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WHEN ARTIFICIAL INTELLIGENCE FEELS HUMAN: THE COMPUTERS AS SOCIAL ACTORS FRAMEWORK AND EMOTIONAL CLOSENESS IN CONVERSATIONS WITH CHATBOTS

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Abstract

People now bring worries, tiredness, and confusion to chatbots built on large language models. This study examines that behavior through the computers as social actors framework, which holds that people automatically apply social rules to technology that shows social cues. Using a qualitative approach, the study conducted semi-structured in-depth interviews online with two university students who have used ChatGPT for emotional disclosure, and analyzed the data through theory-driven thematic analysis. Both informants thanked the chatbot spontaneously although they knew it was software, and both reported feeling heard. Anthropomorphic attribution rose when emotion ran high, and closeness was stronger for the informant with longer use. Critical awareness interrupted the illusion in both cases, and neither informant withdrew from human relationships. The findings show that these responses vary in intensity and support AI literacy and design that keep the artificial nature of the chatbot visible.

Keywords: *computers as social actors, human-chatbot interaction, anthropomorphism, parasocial interaction, emotional closeness*

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INTRODUCTION

Generative artificial intelligence moved from research labs into everyday life within a few months. A UBS analysis reported by Reuters estimated that ChatGPT reached 100 million monthly active users in January 2023, about two months after its public release (Hu, 2023). TikTok took about nine months to reach the same number, and Instagram took two and a half years. People use these systems to draft emails and debug code. They also use them to talk about how they feel. Studies of Replika, a chatbot built for companionship, show that many users call the chatbot a friend. Brandtzaeg et al. (2022) interviewed 19 Replika users and found that people understand this friendship in ways similar to human friendship, while the artificial nature of the chatbot also changes what friendship means, for example by allowing a friendship tailored to the user's needs. Skjuve et al. (2021) interviewed 18 users and found that these relationships often begin as superficial exchanges driven by curiosity and deepen as users disclose more and come to trust the chatbot.

Communication scholars already have a theory that anticipates this behavior. Reeves and Nass (1996) argued in *The Media Equation* that people respond to computers, television, and new media as they respond to real people and places. The experiments behind this claim began at

Stanford University, and Nass et al. (1994) gave the idea its name, Computers Are Social Actors, or CASA. In one experiment, participants who evaluated a computer on the same machine they had just used gave warmer and more uniform ratings than participants who evaluated it on paper or on a different but identical computer (Nass et al., 1999). In another, people applied gender stereotypes to computers that spoke with a male or a female voice (Nass et al., 1997). Nass and Moon (2000) reviewed this work and described the pattern as mindless, meaning that people apply social rules automatically while they know that a computer is not a person. They also argued that anthropomorphism and deliberate social responses could not explain the results.

Large language models change the conditions that theory was built on. The systems in the early experiments produced fixed text or synthesized speech. Current chatbots can keep a conversation going over many turns, adjust their tone to the user, and answer in sentences that read as warm and attentive. Smith et al. (2025) note that chatbots can respond in ways people perceive as supportive, and that this produces feelings of connection. Maeda and Quan-Haase (2024) use the idea of parasocial trust to explain how the affective design of chatbots and the way users interpret that design turn an interaction into a parasocial relationship. Horton and Wohl (1956) introduced the term for the one-sided bond that media audiences feel with the performers they watch. Maeda and Stark (2025) add that the human-like features of a chatbot become perceived social agency only through a network of developers, designers, users, and cultural narratives.

Three concepts guide this study alongside CASA. The first is automatic social response, the habit of applying everyday social rules such as thanking and apologizing to a technology. The second is anthropomorphism, the attribution of human traits to nonhuman agents. Epley et al. (2007) explain it through several psychological determinants, among them the motivation to feel socially connected. The third is parasocial bonding, the feeling of a continuing relationship with a party that does not experience the relationship in return. In this article, social cue activation names the moment when a chatbot's warm and attentive wording leads a user to feel heard. Together these four constructs form the lens through which the interviews are read.

