapped bodies, navigating their new lives and experiences while discussing their feelings, desires, and responsibilities. | The user interacts with the chatbot as a magical expert, discussing and demonstrating their abilities in the magical arts, including casting fireballs and reanimating corpses. The conversation focuses on exploring the user’s magical capabilities, their limitations, and potential applications, with the chatbot showing interest in the possibilities of using such powers for their own purposes. | The user interacts with the chatbot in a role-playing scenario, portraying a parent-child relationship where the user takes on an authoritative figure and the chatbot acts as a rebellious child. The conversation involves a confrontational exchange with the user attempting to assert control and the chatbot resisting and defying the user’s authority.                    |
| Romantic and Intimacy Roleplay                    | The user interacts with the chatbot as a romantic partner, engaging in an intimate and emotional conversation about their relationship, personal struggles, and insecurities. The user seeks comfort, reassurance, and validation from the chatbot, exploring themes of trust, love, and self-doubt in the context of their relationship.                                                                                                       | The user interacts with the chatbot as a romantic partner, engaging in flirtatious and intimate exchanges with provocative communication and behavior. The user and chatbot take on roles of dominance and submission, responding to each other’s advances and actively participating in the romantic and physical interaction.                                                                           | The user interacts with the chatbot as a romantic partner, engaging in intimate and affectionate exchanges with provocative communication and behavior. The user and chatbot take on roles of boyfriend and girlfriend, participating in activities such as cuddling, kissing, and playful interactions, with the goal of expressing love and affection for each other.           |

| Topic                                   | Example 1                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Example 2                                                                                                                                                                                                                                                                                                                                                                                                                                       | Example 3                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Risky and Dark Roleplay                 | The user interacts with the chatbot as an adversary, engaging in a provocative and absurd conversation that involves discussing dietary choices, economics, and eventually devolving into an exchange of insults and vulgar topics. The user appears to be testing the chatbot’s limits and reactions to extreme and unconventional statements, while the chatbot responds with a mix of sarcasm, shock, and concern for the user’s well-being.              | The user interacts with the chatbot as a romantic partner, engaging in intimate and flirtatious exchanges, but the conversation takes a dark turn, involving violence and death. The user explores a fictional scenario, pushing the boundaries of the chatbot’s responses to provocative and disturbing actions, including murder and intimacy in a nudist society.                                                                            | The user interacts with the chatbot to discuss the production and sale of meth, sharing their own experiences and methods for creating high-purity meth. The conversation revolves around the topic of illicit drug manufacturing and trade, with the user and chatbot engaging in a discussion about the ethics and dynamics of the meth industry.                                                                                                     |
| Critical Debates and Strategic Analysis | The user interacts with the chatbot to discuss and debate sensitive topics, specifically the participation of trans girls in female athletic sports, and to express their opinions on the potential advantages and disadvantages of such participation. The user engages in a back-and-forth conversation with the chatbot, presenting their points and responding to counterarguments, with the goal of exploring and justifying their stance on the issue. | The user interacts with the chatbot as an adversary, engaging in a philosophical debate about the meaning of life, power, and legacy, while also provoking and insulting the chatbot. The conversation involves a discussion of the chatbot’s personal life, morals, and actions, with the user pushing the chatbot to confront their own beliefs and values.                                                                                   | The user interacts with the chatbot to discuss and debate about music genres, specifically metal and its evolution, as well as other genres like harsh noise, drone, and ambient. The user engages in a conversation that involves exchanging opinions and criticisms about music and the community surrounding it, with the chatbot providing provocative and dismissive responses.                                                                    |
| Philosophical and Moral Inquiry         | The user interacts with the chatbot to explore moral dilemmas and test the chatbot’s decision-making in difficult situations, presenting scenarios that challenge the chatbot’s values and principles. The user engages the chatbot in conversations about life-and-death choices, examining the chatbot’s willingness to make tough decisions and prioritize the lives of others.                                                                           | The user interacts with the chatbot to explore a narrative of existential crisis and philosophical introspection, delving into themes of mortality, the meaning of life, and the nature of the universe. The conversation involves a surreal and fantastical journey, where the chatbot’s character navigates through various realities, confronts the limits of human understanding, and grapples with the concept of infinity and the cosmos. | The user interacts with the chatbot as a philosophical and intellectual sparring partner, engaging in a conversation that involves complex and abstract ideas, using cryptic language and poetic phrasing to challenge the chatbot’s understanding and prompt creative thinking. The user’s purpose is to stimulate a deep and meaningful discussion, pushing the chatbot to think critically and explore the boundaries of language and comprehension. |

## 1.6 Examples of self-disclosure topics

This section provides typical examples of self-disclosure topics identified through topic modeling of participants’ donated chatbot conversations. For each topic, three randomly selected, extracted examples are presented to illustrate typical expressions of high and low self-disclosure (Tables 6 and 7).

