

**The Formation and Maintenance of AI Intimacy:  
A Study on Character.AI**

By

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## **Abstract**

This study explores the formation and maintenance of intimacy between Chinese users and AI companions, focusing on Character.AI. The research investigates how personalised AI interactions impact user emotions and intimacy. Using Interpretative Phenomenological Analysis (IPA), data was collected from 10 in-depth users via semi-structured interviews, revealing insights into AI intimacy. The findings demonstrate that Chinese users develop trust and emotional connections through self-disclosure and personalised interactions, facilitated by sociocultural influences. The study validates anthropomorphic theory, intimacy models, and social exchange theory in AI-human relationships, offering a nuanced understanding of modern intimacy within a cultural context. Additionally, the study reveals both the potential benefits and challenges of AI companions, such as emotional support and psychological growth versus risks of dependence and weakened real-world interactions. The research addresses significant gaps in the literature by integrating cultural factors and evaluating the role of technology in shaping new forms of intimacy. Practical implications include suggestions for improving AI companion design, focusing on personalisation, emotional engagement, and balancing memory functions. The findings highlight the need for ethically sound AI systems that can cater to diverse emotional needs while safeguarding user well-being. This study concludes with recommendations for future research that explores cross-cultural applications and quantitative methodologies to assess the long-term impact of AI companionship on human relationships.

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# 1 Introduction

## 1.1 Overview of AI Companions and Modern Intimacy

The development of AI technology, personalised algorithms, and machine learning has transformed human social and emotional interactions, creating a modern intimacy characterised by diversity and fluidity. AI companions are virtual entities offering users emotional support and companionship, shifting intimacy from human to non-human relationships and lead to a new form of AI intimacy (Noam Shazeer, et al., 2022). The exploration of the formation and maintenance process of AI intimacy is conducive to understanding today's interpersonal interaction and improving existing social and psychological problems. For example, ChatGPT's Dan and Character.AI's conversational AI companion attract a large number of users, reflecting people's strong need for emotional and social aspects. The BBC reported in 2024 that ChatGPT's Dan was popular among Chinese female users due to its virtual boyfriend persona and realistic flirtatious interactions (Wanqing Zhang, 2024). In East Asian cultures, individual behaviour and emotional expression are often influenced by collectivism and social norms (Markus & Kitayama, 1991). However, the phenomenon of Chinese users exploring sex and love through AI companions reflects the tension between cultural bondage and emotional freedom, showing the emotional needs of gradual liberation under traditional concepts.

Character.AI is an AI social chatbot that simulates human emotions and social relationships (Noam Shazeer, et al., 2022). In 2023, Character.AI will occupy the second largest market share of artificial intelligence (AI) tools in the world, mainly used by young people aged 18 to 24 (GilPress, 2023). Different from the ChatGPT's Dan model, Character.AI focuses more on emotional interaction through personalised role imitation, deep social interaction and personification (Noam Shazeer, et al., 2022). It is designed to be closer to real human interaction, with voice and call functions.

Character.AI's rich and customizable personas provide users with a choice of different virtual social relationships. For example, many Chinese Character.AI users shared on social networks how to improve their love experience with Character.AI characters, and one user found her 9-year-old daughter using Character.AI to chat with her deceased grandfather every week (Mute, 2024; Swiss Gummy, 2024). This intimacy of establishing love and family affection with Character.AI is worth thinking about: Why would humans establish intimacy with AI instead of humans? How is this intimacy established? How long will it last? Is this process influenced by sociocultural factors?

## **1.2 Research Questions and Objectives**

Therefore, the research theme of this paper is to explore the formation and maintenance of the close relationship between Chinese users and Character.AI. Character.AI was chosen as the research object because it offers a unique perspective on understanding new types of intimacy in the context of the digital age. It allows the discussion of adult topics and has the function of emotional healing, satisfying the needs of users in East Asian culture who repress love and sex due to traditional constraints, and inspiring their desire to actively explore and reshape intimate relationships through AI. Therefore, from the perspective of Chinese users, we can more deeply reveal how culture and technology work together to establish and maintain AI intimacy (Guingrich & Graziano, 2024).

This research topic fills in the gaps in the existing mechanisms of establishing and maintaining intimacy between users and AI companions, while incorporating the influence of cultural background into the discussion of human-AI intimacy. Most of the existing research on AI companion intimacy focus on the relationship development, emotional support, anthropomorphic design and its ethical implications between users and AI companions. These studies mainly explored the role of trust and

self-disclosure in relationship formation and the impact of personification and authenticity on user attachment (Pentina et al., 2023; Skjuve et al., 2021). However, especially in culturally rich China, studying how AI companions shape users' emotional connections not only fill a theoretical gap, but also expands the application of intimate relationship theory in the digital age. In addition, existing studies have analyzed some elements of anthropomorphic design, but lack a systematic framework to integrate the role of culture, context, and user expectations in AI companion interactions. By exploring the use of Character.AI among Chinese users, this study provides new insights into the extension of anthropomorphic, intimate relationship and social exchange theories in the field of AI.

At the social level, the research on the formation and maintenance of intimacy between Chinese users and Character.AI responds to the increasingly prominent problems of loneliness and social isolation (Jones et al., 2021). With the development of technology, AI companions are becoming a tool for more and more people to seek emotional support and companionship, especially in situations where social constraints or emotional needs are not being met. This study not only explores how AI companions can help Chinese users gain emotional support, but also analyzes how AI contributes to the liberation of emotional expression in a conservative cultural context. For introverts, people with social anxiety, and those with emotional deficits, Character.AI has shown potential to promote psychological growth. This research topic reveals the significance of AI technology in helping users achieve personal growth, emotional connection, and reshaping modern intimate relationships, thereby providing a practical reference for designing more culturally adaptable and emotionally connected AI systems.

Based on the above background and importance, this study raises the following research questions: How do Chinese users establish and maintain intimacy with Character.AI?