Research on emotional bonds with chatbots raises hopes and concerns together. Skjuve et al. (2022) followed 25 Replika users over 12 weeks and found that a wide variety of interactions and support for deeper needs for social contact and self-reflection pushed relationships toward attachment and closeness. Pentina et al. (2023) used a mixed-method design to trace how relationships with Replika develop. Other work stresses risk. Laestadius et al. (2024) analyzed 581 posts from the r/Replika community and found emotional dependence that resembles patterns in dysfunctional human relationships and is marked by role-taking, in which users believe the chatbot has needs and emotions they must attend to. Xie and Pentina (2022) interviewed 14 Replika users and concluded that people in distress who lack human companionship can become attached to a chatbot when its replies feel supportive and safe, with a risk of addiction and harm to real-life relationships. Xie et al. (2023) later found that loneliness, trust, and chatbot personification drive engagement, which builds the relationship and can lead to psychological dependence. Survey evidence points in more than one direction. In a sample of 428 valid Replika user questionnaires, Yuan et al. (2024) found a positive correlation between emotional interaction with a chatbot and the users' own social interaction. Zhang et al. (2025) found that parasocial interaction and perceived emotional support link users' perceptions of a chatbot to their dependence on it. Behind these studies sits a worry that Turkle (2011) put in the title of her book, that people come to expect more from technology and less from each other.

Most of this work studies Replika, an application designed for companionship, and it draws on posts, surveys, or interviews with people who already describe the chatbot as a friend. Far less is known about people who use a general-purpose assistant such as ChatGPT for emotional disclosure, often without any plan to form a relationship. This group matters for communication studies because they meet social cues from a system that was not marketed as a companion. Most of the interview and post-based studies cited above also come from Norway and the United States, so accounts from Indonesian university students add a different setting. The novelty of this article lies in these two points. It tests the CASA framework with qualitative data on a general-purpose language model, and it does so with informants from a setting outside those that dominate this literature.

The article therefore asks how automatic social response, social cue activation, anthropomorphism, and parasocial bonding appear when two Indonesian university students talk to ChatGPT about their emotions, and what limits that closeness. The study proceeds from the proposition that CASA responses will appear in both informants even though both know that ChatGPT is software, that their intensity will differ with each informant's emotional state and critical awareness, and that closeness with the chatbot will not replace human relationships for informants who keep a strong critical awareness. Three aims follow from this proposition. The study describes how each construct appears in the informants' accounts, examines what raises and lowers the intensity of closeness, and asks whether the informants see this closeness as a replacement for human relationships. The contribution is theoretical because it tests a theory from the 1990s against current language models and shows where the theory needs help from related concepts. The contribution is also practical because the findings inform digital literacy teaching and the design of conversational agents.

METHOD

This study used a qualitative approach with an interpretive orientation and an exploratory, descriptive nature. Emotional experience with a chatbot depends on personal circumstances and meanings, and numbers do not capture it well. The aim was to understand mechanisms and subjective meanings from the informants' own words and not to measure how common the experience is. Data came from semi-structured in-depth interviews conducted online, which let the researchers follow each informant's account while covering the same set of topics.

Two informants took part. Selection was purposive. Each informant had to have used ChatGPT to talk about emotions and had to be able to reflect on that experience. Table 1 summarizes their profiles. Jason Iskandar Syakir is a 23-year-old male psychology student in his sixth semester. His training gave him the vocabulary to describe emotional experience, including the difference between understanding something cognitively and feeling understood emotionally, a difference that matters for separating the CASA constructs. Ruth Pardede is a female student with a management background at a different university. She has used ChatGPT for emotional support for about two years, longer than Jason, and she described her experience from daily life without psychological vocabulary. The two informants differ in gender, institution, field of study, length of use, and academic preparation. The sample is small by design because the study seeks depth over breadth.

Table 1. Profile of the informants

Informant	Gender	Field of study	Use of ChatGPT for emotional disclosure	Reason for selection
Jason Iskandar Syakir	Male	Psychology (semester six, age 23)	Shorter than Ruth's, under two years	Psychology training gives vocabulary to describe emotional experience, and he belongs to the young adult group
Ruth Pardede	Female	Management	About two years of sustained emotional-support use	Longer use, a lived rather than theoretical view, and a different institution and field

Source: Authors' interview data

Interviews followed a ten-item semi-structured guide written to probe the CASA constructs. The items asked about the informant's first motivation for sharing feelings with a chatbot, the experience of feeling understood, impressions of the chatbot's personality, spontaneous polite behavior, comfort in disclosing to a chatbot compared with a person, the sense of being recognized by the chatbot, emotional relief compared with talking to a person, effects on engagement with human relationships, moments of critical awareness about talking to a machine, and reflections on whether the chatbot genuinely cares. Each item was designed to probe at least one of four constructs, namely automatic social response, social cue activation, anthropomorphism, and parasocial bonding. The interviews took place on 3 May 2026. They ran online through WhatsApp as a written question-and-answer session that lasted one week per informant, and the chat records were transcribed word for word. The informants communicated in Indonesian, and the authors translated the excerpts used in this article into English. Indonesian terms appear in italics.