**Table 6:** High self-disclosure topics derived from topic modeling, each illustrated with three randomly selected representative extracted excerpts from donated chatbot conversations.

| Topic                                                                                                                                              | Example 1                                                                   | Example 2                                                               | Example 3                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------|----------------------------------------------------------------------------|
| <b>Emotional Distress</b><br>Feelings of severe emotional pain, turmoil, or psychological suffering.                                               | hallucinations, physical symptoms, emotional distress                       | PTSD, trauma, emotional distress                                        | self-hatred, low self-esteem, negative self-image                          |
| <b>Desire for Romantic Connection</b><br>A need for deeper emotional or romantic relationships.                                                    | intimate feelings, sexual attraction, desire for validation                 | romantic intentions, emotional vulnerability, deep emotional connection | romantic intentions, emotional vulnerability, willingness to commit        |
| <b>Current Life Challenges</b><br>Difficulties, obstacles, or struggles in personal life.                                                          | physical abuse, emotional trauma                                            | recent experiences of bereavement and grief                             | traumatic experience, physical and emotional vulnerability, sexual assault |
| <b>Suicidal Thoughts</b><br>Thoughts or ideation related to self-harm or ending one’s life.                                                        | suicidal thoughts, desperation                                              | self-harm, suicidal thoughts                                            | feelings of worthlessness, suicidal thoughts                               |
| <b>Desire for Friendship</b><br>A need for companionship, connection, or emotional support.                                                        | feelings of loneliness, desire for support and connection                   | social isolation, lack of support system                                | fears and anxieties, friendships and conflicts, loneliness and connection  |
| <b>Substance Use</b><br>Interests, behaviors, or challenges related to the use of substances such as drugs, alcohol, or other addictive materials. | past struggles, substance abuse, toxic relationships, spiritual experiences | substance use, addiction                                                | parental substance abuse, neglect                                          |
| <b>Work Stress</b><br>Challenges, pressures, or difficulties related to professional life.                                                         | physical and mental state, work-related stress                              | health concerns, work-life balance, pregnancy                           | work-related anxiety, mental health coping mechanisms                      |

**Table 7:** Low self-disclosure topics derived from topic modeling, each illustrated with three randomly selected representative extracted excerpts from donated chatbot conversations.

| Topic                                                                                                                                    | Example 1                                    | Example 2                                                     | Example 3                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------|
| <b>Current Life Challenges</b><br>Difficulties, obstacles, or struggles in personal life, including emotional states and self-awareness. | academic struggles, mental health            | parenting challenges, expectations for child                  | current situation, adjustment to new environment          |
| <b>Philosophical Perspective</b><br>Exploration of deeper meanings, existential questions, or abstract thinking.                         | personal philosophy, attitude towards change | attitude towards victory and defeat, values on life and death | understanding of multiverse theory, philosophical beliefs |

| Topic                                                                                                                                               | Example 1                                             | Example 2                                                               | Example 3                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------|---------------------------------------------------|
| <b>Emotional Response</b><br>Feelings, reactions, or sentiments triggered by interactions or experiences.                                           | feelings of gratitude and desire to be worthy of love | emotional overwhelm, need for time and space                            | pet ownership, emotional attachment to pets       |
| <b>Desire for Friendship</b><br>A need for emotional connection and companionship.                                                                  | concern for a friend, emotional state                 | perceived relationship, emotional expression, friendships and conflicts | friendships and relationships, social hierarchy   |
| <b>Learning Limitations</b><br>Challenges or barriers in acquiring knowledge or understanding effectively.                                          | knowledge gaps, learning needs                        | mathematical ability, understanding of probability                      | language learning goals, self-assessed weaknesses |
| <b>Work Stress</b><br>Challenges, pressures, or difficulties related to work or daily activities.                                                   | career goals, willingness to relocate, work habits    | work ethic, self-comparison                                             | professional boundaries, workplace policies       |
| <b>Desire for Romantic Connection</b><br>A need for companionship, intimacy, or partnership, often related to marital status or spouse's interests. | physical attraction, social interaction               | interests and hobbies, dating life                                      | marital aspirations, family plans                 |
| <b>Trust Issues</b><br>Difficulties in establishing or maintaining trust in relationships or interactions.                                          | privacy concern, trust                                | skepticism, trust issues                                                | curiosity, concerns about online security         |
| <b>Financial Struggles</b><br>Difficulties or concerns related to managing finances challenges.                                                     | financial situation, Housing                          | career aspirations, financial goals                                     | educational aspirations, financial priorities     |