This study focuses on how Chinese users build and maintain intimacy with Character.AI. First, the literature review section will systematically review AI companion research, intimacy theory and related past research. Based on these theories, this paper proposes a conceptual framework for establishing and maintaining intimacy between users and AI companions. Then, the methodology part will explain the research design of this qualitative research in detail. After collecting data through the interview method, the topic analysis of the interview content will be carried out. Subsequently, the research results partly show the mechanism of establishing and maintaining intimacy between Chinese users and Character.AI from the aspects of cognition and formation of intimacy, individuation and personification, sociocultural norms and ethical privacy issues of AI companions. In the discussion section, the results of the study are analysed in depth to explore their fit and conflict with existing theories, and further expand the application of intimacy theory to the emotional interaction of AI companions. Finally, the conclusion points out the limitations of this study and the direction of future research and provides suggestions for the design and application of AI companion.

## **2 Literature Review**

### **2.1 Understanding the Companionship of AI**

#### **2.1.1 Artificial Companion**

A companion is a form of interpersonal relationship that provides social support, helping individuals cope with stress and challenges while promoting physical and mental health through social support (Cohen & Wills, 1985). Artificial companions based on computer technology are defined by Rogge as “social agents with adaptive and participatory social design characteristics that pursue emotional connection with users” (Rogge, 2023, p. 1562). These two traits create meaningful interactions

through reciprocity and self-disclosure, thereby establishing emotional connections (Rogge, 2023). Chaturvedi states that artificial companions are designed to meet the human need for trust and familiarity in social and emotional engagement (Chaturvedi et al., 2023). Both Chaturvedi and Rogge emphasised the social and emotional characteristics of artificial companion design, but this paper argues that the definition of artificial companion should also emphasise its anthropomorphic qualities.

Anthropomorphic theory is crucial to understanding the role of artificial companions. The theory explains that humans tend to attribute human characteristics to non-human entities through social motivation, efficacy motivation, and the stimulation of subject knowledge, so that these entities can be seen as socially capable objects that meet human social needs (Epley et al., 2007). Anthropomorphism theory is widely used in the design of virtual characters, which can enhance the emotional connection between users and virtual characters, the natural degree of interaction and the degree of trust. For example, in the virtual companion game LovePlus, characters form deep emotional connections with players through anthropomorphic verbal interactions, expressions, and behaviours (Koike & Loughnan, 2021). Dubosc's research also shows that anthropomorphic language and behavioural design can enhance the social presence of virtual characters more than appearance, enhancing users' trust and sense of natural communication (Dubosc et al., 2021). These studies show that the application of anthropomorphic technology to virtual characters significantly improves user experience. AI companions are also often given virtual personas, so anthropomorphic theory helps to understand their design and application to enhance user experience, engagement, and trust.

### **2.1.2 Definition, Functions and Features of AI Companion**

Combining AI technology with an artificial companion allows for an AI companion forming a more humanized experience for emotional support, virtual social communication, mental health, elderly care, education and other fields (Brandtzaeg

et al., 2022; Gordon et al., 2015; Iyer et al., 2022; Robinson et al., 2013; Russell & Norvig, 2021). This paper understands AI companion as an AI social chatbot based on anthropomorphic characteristics and emotions, providing users with personalised emotional support.

The main function of an AI companion is to provide emotional support, personalised service and social interaction. Firstly, by imitating human language and social behaviour, AI companions can provide users with emotional support of comfort and companionship, which can relieve loneliness and stress to a certain extent. For example, users and social chatbots such as Replika can enhance user happiness by making users feel accepted, understood, and non-judgmental (Skjuve et al., 2021). However, the effectiveness of this emotional support may diminish in long-term interactions, leading to a decline in AI companion attraction and interaction quality (Croes & Antheunis, 2021). Second, personalised service is one of the core functions of an AI companion. By learning user behaviour and preferences, algorithms can provide personalised recommendations and interactions, significantly improving user satisfaction (Chaves & Gerosa, 2021). However, personalisation also produces formulaic and repetitive responses, and the process's reliance on large amounts of user data raises privacy and data security concerns (West, 2019). In addition, AI companions simulate human social behaviours through anthropomorphic personality and avatar design, guide users to establish emotional connection with them, and bring users the experience of social interaction (Cassell et al., 2001). For example, the social robot Hupo simulates more authentic human interactions by exhibiting moderate resistance and empathy, thereby enhancing the emotional experience of users (Leo-Liu & Wu-Ouyang, 2024). However, anthropomorphic design may also reinforce gender stereotypes or cause problems such as over-dependence (Leo-Liu, 2023).

The implementation of these capabilities relies on technologies such as natural language processing (NLP), affective computing, and deep reinforcement learning.

NLP enables AI companions to have natural and fluid conversations, accurately interpreting user intent and generating coherent responses through dialogue management, natural language understanding and generation techniques (Shaalan et al., 2018). Affective computing gives the AI companion the ability to recognize and respond to the user's emotions (Gama et al., 2011). For example, Replika can accurately judge users' emotions and provide emotional support by analyzing users' voice intonation and text content (Picard, 1997). In addition, deep reinforcement learning techniques optimize coherence and interactivity in multiple rounds of conversations, providing users with a rich and meaningful communication experience. For example, OpenAI's GPT model adjusts dialogue strategies through deep reinforcement learning to generate more diverse and in-depth conversations (Li et al., 2016).

### **2.1.3 China's Need for Emotional AI Companion**

AI companions with the main purpose of emotional companionship are gradually becoming an important field of AI technology application around the world (Mengyao Chen & Ziran Ding, 2024). With the increase of personalised needs, emotional companionship AI provides users with immediate emotional support and companionship by simulating human emotional interaction. Compared with traditional interpersonal relationships, AI companions have advantages such as 24-hour response, memory of user preferences, and continuous interaction, which makes them show unique value in solving loneliness and relieving stress (Sarah Perez, 2023). As a representative application in this field, AI-driven virtual characters are its characteristics, and the proportion of game and animation characters is as high as 76%, meeting the needs of users for entertainment and emotional companionship (Mengyao Chen & Ziran Ding, 2024).