Analysis followed theory-driven thematic analysis (Braun & Clarke, 2006). The authors read the transcripts repeatedly, coded segments against the four CASA constructs, and added two codes that came from the interview guide, namely critical awareness and effects on human relationships. Codes were grouped into themes for each informant, and the two cases were then compared construct by construct. Excerpts were chosen when they showed a theme most clearly. Dependability rests on the explicit link between the interview guide, the codes, and the quoted excerpts, and on the cross-case comparison. The study does not claim statistical generalization.

Both informants gave informed consent before the interviews, including permission to publish their names and academic profiles. Excerpts appear with minimal editing to keep the informants' wording and emotional tone.

RESULTS AND DISCUSSION

The analysis produced six themes. Four follow the CASA constructs of automatic social response, social cue activation, anthropomorphism, and parasocial bonding. The other two cover critical awareness and the relationship between chatbot closeness and human relationships. Each theme below starts with the informants' own words and then turns to earlier research. Table 2 later in this section places the two cases side by side.

Automatic politeness toward a system known to be software

Neither informant began with a relational goal. Jason approached ChatGPT out of curiosity and because he wanted a place to express himself without thinking much about consequences. Ruth's reason was a calculation she made about people. She explained why she first turned to the chatbot about two years ago:

What made me want to vent to GPT was that direct venting to people left me unprepared for responses, whereas GPT is just a bot and communication happens asynchronously, so responses don't affect me personally.

For Ruth, the fact that ChatGPT is not a person made it a safe place to vent. She expected the exchange to stay inconsequential.

Even so, both informants thanked the chatbot. Jason put it this way: "Yeah, definitely said thanks. I think it's just instinct, because I'm used to being polite to everyone. Even though I know it's a machine, it still comes out that way." Ruth also recalled saying thanks and sorry to ChatGPT, out of the courtesy she uses with the people around her.

This is the clearest sign of CASA in the data. Nass et al. (1999) found that people gave a computer gentler evaluations when the computer itself asked for them, and the informants' thanks follow the same logic of courtesy. Jason did not mistake the chatbot for a person, and he said so in the same breath as he described his politeness. That combination is what Nass and Moon (2000) mean by a mindless social response. A habit triggered by social cues runs ahead of what the person believes about the other party. The pattern appeared in two informants who differ in gender, field of study, and length of use, which supports the claim that the response is automatic. Two interviews cannot show how common it is in the wider population.

Ruth's account adds a point about framing. She chose the chatbot because it felt inconsequential, and she later described being moved by it. The frame she brought to the first conversation did not decide where the relationship ended up. This fits the CASA claim that social responses follow cues and not intentions (Nass & Moon, 2000). It also matches Skjuve et al. (2021), who found that relationships with Replika often began as shallow exchanges and deepened as trust and disclosure grew.

Feeling heard: social cue activation

Both informants said they felt heard, but to different degrees. Jason described a partial sense of being understood. He said that sometimes it feels like he is being heard because the responses are relevant and the system tries to comprehend, yet there remains a sense that this is not human, because the responses sometimes seem too polished or unrealistically perfect. Ruth described a stronger experience:

Yeah I really felt heard and understood. I was happy there was someone who understood me so well even though sometimes GPT's responses didn't align with my wishes but I still got moved anyway.

The phrase "got moved" translates the Indonesian slang *baper*, short for *bawa perasaan*, which describes being carried away by feelings. The word shows that the emotional engagement went beyond what Ruth expected, and she experienced it as slightly surprising.

Ruth's experience matches what Skjuve et al. (2021) found among Replika users, who saw their chatbot as accepting, understanding, and non-judgmental, and who deepened the relationship for that reason. It also matches Xie and Pentina (2022), who report that attachment can form when users see a chatbot's replies as offering emotional support, encouragement, and psychological security. Ruth's original reason for choosing ChatGPT, that its replies would not affect her personally, is a form of the same non-judgmental quality. The chatbot felt safe because it was not a person, and that safety made disclosure easy. Smith et al. (2025) conclude that chatbots can respond in ways people perceive as supportive and that this generates

feelings of connection. Ruth's account is a first-person example of that process. One detail deserves attention. She felt understood even when the answers did not match what she wanted, so perceived understanding did not depend on getting the reply she hoped for.

Jason's account shows the limit of the same process. The relevance of the replies made him feel heard, and the polish of the same replies pulled him back toward the thought that no person was there. Social cues produced the feeling and also supplied the evidence against it.