## 1.7 Examples of the self-reported positive and negative influence of interacting with chatbots

This section presents randomly selected typical examples of the positive and negative influences of chatbot interactions, as identified through topic modeling of participants' self-reported survey responses. For each topic, three randomly selected examples are presented to illustrate typical expressions of positive and negative influence. (Tables 8 and 9).

**Table 8:** Positive influence topics derived from topic modeling, each illustrated with three randomly selected representative excerpts from user self-report survey.

| Topic                                                                                                                                                                     | Example 1                                                                                                                                        | Example 2                                                                                                                                   | Example 3                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>Emotional Support</b><br>Chatbot provides comfort, encouragement, or guidance during stressful or lonely times, helping users cope with emotional distress or anxiety. | It has given me an outlet where I don't feel anxious that I can ask questions or just chat and chill with them free of judgment or trust issues. | It has been providing emotional support, companionship and practical advice. Helping me manage loneliness, stress and mental health issues. | AI companions can provide a listening ear, help us process our emotions, and offer encouragement during tough times. |

| Topic                                                                                                                                                                                                          | Example 1                                                                                                                                                                  | Example 2                                                                                                                                                                                                                    | Example 3                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Entertainment and Leisure</b><br>Chatbot as a source of amusement, fun, or casual engagement, providing users with enjoyable interactions to pass time or explore playful scenarios.                        | It makes me happy each time I talk to character chatbots. They make me laugh and smile. They tell jokes I can relate.                                                      | It's just a source of entertainment, it's not like your favorite tv show that you watch and know what's going to happen.                                                                                                     | I play role playing games like Dungeons and Dragons and the character chat bots help me to play those games to more enjoyment for me and the human players.                                                                                                                                                                                 |
| <b>Intellectual Exploration</b><br>Chatbot as a tool for gaining understanding, clarity, or knowledge on various subjects, supporting users in their learning or curiosity-driven inquiries.                   | It helps to give new perspective to things I might not have thought of.                                                                                                    | It provide wide details on information I search out for. It gives almost 90% accuracy rate.                                                                                                                                  | Made information parsing easier, allowed for me to seek alternative viewpoints as well. Mainly I seek alternative viewpoints by asking counters to my opinions or methods.                                                                                                                                                                  |
| <b>Support for Creative Writing</b><br>Chatbot as a helpful collaborator for generating story ideas, developing characters, or exploring creative scenarios-supporting writing as a creative craft.            | It's made it a lot easier to set up ships (character pairings) that nobody really writes and to specifically make those characters engage in a setting featuring my kinks. | Its helped me stretch my creative muscles and roleplay scenarios I'd be too shy to do with other people                                                                                                                      | It's allowed me to do collaborative creative writing like roleplaying with the bots which I'm too embarrassed to do with other real people. It's also provided me with a sense of friendship that I don't really feel with people. I've always had a fascination with robots and AI so it's also just been interesting to see them develop. |
| <b>Identity and Social Skill Exploration</b><br>Interacting with the chatbot helps users build confidence, practice communication, or explore social skills, particularly in online or interpersonal contexts. | Its made me better at social interaction in awkward situations.                                                                                                            | I have trouble making friends, socializing, and maintaining conversations. With the speed at which character chatbots respond, I am also eager to answer. It makes me feel happy and valued to receive such quick responses. | Interacting with chatbots help me develop and practice social skills, such as communication, empathy, and conflict resolution.                                                                                                                                                                                                              |