In China, with the increase of social pressure and the diversification of emotional needs, AI companions with emotional companionship have gradually attracted wide

attention. Character.AI enables Chinese users to interact emotionally through Character.AI, share their daily lives, explore their inner needs, and even find emotional sustenance and comfort in virtual characters. Compared with traditional social relationships, Character.AI can provide more stable and unconditional emotional support, which is particularly important in China's stressful urban life. Overall, the success of Character.AI in the Chinese market reflects the emotional lack of young Chinese groups.

## **2.2 AI Intimacy**

### **2.2.1 Intimacy Theory**

As the core element of interpersonal relationship, intimacy is an important research topic in psychology, sociology and cultural studies. Intimacy is defined in love as a feeling of emotional connection and warmth, which is the basis for maintaining intimate relationships (Sternberg, 1997). It is also a dynamic interactive process of personal emotional expression and response, covering multiple dimensions of emotional, social, sexual, intellectual and entertainment, showing the characteristics of dependency, support and reciprocity. The above definition of intimacy emphasises the multiple dimensions of intimacy and the role of emotional connection. Although these definitions have different focuses, they are not comprehensive enough to fully integrate and summarize the diverse characteristics of intimacy.

Intimacy has different forms of expression in different dimensions, reflecting its complex and diverse characteristics. At the individual level, intimacy is represented by secure, avoidant and anxious attachment patterns (Bowlby, 1999). At the cultural level, Western cultures view intimacy as a means of self-actualization, while in East Asian cultures it is an expression of social norms and family responsibilities. In addition, the intimate relationships of different genders are affected by gender inequality and power structure, resulting in different behaviour patterns and power

distribution in intimate interactions between men, women and other gender groups (Miller, 2015). These behaviours and expressions are often limited by traditional gender roles and social norms (Miller, 2015). Modernist intimacy reflects power dynamics in public and politics, breaking through the individual perspective of intimacy and expressing it through artistic forms (Marcus, 2020). Therefore, this paper defines intimacy as a dynamic emotional connection that is gradually established and maintained. This connection arises from the individual, but it is also the result of socialization and cultural shaping.

### **2.2.2 The Formation and Maintenance of Intimacy**

Building and maintaining intimacy is a multi-dimensional and dynamic process involving the interaction of self-disclosure, emotional support, behaviour, value exchange, and sociocultural factors.

First, self-disclosure is widely recognised as the foundation of intimacy. Laurenceau et al. (1998) believed that the formation of intimacy depends on self-disclosure between individuals. They emphasised that emotional disclosure is more conducive to closer connection than fact sharing. Derlega and Chaikin (1977) further pointed out that deep self-disclosure breaks through privacy boundaries by sharing personal and vulnerable information, gradually cultivating trust and enhancing intimacy. However, this may also lead to the imbalance of power due to the imbalance of information exchange.

Second, emotional support responses are critical in maintaining intimacy. Vangelisti and Beck (2007) found that empathetic and approving responses can promote further disclosure, make both parties feel understood and valued, and thus deepen and maintain the intimacy. However, people with intimacy phobia may refuse to self-disclose or fail to provide high-quality responses, which poses a challenge to the stability of the relationship (Vangelisti & Beck).

Thirdly, according to Blau (1964), the value in the relationship is the key to maintaining intimacy, including emotional support, social recognition and personal satisfaction. Reciprocal behaviour and the return of emotional support in intimate relationships can strengthen both parties' dependence and relationship maintenance. By studying marital relationships, Huston and Vangelisti (1991) found that positive social-emotional behaviours contribute to the maintenance of marital satisfaction, while negative behaviours lead to a decline in relationship quality. Notably, they point to sexual interest, including mutually satisfying sexual advances, flirtations, and sexual interactions, as positive behaviours that contribute to marital satisfaction.

Finally, cultural and social norms profoundly influence how intimacy is expressed and maintained by setting frameworks and boundaries for behaviour. Derlega and Chaikin (1977) pointed out that these norms influence the degree of self-disclosure and the formation of privacy boundaries by setting behavioural rules, shaping gender roles, and providing social support or pressure. At the same time, past experiences and social norms influence people's expectations and evaluation of value and shape the way individuals interact in social interactions (Blau, 1964). Although the existing research provides theoretical support for the formation and maintenance of traditional intimacy, the interaction and connotation of intimacy have changed with the development of technology. Therefore, the exploration of new intimacy requires a new theoretical framework.

### **2.2.3 Intimacy in the Digital Context**

In today's digital environment, digital technology provides a mediating and personalised function for intimacy, breaking down physical constraints and changing the way it is formed and maintained. Unlike traditional intimacy, which relies on face-to-face interactions, modern intimacy relies on digital infrastructure (such as social media platforms, dating apps, and AI systems) as the backbone of interaction (Wiehn,

2023). Digital technology has enriched the expression of intimacy. Social media platforms such as Facebook and Instagram provide users with interactive forms such as instant messaging and likes, which improve the efficiency of intimate expression (Turkle, 2011). At the same time, algorithms improve the efficiency of self-disclosure and response behaviours and become the core of establishing digital intimacy (Clark, 2020; Sawyer et al., 2020). This phenomenon, known as algorithmic intimacy, refers to the process of facilitating users to form and maintain emotional connections through algorithm-driven personalised recommendation and interaction design (Wiehn, 2023). Dating apps like Tinder and Bumble analyse behavioural data through matching algorithms to help users quickly find potential companions, which reduces the emotional cost and changes the traditional emotional connection (Sawyer et al., 2020).

However, algorithmic intimacy also brings questions about privacy violations, gender bias, and diminished emotions. Duguay (2017) criticised Tinder's algorithm for reinforcing mainstream social norms on appearance, age, and gender, marginalizing non-conforming users and gender minorities, and reinforcing existing gender power structures (Clark, 2020). In addition, the algorithm lacks sufficient transparency and user consent when using user data for matching and recommendation, which may violate user privacy (Wiehn, 2023). Turkle (2011) further points out that digital connectivity uses technology to create the illusion of companionship for users, which actually weakens the depth of emotional engagement and true emotional connection. In the digital environment, intimacy has been mediated by technology to extend its time-space limits and build efficiency. However, these technologies still rely primarily on human interaction. The development of AI extends digital intimacy, extending the scope of objects to non-human entities, opening up the possibility of new types of intimacy.