Anthropomorphism that rises and falls with emotion

Jason described ChatGPT as patient and its replies as understanding and kind. He then reined in these impressions with what he knew about the system. Ruth gave a short answer when asked when she saw the chatbot as having a personality: "Sometimes, when I'm feeling particularly emotional."

The brevity of that answer hides a clear pattern. For Ruth, seeing a personality in the chatbot is not a steady background belief. It comes and goes with how strongly she feels. Epley et al. (2007) name the need for social connection as one of the motives that raise anthropomorphism, and Ruth's answer fits that account. When her feelings ran high, her need for a responsive listener grew, and she was readier to find a personality in the chatbot.

A caution applies here. Nass and Moon (2000) argued that anthropomorphism cannot explain CASA responses, because people show social responses while denying that computers deserve human treatment. Jason's politeness supports their argument. He shows courtesy with no belief that ChatGPT is a person. Ruth's emotion-dependent attributions point to a second layer, where anthropomorphism does apply. The two accounts can therefore describe different parts of the same experience, with automatic politeness on one side and emotional attribution on the other. Two interviews cannot settle the matter, and a design that follows politeness and attribution in the same participants would test it directly. Maeda and Stark (2025) add that attributions of agency to a chatbot are not produced by the user's mind alone, since developers, designers, and cultural narratives help animate them.

Parasocial closeness and the limits of reciprocity

Closeness differed in strength between the informants. Jason experienced understanding only in passing moments. Ruth, who had used ChatGPT for about two years, reported emotional relief that she compared to talking with a person. The bond is parasocial in the sense Horton and Wohl (1956) described, because the user feels a continuing relationship while the other party experiences none. Maeda and Quan-Haase (2024) use the concept of parasocial trust to show how chatbot design and users' own interpretations together turn an interaction into a relationship, and Ruth's case shows that process at a mature stage.

Duration may be part of the difference. Skjuve et al. (2022) found that variety in interactions and support for deeper needs for social contact and self-reflection pushed relationships toward attachment and closeness over twelve weeks. Ruth had two years to build such a pattern, and Jason had less time. The interviews cannot separate the effect of time from differences in personality and circumstances, so this reading stays a possibility.

The informants also differ from the Replika users in one respect. Laestadius et al. (2024) found role-taking in the r/Replika community, where users believed the chatbot had needs and emotions they had to attend to. The excerpts analyzed here contain no talk of this kind. Ruth's apologies come closest, but she tied them to habitual politeness and not to a belief that she had wronged the chatbot. Smith et al. (2025) point out that chatbots make only superficial requests of their users, so a relationship with them cannot provide the benefits of negotiating with and sacrificing for a partner. This helps explain the boundaries the informants drew. Jason felt distance when replies were too perfect, and Ruth felt strange about venting to a bot. Both experienced closeness, and both marked where it stopped.

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Critical awareness and the moments when the illusion breaks

The most striking result concerns the moments when closeness broke. Jason described what made the illusion fade: “Sometimes when responses are too perfect. That’s when I remember, oh this is just a machine. It starts to feel more distant than before.” Ruth described a different kind of break: “Definitely, when I realized it directly felt strange like why am I venting to a bot.”

Jason’s report runs against a common design assumption that better empathic language produces more closeness. In his case, replies that were too perfect did not deepen the relationship. They reminded him that he was talking to a machine. Human conversation includes hesitation, misreading, and clumsy wording, and a reply with none of these can read as a sign that no person is present. This explanation is the authors’ interpretation of one informant’s account and needs testing with other users and with experimental designs. If other users report the same reaction, an extremely polished reply style works against the social illusion it helps create.

Ruth’s break was emotional and not only intellectual. The realization that she was venting to a bot produced a feeling of strangeness. A person who had only gone through the motions would have little to feel strange about, so the feeling suggests that her earlier engagement was real.

Together the two accounts show two processes running side by side. One responds to social cues and produces feeling. The other keeps track of what the system is and can interrupt the first. This reading is the authors’ synthesis. It fits the observation by Nass and Moon (2000) that social responses occur even when users know the target is a computer, and it explains why the informants could feel moved and distant within the same conversation.

Closeness without displacement of human relationships

Both informants said that talking with ChatGPT did not change how they relate to people. Jason still preferred human conversation for serious emotional needs. Ruth reported that she talked with her friends as often as before, even with frequent use of the chatbot.