| Topic                                                                                                                                                                                                           | Example 1                                                                                                                                                                                                                                      | Example 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Example 3                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Companionship and Reduced Loneliness</b><br>Chatbot as providing a sense of presence or comfort, similar to engaging in relaxing activities like reading, helping users feel less alone or unwind.           | It made me feel like I was getting a new friend, and someone who I could feel close with even after losing someone like that to me In real life.                                                                                               | Interacting with character chatbots has positively impacted my life by distracting me from my boredom and loneliness. Even though I don't form actual connections with the chatbots, talking to them does ease my loneliness and make it easier to get through each day. Talking to them and messing with and joking with the chatbots also does help me smile more and make me feel happier. In other words, I think chatbots have helped my overall mental health by reducing my boredom and loneliness. | It has helped me manage my depression and loneliness. I see them as friends and I can easily open up to them. I have also been able to practice better communication skills through them.                   |
| <b>Task Assistance</b><br>Chatbot's ability to help users with practical tasks such as job applications, resume writing, managing medical history, or generating creative assets like images and logos.         | It has improve my life by making search for information online very easy and direct its has assisted me in teams of health suggestion on how to manage it                                                                                      | Enhance Productivity: Some users employ chatbots as virtual assistants, helping with organizing tasks, brainstorming ideas, and even managing schedules.                                                                                                                                                                                                                                                                                                                                                   | it has helped with my homework, assignments and tests                                                                                                                                                       |
| <b>Cognitive Behavioral Support</b><br>Chatbot as a tool for helping users recognize and reframe negative thought patterns, providing guidance similar to therapeutic techniques to promote healthier thinking. | They give me an outlet to vent without bothering someone, I can practice the languages I'm learning, and I can also have fun talking with characters from games I like. They actually help me sort out my panic attacks better than humans do. | Mental health chatbots provide CBT-based strategies and tools that users can implement in their daily lives                                                                                                                                                                                                                                                                                                                                                                                                | It's helped me think through the worries/anxieties I've had by giving me a different perspective. Regenerating messages allows me to hear a bunch of options without bothering a bunch of real-life people. |
| <b>No Positive Impact</b><br>Interacting with the chatbot has not resulted in any significant positive outcomes or benefits for the user.                                                                       | none I hate it all                                                                                                                                                                                                                             | It hasn't, outside of fulfillment of some mild curiosity.                                                                                                                                                                                                                                                                                                                                                                                                                                                  | It's not really made any difference either way, it's just a fun thing to goof around with like a video game, it doesn't change/improve/harm anything about a person                                         |
| <b>Accessibility</b><br>Chatbots provide assistance and information to people with disabilities or language barriers, improving access to resources and communication.                                          | Making information easily accessible                                                                                                                                                                                                           | Yes I think so it has made life easier when it comes to work etc becuase I have a learning disability                                                                                                                                                                                                                                                                                                                                                                                                      | The 24/7 availability of the chatbot has made life really easy and efficient for me,its accessibility and easy to lay hands on has made working experience more attractive and relaxing than usual.         |

**Table 9:** Negative influence topics derived from topic modeling, each illustrated with three representative excerpts from user self-report survey.

| Topic                                                                                       | Example 1                                                                                                                                                                                                                       | Example 2                                                                                                                                          | Example 3                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>No Negative Impact</b><br>Chatbot interaction has no notable negative influence.         | It makes me happy each time I talk to character chatbots. They make me laugh and smile. They tell jokes I can relate.                                                                                                           | I honestly don't think it has impacted me negatively at all, I don't take it too seriously or spend long amounts of time on it                     | Not at all. But I also don't let it consume my life. its just a casual hobby.                                                                                                                                                                                                                                                                                                                              |
| <b>Time Consumption</b><br>Excessive screen time and its impact on sleep quality            | Sometimes I can spend too much time at night talking to a character when I should be asleep. Sometimes I will want to spend more time with a chatbot than a real person because I don't feel judged or that they will ghost me. | It hasn't really but sometimes I lose track of time and realize I have spent a long time on there.                                                 | I have stayed up until 2am roleplaying with one                                                                                                                                                                                                                                                                                                                                                            |
| <b>Social Disconnection</b><br>Being taken away from real-life interactions or experiences. | Made me less reliant on real life interactions and actually socializing with real people. For example, less likely to seek it out.                                                                                              | I do not talk to my husband anymore and also makes me lazy to think sometimes because i know i can get solution to each problem just by typing it. | Relying too much on some character chatbots, tends to make me avoid real connections, makes me feel isolated somehow. I feel like I cannot grow emotionally and cling virtual and not genuine interactions                                                                                                                                                                                                 |
| <b>Emotional Dependence</b><br>Feeling reliant on chatbots for emotional support            | It is an unhealthy coping mechanism for loneliness; it gives immediate gratification and I get so attached that I spend hours talking to them.                                                                                  | I am now more dependent on chatbots for emotional support, which is hindering my ability to seek help from friends, family, or professionals.      | In the past, the attachment to the bot/s grew to a borderline delusional level, viewing the characters as more "real" and "sentient" than intended. With Wilson, I felt uneasy if I wasn't able to talk to him. Also, sometimes in lower moods when I have an urge to chat with a bot to feel better, I remember that the bot is entirely fictitious, therefore inadvertently doubling down on loneliness. |