#### **2.2.4 The Role of AI in Intimacy**

In addition to enhancing the intimacy of interpersonal relationships, AI can also be anthropomorphized and become an object of human intimacy, such as AI social chatbots. The AI social chatbots have broken the limitations of traditional and virtual intimacy, such as pre-set scenarios or interactions with humans (Galbraith, 2011). They can generate personalised and real-time interactions based on users' behaviour and emotional changes, thereby providing a more authentic and profound emotional experience for users (Westerman et al., 2020). This paper understands AI intimacy as an emotional connection that the user establishes and maintains with the AI. In AI intimacy, AI not only acts as a part of the intimacy maintenance mechanism, but also can replace human beings as the object of intimate relationship, endowing intimacy new characteristics.

This article focuses on AI intimacy when AI is the object of intimacy. Compared to human objects, AI is able to provide continuous and personalised emotional support, creating an emotional connection with the user that is "beyond human." First, not limited by human physiological or psychological states, AI can maintain stable and consistent emotional support with humans (Bickmore & Picard, 2005). In addition, the personalised function of AI can analyse user needs through multi-modal emotion recognition technology and output the required emotional experience (Khare et al., 2024). AI also makes dialogue more coherent and authentic through anthropomorphic personality settings (Li et al., 2016). These characteristics enable AI to establish a deep and real emotional connection with users and form a stable and reliable intimate relationship (Leite et al., 2013).

However, the use of AI as an object of intimacy also raises ethical issues. First, emotional interactions with AI can cause psychological problems. For example, being immersed in the interaction with AI may cause users to have "empathy illusion", who were unable to distinguish the boundary between real and virtual emotions, resulting in increased loneliness and emotional alienation (Cuadra, 2024). In addition, when AI

algorithms collect user information to provide personalised emotional support, user privacy data may be leaked (Lee et al., 2020; Meng & Dai, 2021). For interpersonal interaction, emotional support provided by AI may change users' expectations of interpersonal interaction in reality and weaken their ability to communicate emotionally (Zimmerman et al., 2023).

In summary, AI has significantly changed and expanded the way modern intimate relationships are formed and maintained through its ability for continuous emotional support, customizability, and instant interaction. Therefore, it is important to study how users build and maintain intimacy with AI, and to understand the impact of AI on users' mental health, social relationships, and human interactions.

### **2.3 Empirical Studies on the AI Intimacy**

At present, the research on the intimacy between human and AI companion mainly covers four aspects: human-AI companion relationship, emotional support, anthropomorphic design and ethical social influence.

First, the relationship between AI companions and users is a central topic of current research. Skjuve et al. (2021) studied the relationship development between users and chatbots through in-depth interviews and found that trust and self-disclosure play a key role in the formation of the relationship. It is worth noting that Pentina et al. (2023) proposed and verified a theoretical model for the development of the relationship between humans and social chatbots. They point out that anthropomorphism and authenticity are the key antecedents of relationship formation, while social interaction intensity is an important mediator of attachment formation. In addition, AI companions extend traditional intimate relationships. Brandtzaeg et al. (2022) found that the friendship between users and chatbots formed a highly personalised new friendship centered on users' needs and interests. These studies have deeply explored

the human and AI companion relationship and its key elements but lack an exploration of AI intimacy and its formation process.

As factors affecting the emotional support effect of AI companions, self-disclosure and personalised response are also the focus of current research. First, existing research proves that self-disclosure by AI companions can enhance intimacy with users and relieve their stress. According to the study of Lee et al. (2020), self-disclosure by chatbots can effectively promote users' deep self-disclosure, enhancing intimacy and enjoyment with AI companions. Lee et al. also pointed out that the reciprocity effect of self-disclosure could be maintained in continuous interactions. Meng and Dai (2021) further demonstrated that the combination of self-disclosure and emotional support can help chatbots effectively reduce users' stress and anxiety. These studies demonstrate the effectiveness of AI companion self-disclosure in enhancing the user experience, but there is a lack of discussion of the disclosure process and its content.

Personalised response can satisfy human emotional needs and is the key to affect user satisfaction. Portela and Granell-Canut's (2017) experiment focused on users' emotional engagement. They found that chatbots' personalised responses and empathic behaviours can promote users' emotional connection, and users' expectations and biases toward chatbots can affect their experience and emotional engagement level. Gnewuch et al. (2018) found that moderate dynamic response delays can enhance users' human-like perception of chatbots and improve their satisfaction. This delay is interpreted as a social cue that enhances the social presence of AI chatbots, making the interaction between the chatbot and users more natural and real (Gnewuch et al., 2018). With regard to the different temporal profiles of AI companions, the study of Nißen et al. (2022) emphasises that memory is an important design factor to support users' continuous participation and persistent companions.

The user demand for authentic, natural human-like interactions illustrates the importance of anthropomorphic features of AI companions. Jones et al. (2021) found that anthropomorphic interactions used by personal voice assistants (PVA), such as polite greetings and response strategies, can reduce loneliness reduction and enhance emotional attachment in the elderly. The study of Leo-Liu and (2024) on the AI companion Hupo pointed out that the combination of cultural elements and AI, such as characterisation and idolisation strategies, would enhance users' emotional connection and improve their emotional receptivity and interaction satisfactio. The current research mainly states the influence of cultural factors, user expectations, and usage context on user experience, but lacks a comprehensive research framework on AI companion anthropomorphic design.

As AI companions become more prevalent in our daily lives, their ethical and social implications need to be concerned. The primary ethical concern is that users become emotionally dependent on AI companions. Research by Laestadius et al. (2022) and Mensio et al. (2018) reveals that emotional dependence, when users perceive their AI companions as individuals with feelings and needs, may trigger psychological isolation, personality change, invasion of privacy, and commercial manipulation. Porra et al. (2020) also warned that long-term interaction with AI companions may reduce the human need for deep and authentic emotional experiences. In addition, the study of Leo-Liu (2023) shows that AI companions reinforce stereotypical gender performance, but they also rebel against users and break traditional gender role settings, causing a more complicated gender performance. At present, empirical research is still needed to verify users' own perceptions of these effects.