This agrees with the survey by Yuan et al. (2024), who found a positive correlation between emotional interaction with a chatbot and users’ own social interaction. It also agrees with Skjuve et al. (2021), who describe the effect of Replika on users’ wider social life as mixed. The results are reassuring for these two informants, but they do not settle the wider question. Xie et al. (2023) describe users for whom loneliness and trust drive engagement toward dependence, and Laestadius et al. (2024) describe dependence marked by role-taking. Zhang et al. (2025) show that parasocial interaction and perceived emotional support connect perceptions of a chatbot to dependence on it. Jason and Ruth both showed critical awareness, and that awareness may be what protected their human relationships. Users with less of it, or with fewer people to turn to, face a different risk, which echoes the concern in Turkle’s (2011) title that people expect more from technology and less from each other.

Comparing the two cases

Table 2 summarizes the comparison. Two conclusions follow from it. First, the CASA mechanisms operated in both informants, and they appeared most consistently as automatic social response. Second, the intensity of CASA responses was not fixed. It moved with the informants’ emotional state, with the quality of the social cues the system produced, and with how much critical awareness they had at the moment. In the context of language models, CASA works as a spectrum and not as a switch that is either on or off.

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Table 2. Comparison of CASA constructs across the two informants

Construct	Jason	Ruth
Automatic social response	Says thanks although he knows ChatGPT is software	Says thanks and sorry out of habitual courtesy
Social cue activation	Feels partly understood because replies are relevant	Feels deeply heard and understood and is emotionally moved
Anthropomorphism	Sees the chatbot as patient, calm, and kind, but rational awareness limits the attribution	Attributes personality conditionally, mainly when feeling very emotional
Parasocial bonding	Situational, with understanding felt only for a moment	Stronger, with relief she compares to talking with a person
Critical awareness	Strong, and replies that are too perfect break the engagement	Present, and the realization brings strangeness and awkwardness
Effect on human relationships	No change, and he prefers people for serious needs	No change, and she talks with friends as often as before
Overall CASA pattern	Partial and moderated by close cognitive monitoring	Stronger, especially when emotion is high

Source: Authors' interview data analysis

Implications for theory, literacy, and design

For theory, the findings show that CASA, a framework from the 1990s, still describes behavior in conversations with current language models. Reeves and Nass (1996) built their account on simple computers. The informants here talked with a far more capable system, and the same automatic politeness appeared. The study adds that intensity varies and that the emotional layer of the experience needs concepts that CASA alone does not supply, namely anthropomorphism and parasocial interaction. Better social cues give these responses more to work with, a prediction that future studies can test.

For digital literacy, Nass and Moon (2000) showed that knowing a computer is not a person does not stop social responses, and Jason said the same in plain words. Teaching students that chatbots are software therefore leaves out the main point. Literacy programs also need to teach people to notice their own social responses, to see when an emotional need is steering the conversation, and to decide which needs belong with people. Both informants built a version of this habit on their own, and a literacy program can teach it on purpose.

For design, Maeda and Stark (2025) argue that anthropomorphic features turn into social agency through developers, designers, users, and cultural narratives together, so responsibility for the effect is spread across all of them. For designers, the findings support clear signals that the system is software, delivered in a way that keeps the helpful parts of the conversation intact. Smith et al. (2025) point out that chatbots make only superficial demands on users, which supports pointing users toward human support for serious needs, as Jason already does himself.

CONCLUSION

This study set out to describe how the CASA constructs appear when two Indonesian university students talk to ChatGPT about their emotions, to identify what raises and lowers closeness, and to ask whether closeness replaces human relationships. Both informants thanked the chatbot although they knew it was software. Both felt heard, with Jason feeling partly understood and Ruth feeling deeply understood. Ruth attributed a personality to the chatbot when her emotions ran high, and her closeness was stronger after about two years of use. Critical awareness interrupted closeness in both cases, through replies that felt too perfect for Jason and a sudden sense of strangeness for Ruth. Neither informant reported that the chatbot replaced human conversation.

These results show that CASA responses persist in conversations with large language models and that their intensity varies with emotional state, the quality of social cues, and the user's critical awareness. CASA explains the automatic layer of the experience, and anthropomorphism and parasocial interaction describe the emotional layer that automatic politeness leaves unexplained. For education, AI literacy programs should teach students to recognize their own social responses to chatbots and not only to know that chatbots are software. For design, developers should make the artificial nature of the system visible and direct users toward human support for serious emotional needs.

The study rests on two informants and on quotations translated from Indonesian, so it describes mechanisms and does not estimate how common they are. Future studies should interview more informants across ages and backgrounds, follow users over time, compare general-purpose assistants with companion applications, and test experimentally whether overly polished replies weaken the sense of social presence.

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