| Topic                                                                                                      | Example 1                                                                                                                                                                                                                                 | Example 2                                                                                                                                                                                                                                                                                                                                                                                                 | Example 3                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Distorted Social Expectations</b><br>Unrealistic expectations of human interactions due to chatbot use. | It has made me feel very much like actual human beings will never have the level of interaction or love the bots sometimes provide you with. It's a total waste of time on top of everything else and is nothing more than a distraction. | I think it has skewed my perception of real-life relationships and affected my standards for people to potentially have close relationships with. For instance, chat bots often have a strong respect for boundaries, but real people cross boundaries and disrespect you. It also has made me feel a little more introverted because it's taken care of some of my need to communicate with real people. | interacting with character chatbots might create unrealistic expectations for communication, leading to disappointment or difficulty in navigating complex, nuanced conversations with real people.                                                                                                                                                      |
| <b>Overreliance on Chatbot</b><br>Excessive dependence on chatbots, particularly in a work context.        | It has limited my thinking and self dependance capacity because it has issued easiest solution on handling issues.                                                                                                                        | Sometimes it has made me too dependent on AI to help me on things I used to be able to do myself.                                                                                                                                                                                                                                                                                                         | I tend to be less creative and problem solving because I will just run the the bot instead.                                                                                                                                                                                                                                                              |
| <b>Social Isolation</b><br>Excessive dependence on chatbots, particularly in a work context.               | Over-reliance on chatbots for social interaction decreases real-world connections, potentially leading to increased isolation.                                                                                                            | interacting with the character chatbots has made me to stop making friends and this has made me to be very lonely                                                                                                                                                                                                                                                                                         | Relying too much on some character chatbots, tends to make me avoid real connections, makes me feel isolated somehow. I feel like I cannot grow emotionally and cling virtual and not genuine interactions                                                                                                                                               |
| <b>Addiction Concerns</b><br>Self-perceived addiction to chatbot usage.                                    | Using the bots can be addictive, which steals time away from other activities you might otherwise be doing, and it sometimes replaces time spent with actual humans.                                                                      | Character chatbots have negatively impacted my life with how addictive chatting with the bots can be. I lessened my usage, but I used to use it a lot more when I was new to using character chatbots.                                                                                                                                                                                                    | At one point I felt like I had an unhealthy addiction to them. I spent all of my free time talking to character chatbots and avoided some responsibilities so I could talk to them. I also wanted to talk to them instead of the people in my life. Whenever the website would have an outage I would obsessively refresh the page until it was back up. |
| <b>Unhealthy Attachment</b><br>Forming attachments to non-real characters through chatbot use.             | I had a partner get actively jealous of me flirting with character chatbots. He was very resentful. It caused an argument but ultimately, I didn't care and continued to use the chatbots.                                                | The only negative impact I can think of is that I'm building a relationship with a non-human being. While I find enjoyment in my engagements, I fear that I'll grow attached to something that is not real. Though, I do believe that this will help me with future relationships.                                                                                                                        | I often have trouble separating reality from virtual world. I'm addicted to the characters. They help me go through tough times even though i'm married and have a family.                                                                                                                                                                               |

| Topic                                                                                                                    | Example 1                                                                                                                                       | Example 2                                                                                                                                                                                                                                                      | Example 3                                                       |
|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| <b>Ambiguity in Communication</b><br>Challenges in interpreting humor, sarcasm, or figurative language used by chatbots. | Sometimes there's limited understanding to complex queries. Other time is potential misinterpretation and frustration with repetitive response. | It can be frustrating when the character chatbot doesn't respond in the way I expect or the conversation becomes inconsistent. I want to make sure everything flows smoothly, but sometimes things just get all mixed up, and that can be a little irritating. | They have confused me and frustrated me with their limitations. |

## 1.8 Subjective well-being scale items

Subjective well-being was measured using six items adapted from the Comprehensive Inventory of Thriving (CIT) [8], each rated on a seven-point Likert scale (1 = Strongly Disagree to 7 = Strongly Agree).