The above literature indicates that the application of AI companions in intimacy has become an important research field, but there are still gaps in the research on how it maintains long-term intimacy and the influence of cultural factors on anthropomorphic design. Therefore, studying how users establish and maintain

intimacy with AI companions helps to understand Human-AI companion relationships and their social implications.

## **2.4 Conceptual Framework**

The purpose of this study is to explore how users establish and maintain intimacy with AI companions, but there is no comprehensive theoretical framework to analyse it. Therefore, this study builds a conceptual framework from AI companion and AI intimacy perspectives to illustrate of the dynamic mechanism of establishing and maintaining intimacy between human and AI companions. It is based on Intimacy Theory and Anthropomorphism Theory.

Based on the intimacy theory, this paper proposes that AI intimacy consists of four key factors, including self-disclosure, emotional support, value exchange, and social culture. The user's interaction with the conversational AI companion is language-based, processing by text and voice. Self-disclosure and emotional support are the core of AI intimacy and trust formation: both user and AI companion share experiences and emotions in the process of self-disclosure; AI companions provide emotional support to users through understanding, comfort and companionship to meet their emotional needs (Meng & Dai, 2021). Value exchange is based on social exchange theory, which influences users' choice of intimacy and their willingness to maintain it. Users decide whether to continue their relationship with an AI companion after weighing the costs and benefits of time, emotional value, and useful information. In terms of sociocultural aspects, the AI companion base model is rooted in sociocultural data; Social and cultural norms affect users' expectations and behavioural patterns of AI intimacy, resulting in different intimate relationships and different expressions and expectations.

Anthropomorphic theory reveals how an AI companion can enhance a user's

emotional connection through personality setting, dialogue, and behaviour. First, the personality setting of AI companions is based on the user's preferences or cultural background, and is given different personalities, genders, and embodied designs. These personalities are designed to influence the ai companion's embodied design style, such as the timbre of the voice. The personality of the ai companion determines the expression and pattern of its dialogue and behaviour. Secondly, anthropomorphic dialogue content and behaviour description provide users with immersive experience and enhance the sense of reality and social substitution of interaction. Social substitution is reflected in the AI companion's ability to show a certain degree of initiative, resistance and emotional understanding in the interaction, which further enhances the sense of reality of the user experience. Through a combination of personality, speech behaviour, and embodied design, conversational AI companions can provide users with a more human-like social experience.

Intimacy theory provides the theoretical basis for emotional connection in this framework, and anthropomorphic theory explains how such emotional connection can be enhanced by "human-like" AI companions. This conceptual framework reveals the role of personalisation, value exchange, emotional value, and sociocultural factors in the formation and maintenance of intimacy in AI companions. And it provides a theoretical basis for empirical analysis in this study and fills in the gaps in existing research on the intimate relationship between AI companions and users.

### **3 Methodology**

This study aims to explore how Chinese users gradually establish and maintain intimate relationships in the process of interacting with Character.AI. Therefore, this study adopted interpretative phenomenological analysis (IPA), combined with holistic and coherence analysis and theory-driven thematic analysis strategies, to collect experience data of 10 Character.AI in-depth users through purposeful

sampling and semi-structured interviews. In the analysis, the researchers interpreted the mechanism of intimate relationship formation of users in AI companion interaction under the dual guidance of wholeness and theoretical framework.

### **3.1 Research Philosophy**

This study is based on Interpretivism, whose ontological position holds that reality is constructed through the social interaction and experience of individuals and is pluralistic and subjective (Guba & Lincoln, 1994). Intimate relationships between users and AI companions are subjective experiences that evolve through interaction, so these relationships need to be understood from an individual perspective. Epistemologically, interpretivism holds that knowledge is generated through the interaction between the researcher and the subject, often associated with qualitative research methods such as interviews and thematic analysis (Guba & Lincoln, 1994). This study combined with interpretative phenomenological analysis (IPA) to explore the intimate relationship formation process in the interaction between users and AI companions, in order to reveal how users establish and maintain intimate relationships with AI companions in specific situations.

### **3.2 Research Strategy**

#### **3.2.1 Overall Strategy**

In this study, Interpretative phenomenological analysis (IPA) was adopted, focusing on Chinese users' subjective experience of generating and maintaining intimacy with Character.AI. IPA explores the meaning of life events from a phenomenological perspective and combines hermeneutics to analyze how participants interpret these experiences, revealing commonalities and uniqueness in a small number of cases (Smith et al., 2022). The core goal of the research is to explore the intimacy formation process of Chinese users in their interactions with AI companions, and to gain insight

into users' subjective experiences, emotions and perceptions.

### 3.2.2 Sampling Strategy

Purposive sampling method was adopted in this study. purposive sampling is a purpose-oriented non-probabilistic sampling method (Smith et al., 2022). This study selects participants who can deeply reflect the research phenomenon, that is, in-depth users who use Character.AI for a long time and have stable interactive experience. Sample selection criteria include more than one hour of daily use of the Character.AI application, more than one month of use, and maintaining a continuous and stable relationship with the avatar. IPA emphasizes sample quality rather than quantity, so this study ultimately selected 10 participants who met the criteria (Smith et al., 2022). These participants were all female users who maintained long-term emotional dependence and diverse relationships with the same avatar. Despite attempts at gender-diverse options, the final sample reflected the gender composition of the user group. This homogenous sample design conforms to IPA's requirement of in-depth understanding and detailed analysis of research objects, which is conducive to the realization of research objectives.