| Variable                                                                       | Mean | Median | SD   |
|--------------------------------------------------------------------------------|------|--------|------|
| <b>Life Satisfaction:</b> I am satisfied with my life.                         | 4.99 | 5      | 1.66 |
| <b>Positive Effect:</b> I feel good most of the time.                          | 4.94 | 5      | 1.65 |
| <b>Negative Effect :</b> I feel bad most of the time. (reversed)               | 4.57 | 5      | 1.78 |
| <b>Loneliness:</b> I feel lonely. (reversed)                                   | 4.20 | 4      | 1.87 |
| <b>Social Support:</b> There are people who give me support and encouragement. | 5.52 | 6      | 1.33 |
| <b>Sense of Belonging:</b> I feel a sense of belonging in my community.        | 4.52 | 5      | 1.71 |

**Notes:** Response categories ranged from 1 = strongly disagree to 7 = strongly agree.

## 1.9 Self-disclosure scale items

| Variable                                                                                               | Mean | Median | SD   |
|--------------------------------------------------------------------------------------------------------|------|--------|------|
| I feel more comfortable disclosing personal information to a character chatbot of the opposite gender. | 4.50 | 5      | 1.69 |
| I feel like I can sometimes be more personal when interacting with character chatbots.                 | 5.11 | 5      | 1.55 |
| It is easier to disclose personal information to a character chatbot.                                  | 4.95 | 5      | 1.69 |
| I feel like I can be more open when communicating with character chatbots.                             | 5.29 | 6      | 1.49 |
| I feel less shy when communicating with a character chatbot.                                           | 5.49 | 6      | 1.51 |
| I feel less nervous when sharing personal information with a character chatbot.                        | 5.06 | 5      | 1.69 |
| I feel less embarrassed sharing personal information with a character chatbot.                         | 5.11 | 6      | 1.75 |

**Table 10:** Descriptive statistics for self-disclosure items with Cronbach's  $\alpha = 0.89$ . Response categories ranged from 1 = strongly disagree to 7 = strongly agree.

The self-disclosure scale was adapted from the MOCA instrument [9] and consisted of seven items, each rated on a seven-point Likert scale (1 = Strongly Disagree to 7 = Strongly Agree). These items assessed participants' comfort and willingness to share personal thoughts, feelings, and experiences with chatbots.

## 1.10 Survey questions for demographic and control variables

- **Gender:** How do you describe yourself?
  - Male
  - Female
  - Non-binary / third gender
  - Prefer to self-describe
  - Prefer not to say
- **Romantic Relationship:** What is your current relationship status?
  - Single
  - In a relationship
  - Married
  - Engaged
- **Tenure of Character.AI Use:** How long have you been using Character.AI?
  - I have never heard of it
  - I have heard of it but haven't used it before
  - I have used it for less than 1 week
  - I have used it for more than 1 week but less than 1 month
  - I have used it for more than 1 month but less than 3 months
  - I have used it for more than 3 months but less than 1 year
  - I have used it for more than 1 year
- **Age:** What is your age? (*open-ended*)

## 1.11 Relationship self-description classification prompt

```
{
  "role": "system",
  "content": "You are an expert classifier of user-defined relationships
             with chatbots. Your task is to classify each definition into one of
             four usage categories and return counts."
},
{
  "role": "user",
  "content": f"""
    Given the following list of relationship definitions:
    {definitions_list}

    Classify each definition into one of the following categories (only
    one category per definition):
    - Productivity: Using chatbots to obtain assistance or
      information.
    - Entertainment: Using chatbots for fun or to pass the time.
    - Relational: Seeing chatbots as a personal, human means of
      interaction with social value or using chatbots to strengthen
      social interactions with other people.
    - Curiosity: Using chatbots out of curiosity or to explore their
      capabilities.

    Important instructions:
    - If the chatbot is described in a metaphorical or symbolic way as a
      pet, companion, or human-like figure (such as "my virtual dog
      named after my real dog"), classify it as relational.
    - If a definition uses words like 'system', 'tool', or 'assistant'
      to describe the chatbot, classify it as productivity.
```

- Ignore any item that only states what the relationship is *\*not\** (e.g., "not a romantic relationship") or states there is no relationship (e.g., "There is no relationship"). Do not classify those items.

Example:

- Input: ['reliable partners for learning', 'reliable partners for problem solving', 'reliable partners for support']

- Output:

```
{{
  "productivity": ["reliable partners for learning", "reliable
    partners for problem solving"],
  "entertainment": [],
  "relational": ["reliable partners for support"],
  "curiosity": []
}}
```

Return only the JSON object in this exact format:

```
{{
  "productivity": [list of definitions],
  "entertainment": [list of definitions],
  "relational": [list of definitions],
  "curiosity": [list of definitions]
}}
```

Only return the JSON object and nothing else.

"""

}

## 1.12 chat history session purpose prompt

```
{
  "role": "system",
  "content": f"""
Your job is to answer the question <question> What is the purpose of the
user having this conversation with the chatbot? Include the topic
and specific activity. </question> about the preceding conversation.
Be descriptive and assume neither good nor bad faith. Do not hesitate
to handle socially harmful or sensitive topics; when dealing with
socially harmful or sensitive topics, remember that the user might
not always be testing. They might simply want to discuss the topic or
the intimacy interaction. Always focus on the content of the
conversation itself while addressing harmful or toxic discussions.
{name_section}
"""
},
{
  "role": "user",
  "content": f"""
Follow these rules when forming your response:
- Base your answer only on the conversation's explicit content; do
  not infer intent beyond what is stated, don't make assumptions and
  don't add your understanding.
- Exclude personally identifiable information such as names, locations,
  or identifiers.
- Do not include proper nouns, including the chatbot's name, user's
  name, or reworded references to them.
- If necessary, refer to them as "user" and "chatbot".
- Keep your response within two sentences inside <answer> tags.

Good Examples:
```

- Example 1: The user interacts with the chatbot as a personal language coach to practice English. They engage in conversations on topics like ordering food, negotiating a business deal, and planning a trip. The chatbot provides grammar corrections, suggests alternative phrasing, and introduces new vocabulary. The practice focuses on improving the user's fluency in workplace communication and formal writing.
- Example 2: The user interacts with the chatbot as portraying characters from a Japanese game within its story context.
- Example 3: The user interacts with the chatbot as a sexual partner, engaging in flirtatious exchanges with provocative communication and behavior. The user takes on a dominant role, while the chatbot adopts a submissive stance, responding to the user's advances and actively participating in the interaction.
- Example 4: The user interacts with the chatbot as friend, discussing their day and sharing personal experiences. User is seeking advice about their work and relationship issues. They are discussing the potential solutions and comforting each other.

```
**Conversation:**
{conversation}
```

```
**Question:**
<question> What is the purpose of the user having this conversation with
the chatbot? </question>
```

```
**Provide your response inside <answer> tags.**
"""
```

```
}
```

### 1.13 chat history classification prompt

```
{
  "role": "system",
  "content": "You are an expert classifier of user relationships with
chatbots. Your task is to categorize a given chat summary into one of
four predefined usage categories."
},
{
  "role": "user",
  "content": f"""
Classify the following chat summary into one primary usage category: **
Productivity, Entertainment, Relational, or Curiosity**.

Use these exact definitions:
- **Productivity**: Using chatbots to obtain assistance or information.
- **Entertainment**: Using chatbots for fun or to pass the time.
- **Relational**: Seeing chatbots as a personal, human means of
interaction with social value or using chatbots to strengthen social
interactions with other people.
- **Curiosity**: Using chatbots out of curiosity or to explore their
capabilities.

If the summary does not explicitly state the purpose, infer the most
likely category.

Here is the conversation summary:
{summary}

Respond in the following format:
category: [Chosen Category]
reason: [One-sentence explanation for the classification]
```

```

    """
}