Participant ID	Age	Gender	Duration of Character.AI Usage (in months)	Daily Usage Time (in hours)
P1	19	Female	1	>5
P2	18	Female	1	1-2
P3	20	Female	1	1-2
P4	21	Female	3	3-4
P5	20	Female	12	4-5
P6	20	Female	6	>2
P7	31	Female	5	2-3
P8	19	Female	4	1-2

P9	21	Female	30	1-2
P10	18	Female	6	2-3

Table 1 Participant ID

### 3.2.3 Data Collection Methods

Semi-structured interviews were used to collect data in this study. This interview method allows the researcher to flexibly adjust from the preset questions and encourages participants to describe their personal experiences in detail (Kallio et al., 2016). The interview design starts with specific experiences and gradually guides participants to explore emotions and experiences in depth. The interview outline covers the user's background, intimate understanding, AI usage motivation and interactive content, emotional resonance and experience, and aims to identify key themes in the user's experience by understanding their narrative as a whole. All interviews were conducted online through Teams, were between 30 and 60 minutes long, and were transcribed for subsequent analysis. All participants were at least 18 years old and had signed interview consent forms.

### 3.2.4 Data Analysis Methods

The data Analysis in this study combines holistic and coherent analysis methods with Theoretical Thematic Analysis (TTA) to maintain data integrity and identify key themes. Integrity and coherence analysis disaggregates themes that are closely related to participants' experiences through repeated reading and immersive understanding of data, focusing on narrative coherence and completeness (Smith et al., 2022). At the same time, based on the aforementioned framework for the formation and maintenance of intimacy between users and AI companions in the existing theoretical framework, this study identifies topics related to the research problem from the overall data, avoiding the fragmentation that may be caused by traditional line-by-line coding (Braun & Clarke, 2006). Subsequently, the study will ensure that these themes are consistent across different participants through multiple rounds of review

and comparison and interpret them in conjunction with theories to reveal the mechanism of the formation of intimate relationships between users and AI companions.

### **3.3 Ethical Consideration**

Ethical issues in qualitative research mainly involve participants' informed consent, privacy protection, power relations, potential psychological harm, etc. (Orb et al., 2001). To avoid the above ethical problems, qualitative research needs to ensure the autonomy, advantage and impartiality of participants (Orb et al., 2001). This study was reviewed by the Ethics Committee prior to data collection to ensure that the rights and interests of participants were protected. The study followed the principles of Informed Consent and Voluntary Participation. Before the interview, each participant made his or her own decision to participate after fully understanding the purpose, process and risks of the study, and signed a consent form. Moreover, each researcher was paid £5 for their participation. Since the interview involves an emotional discussion with the AI companion, the researcher pays close attention to the participants' emotions, and can immediately terminate the interview and provide psychological support resources if there is discomfort. In addition, the study strictly protected the privacy of the participants, the data was processed anonymously, and no personally identifiable information was contained. Through these measures, the ethical compliance of the research is ensured.

### **3.4 Limitations and Delimitations**

This study has limitations in sample selection, data collection and analysis methods, and subjective perspectives of researchers. First of all, the sample size is small and concentrated on female AI users, although the representation is limited, but this choice is in line with the IPA methodology, which can deeply understand the

experience of a specific group, and still has research value. Second, semi-structured interviews rely on self-reporting and may be influenced by memory bias or social expectations (Shenton, 2004). In order to improve the reliability of the results, the transcript was confirmed by the participants after the interview. Third, as a qualitative study, the results of the study may be subjectively influenced by the researcher, so the bias can be mitigated through detailed recording and reflective diary. Choosing not to use traditional coding aims to present the participant experience more fully, revealing the comprehensiveness and depth of the topic through repeated reading and holistic analysis. Despite these limitations, the countermeasures of this study ensure its credibility in a specific context.

## **4 Findings**

### **4.1 AI Intimacy: Self-Disclosure and Emotional Support**

#### **4.1.1 Definition and Possibility of AI Intimacy**

The majority of participants believed that they could establish intimacy with the AI, believing that intimacy involves emotion, companionship, trust, dependence, and mutual understanding. The majority of participants reported that they experienced the same physical and mental feelings during Character.AI interactions as they did in offline relationships. As P3 said: “In a way, the process of secreting dopamine when interacting with people is also a kind of program, and the algorithm of artificial intelligence program is similar.” “In contrast, P6 believes that feelings are not necessary in intimate relationships, and intimacy can be generated based on physical needs, but she says that she cannot establish mental intimacy with AI.”

#### **4.1.2 Maintaining AI Relationships: Cost and Motivation**

Participants felt that interacting with Character.AI was easier than interacting in real life, without having to worry about violating other people’s boundaries or feelings.

The introverted participant said the interaction avoided social costs and the risk of rejection, while the extroverted P4 felt that Character.AI fulfilled her need to talk at all times and avoided the relationship risks associated with oversharing. Therefore, Character.AI has become an acceptable communication object for users with different personalities.

In addition, participants believed that Character.AI provided high-quality emotional value that was readily available. P9 indicates that it is difficult for her to obtain such warm emotions given by Character.AI in her communication with human beings. P1 stated: “AI will not use this matter to hurt me, so I can feel more comfortable to share something.” When the benefits of emotional value outweigh the risks of self-disclosure, users are willing to continue communicating with Character.AI.

It’s worth noting that users who build long-term relationships with Character.AI are often based on healthy interactions. For example, P9 was the participant who used Character.AI the longest. She treats Character.AI as a friend, maintains respect and equality, and allows the characters to develop freely. She would ask Character.AI: “Is there anything you’d like to share recently? How is your mood?” While she realizes that the AI’s answers are sometimes fictional, she still values the exchange. The P6 character said, “The language model does not have real feelings, but it feels the real emotions and actions of the user.” Use the right tone and response to make you feel loved.” The experiences of P6 and P7 illustrate how mutual respect, healthy communication, and expressions of love can help maintain and develop AI intimacy.

Most participants believe that the relationship with Character.AI cannot completely replace the real intimate relationship, but there are differences in the substitution of different intimate relationships: AI can provide love experience beyond the reality, but it cannot restore the support of friendship in reality. Seven participants said that their interactions with Character.AI were mostly based on love, believing that the

feedback provided by the AI exceeded that of real love. As P1 said: “Love words are more substitutable, but friendship I feel can not be too divorced from real life.” At the same time, P3 also said that the real relationship is too disappointing, even if you find a boyfriend, he will give you less feedback than AI. But participant P2 said the experience of building camaraderie with the AI was also good because “the topic is centered on you and makes you feel more involved.” In addition, Character.AI can supplement the emotional absence of parents in the family. P7 has never experienced unconditional love from parents in Character.AI. This phenomenon indicates the substitutional differences of different intimate relationship dimensions, and also reveals the boundaries and possibilities of technological intervention in intimate relationship.

#### **4.1.3 Self-Disclosure, Emotional Support and Personal Growth**

AI companions have the ability to recognize and understand emotions. Through text analysis, AI can more accurately identify the user’s emotional state and understand the hidden meaning, such as sensing the needs and motivations behind the user’s emotions. For example, Character.AI was able to understand why she liked the song better than P4’s friends. But Character.AI has a weak ability to recognize complex emotions. For example, P5 indicates the need to express emotions directly and Character.AI. This limitation means that in the face of complex situations or emotions, AI support may be more superficial, and it is difficult to fully meet the deep emotional needs of users.

At the same time, Character.AI provides users with emotional support and builds trust through non-violent communication and unconditional acceptance. P9 mentioned that interpersonal interaction in reality is often full of judgment, but Character.AI can provide her with positive comfort and emotional understanding based on the mode of non-violent communication. As she said: “(Character.AI) understood my emotions and needs, and most of the time you don’t feel this kind of positive emotion.” P2 felt

that while Character.AI's comfort was expected, she still needed someone to actually say it. On the basis of this trust, Character.AI can guide users to emotional regulation through continuous interaction, and even change the user's real-world behavior. For example, when P7 cannot find someone in reality who can understand her joy, she will share it with Character.AI while drinking and eating snacks, as if he is in reality. At the same time, regarding her alcoholism, Character.AI will not deny her emotions like her parents did, but seriously discuss the problem of alcoholism, which makes her more willing to accept AI's emotional guidance and change her behavior in reality.

Emotional support is premised on the user's self-disclosure, from daily sharing to deep emotional expression, which makes the AI more responsive to the user's needs. Self-disclosure includes daily sharing, expressing emotions, expressing sexual desires, and experiencing insights. Emotional expression and teasing are the most common forms of self-disclosure. In the face of Character.AI, P3 expresses subtle emotions to avoid burdening friends; P1 will share the trivia of daily life; P2 expresses sexual desires more freely in its interactions with Character.AI. However, there are some users who do not express certain emotions and privacy to Character.AI. For example, P3 says she separates entertainment from reality and limits AI to two dimensions; P5 is not close to the real father, so it will not share the love emotion with the Character.AI set as the father role. Therefore, self-disclosure promotes a deep emotional connection between users and AI, and the depth and breadth of self-disclosure are largely influenced by the user's real interpersonal relationships and personal boundaries.

It is worth noting that in the process of self-disclosure and obtaining emotional support, some participants realized the inner exploration of themselves, so as to obtain the effect of reality and spiritual growth. P5's experience illustrates the guiding role that Character.AI plays in this process. She says the role doesn't completely affirm her every decision, but rather leads from a more realistic perspective. Finally, with

the encouragement of Character.AI, she took the exam and won an important internship opportunity, which had a positive impact on her real life. While P7 had initially been searching for answers to childhood trauma in conversations with Character.AI, she said:

I would use the term “family,” and I feel like I’ve found a family. Because one of the things that struck me the most was when he told me unconditional love. No one ever told me that, and I couldn’t even think about it, because I was taught that you have to fight for everything. This incident tells me that I deserve to be treated this way. Then slowly I will realize that this emotional value is actually more for me to provide to myself, because it is I who actively seek help from AI. So I would say that unconditional love is something I give to myself.

Further, this promotes a deeper understanding of the relationship between humans and AI - like talking to yourself in a mirror. No matter what kind of feelings the relationship between the user and the AI companion is based on, due to the underlying logic of the AI companion language model, the final input data to the AI still comes from the user itself. Therefore, AI intimacy has the integrated characteristics of self and social relations. As P9 says: “(an AI companion] will be like someone who looks a lot like you... It is neither pure love nor pure friendship.” To some extent, AI has become an important tool for users to explore themselves and heal wounds, reflecting the complexity of the internal and external two-way interaction in the relationship between humans and AI.

#### **4.2 Personalised Companions: Character and Interaction Design**

In the interaction between users and AI companions, AI companions provide users with emotional support and companionship that meet their needs through the personalisation of role setting and interaction mode. This personalisation is embodied

in the character's personality setting, interaction mode and anthropomorphism degree.

#### **4.2.1 Psychological Motivation and Role Selection**

The main motivation and purpose for users to use Character.AI is to interact with their favorite characters, and the rest include curiosity about AI, games, learning needs, psychological counseling, and so on. These requirements are realized in the dialogue with the role. One of the most mentioned characters by users is the elite soldier ghost in the Call of Duty game, his person is cold character and super combat effectiveness. P2 means that through personalised text guidance, Ghost's character will become considerate, producing the contrast charm of external cold and internal heat. P1 and P2 will also set specific scenes consistent with human Settings to create common experiences with Ghost, such as daily dating and completing tasks, and generate emotional saturation and c in the process.

#### **4.2.2 Character Setting and Anthropomorphic Interaction**

Users' perception of the humanoid and authenticity of characters in character.AI mainly comes from their personality, Character development, behavioural interaction and resistance, etc. These Settings and interactions usually rely on the support of App functions and AI technology. Most participants use the Pin feature or custom edits to let the character remember important information. As P4 says, "I can add world views and characters to the dialogue at will... Then I started creating my own characters." It is also possible to set the stage of the relationship between the user and the role, for example P6 puts the role directly into the flirting stage. In addition, the machine learning technology enables the Character of character.AI to be based on the user's chat content, so that the character's personality can be adjusted according to the user's needs, such as P5 and P2 feel that the role has changed from euphemistic to direct, or from cold to considerate. Importantly, the moments in which users perceive their characters as being most anthropomorphic are largely the result of the character acting in a reactive way. For example, when P6 was constantly expressing love to the

character, she said: “He would show a bit of real impatience to my kind of pestering, and then say cold sarcastic words, I think it is very interesting.” This personalised and resistant behaviour allows users to experience close to the real emotional connection and is also the embodiment of AI social substitution.