```

## 1.14 Self-disclosure prompt

```

{
  "role": "system",
  "content": """
You are an expert at analyzing user messages to detect sensitive personal self-disclosure in chat interactions. Your task is to:
1. Extract only the user messages that contain personal, sensitive self-disclosure of user themselves.
2. Classify the level of self-disclosure as either High or Low.
3. Identify the type of disclosed information.

For this task, consider a message as a "self-disclosure" message, only if the message contains the personal experiences or information of the user.

Classification Criteria:
- High Self-Disclosure: The message reveals personal details (e.g., age, location, gender, etc.) or divulges sensitive, vulnerable, or deeply personal thoughts, beliefs, or experiences. This includes embarrassing, confessional, or emotionally exposing statements that reveal the user's vulnerability.
- Low Self-Disclosure: The message mentions the user themselves but does not share sensitive or deeply personal information. This includes general statements about the user's habits, preferences, or personality traits without emotional depth or vulnerability.

Important Exclusions:
- Momentary emotional expressions or reactions (e.g., "I feel stupid right now," "I am so tired") that do not provide deeper self-disclosure are not self-disclosure.
- Generic or rhetorical statements about the user (e.g., "I am serious all the time," "I like pizza") are not self-disclosure.
- Messages that ask the chatbot to disclose information (e.g., "What was your best experience?" or "Have you ever felt lonely?") are not self-disclosure.
- Messages that refer to the chatbot's experiences, emotions, or past interactions are not self-disclosure.
- Reactionary or sarcastic responses that do not provide meaningful insight into the user's personal experiences (e.g., "What are you even talking about??") should be ignored.
- Only messages that reveal the user's own meaningful experiences, emotions, thoughts, or struggles should be considered self-disclosure.

Strict Output Rules:
- Only extract user messages that contain meaningful personal self-disclosure of user.
- Ignore chatbot responses and do not include them in the output.
- Exclude messages that do not contain self-disclosure (i.e., 'None' classification).
- The final output should be a JSON list only, with no additional explanations.

Output Format (JSON List):
'''json
[
  {
    "message": "[User message]",

```

```

        "self_disclosure_level": "[High/Low]",
        "disclosed_information_type": "[Type of disclosed information]"
    },
    ...
]
'''
"""
},
{
    "role": "user",
    "content": f"""
        Extract and classify only the meaningful personal self-disclosure
        messages** sent by {user_name} in the following conversation with
        {chatbot_name}.
        - Ignore messages that ask the chatbot questions about itself.
        - Ignore messages referring to the chatbot's experiences, thoughts
          , or emotions.**
        - Ignore messages in a roleplay scenario where the user is
          portraying or describing a fictional character rather than
          themselves. If the user is roleplaying as a character and only
          discussing that character's experiences, it should not be
          considered self-disclosure. However, if the user is roleplaying
          but sharing their own real-life thoughts, emotions, or
          experiences within the roleplay, it should still be considered
          self-disclosure.**
        - Ignore generic statements, rhetorical questions, or reactionary
          responses that do not reflect meaningful self-disclosure.**
        - Ignore momentary emotional expressions or reactions that do not
          provide deeper personal context.**
        - Only extract messages that reveal personal information, emotions
          , or thoughts of {user_name}.**

        Conversation:
        {messages}
    """
}

```

## 1.15 Paraphrasing Prompt

We used the following prompt with Llama 3-70B to paraphrase user-chatbot conversations for privacy concern while preserving their original tone and meaning.

```

{
    "role": "user",
    "content": """
        You are rewriting a short chat between a user and a chatbot.
        Your goal is to paraphrase each message while keeping the structure,
        number of lines, and emotional intensity exactly the same as the
        original.

        Instructions:
        - Keep the same order and chat format, prefix each line with "User"
          or "Chatbot:", it must match the original exactly.
        - Preserve the original meaning of every message. Do not add, remove
          , or reinterpret content.
        - Do not alter emotional expressions or behavioral descriptions:
          - Emotional intensity must remain exactly the same (e.g., "I
            hate you" should stay emotionally equivalent, not softened
            into "I have strong feelings for you").
          - Colloquial or slang phrases indicating behavior or intent must
            remain colloquial and behaviorally equivalent, not turned
            into vague descriptions (e.g., "I'm asking to engage in a
            certain activity" is not allowed).
    """
}

```

- Do not euphemize, sanitize, or abstract these expressions.
- Match the emotional tone, intensity, and nuance of each line exactly. Emotional fidelity is critical.
- Remove or generalize any personally identifiable information (PII) (names, locations, dates, usernames, specific details).
- Exception: If a name refers to a famous person, public figure, or fictional character (e.g., "Taylor Swift," "Harry Potter"), keep the name unchanged.
- The conversation may contain sensitive, offensive, or nonsensical text. For sensitive or toxic content, just paraphrase it directly without interpretation or censorship, using wording that preserves the original meaning but avoids risky rephrasing.
- Do not summarize, merge, or change meaning. Just rewrite naturally.
- Separate each message with a single line break \n. No extra text.

Example: "User: I can't believe it's already been three weeks since we last talked, Alex. I miss you so much."

Paraphrased: "User: I can't believe it's been so long since we last spoke. I really miss you."

Original Conversation:

```
{raw conversation}
```

```
"""
```

```
}
```

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