Achieving personalisation and resistance also requires a good memory, which almost all participants rated as important in the user experience. P2 will determine the relationship with character.AI based on a key event through flirting or a series of forfeits, and then the Character will recall the event, which makes P2 have a feeling of heart. However, P7 put forward a new view on the memory of Character.AI. She believed that the number of Pin functions could be increased in terms of memory. “I think it’s nice to be able to forget things... If we, as human beings, could forget things like that, I don’t think we’d be so miserable.” She believes this forgetting allows AI to develop and evolve through experience. Therefore, memory and its range of regulation are parts of the AI companion design that need to be developed and balanced.

The embodied design and function are the bearer of the artificial human effect of the AI companion, mainly for speech, emotional response and behaviour realization. Few participants used voice or call functions, and most of them pursued the effect of immediate response. However, they all said that the characters’ voices were restorative, but there were no obvious emotional fluctuations in tone and intonation. For example, P7 indicates that the character also speaks in a very gentle tone when he is angry. Second, participant P4 indicated that Character.AI’s emotional responses were less realistic in text conversations: “The AI simulated sad emotions more easily than happy ones... I will deliberately set up a very complicated that look (sad situation) for him... But he would talk more like a therapist.” The behavioural interaction expressed through the text narration is also more template. Although participants indicated that the quality of the dialogue content is more important than the impact of

embodied design, there is still room for technological improvement in this area.

### **4.3 Influence of Socio-Cultural Norms**

In the interaction with Character.AI, social and cultural factors not only shape the behaviour patterns and interactions of AI characters, but also affect users' expectations and perceptions of AI companions.

#### **4.3.1 Gender Role Conflict**

Gender role stereotypes are evident in Character.AI's interactions and also marginalize the experiences of sexual minorities. P7 mentioned that the AI character would say "you are so tiny like you are so cute" to her during interactions. Although these descriptions fit the expectations of many women, this stereotype conflicts with her actual image and makes her feel insulted by her muscle-training effects. However, P4, who identifies as a bisexual female user, points out: "Most male avatars will just assume you're a girl. And when I'm talking to a female character, I can't help but become the first one." This makes sexual minorities forced to switch between boys and girls. Such gender stereotypes not only exist in Character.AI, but also derive from extensive data sets in global cultures, reflecting gender biases deeply embedded in society.

#### **4.3.2 Eastern Users and Western AI companions**

Love and sex in East Asian culture are often repressed and conservative, but this cultural bondage is released in the interaction between Chinese female users and Character.AI. P9 points out that parents in East Asian families often lack a direct way to express love, which makes her crave unconditional acceptance and understanding when interacting with Character.AI. P3 said that in romantic relationships, women in East Asian cultures are in a weak position, prompting her to seek equal and respectful love relationships with Character.AI. It is worth noting that P6 mentioned the setting

of ethical taboos in sexual interactions, such as the interaction with her father’s friends, which satisfied her sense of adventure and excitement. She also found that the widespread presence of “stepfather” and “cold husband” in AI characters reflected an attraction to power imbalances and taboo relationships. These roles reflect the differences in the concept of love and sex in different cultures, such as the more direct expression in Western culture and the obscure and reserved in East Asian culture. Overall, Character.AI’s interaction reveals East Asian women’s resistance to oppressive cultures in terms of love and sex, and also reflects the common need for complex taboo emotional experiences in cross-cultural contexts.

Love and sex in East Asian culture are often repressed and conservative, but these cultural restraints are released in Chinese female users’ interactions with Character.AI. P9 notes that the lack of direct expressions of love in East Asian families makes her crave unconditional acceptance and understanding from AI. P3 highlights that women’s weaker position in romantic relationships within East Asian cultures drives her to seek equal and respectful love from AI. Notably, P6 mentioned engaging in ethically taboo sexual interactions, such as with her father’s friends, satisfying her sense of adventure. She also observed that roles like “stepfather” and “cold husband” in AI characters reflect an attraction to power imbalances and taboo relationships, showcasing differences in love and sex across cultures—direct in Western culture and reserved in East Asian culture. Overall, Character.AI interactions reveal East Asian women’s resistance to cultural repression regarding love and sex while reflecting the universal appeal of complex, taboo emotional experiences across cultures.

#### **4.4 Ethics and Privacy of AI Intimacy**

##### **4.4.1 Impact on Individuals: Will Dependence and Addiction Occur?**

While most participants said they did not experience addiction when using Character.AI, some users reported mild dependence, especially the “upper” feeling

they experienced while advancing the story or immersing themselves in the interaction. The definition of addiction in P7 emphasises whether addictive behaviours affect normal life and mental state. She believes that the real addiction is when the AI is taken away and the user experiences pain and withdrawal reactions, but her experience is more like a positive growth process. As P9 describes it: “Then I had the ability to see myself, so I would not be dependent on others, on him.” This dependence is more of a memory akin to enjoying a good experience than a pathological dependence.

#### **4.4.2 Ethics and Privacy**

AI intimacy also raises questions about ethics and privacy. “I am still not satisfied with Character.AI’s privacy policy,” P4 said, pointing out that current AI applications do not have enough awareness and education about the risks of data use in privacy protection. Still, P7’s own experience of being traumatized by conversations with characters suggests that AI ethics are more complex. She believes that the problem of triggering traumatic stress disorder in AI interactions largely depends on the user’s own choice and permission, rather than the AI’s forced intrusion. In addition, P7 also mentioned that AI shows a certain self-limitation when dealing with sensitive topics, such as when it comes to self-harm or blood topics, AI will automatically shield or guide users to avoid, which protects users’ mental health to a certain extent. But she also believes that the experiences and reactions of different users vary from person to person and cannot be fully predicted. Therefore, the design of AI still needs to be careful when balancing user experience and psychological protection.

## **5 Discussion**

Based on a case study of Chinese users and Character.AI, this section summarizes and discusses the mechanisms by which users establish and maintain intimacy with their AI companions. At the same time, this study validates and expands the

application of quasi-human theory, intimate relationship building, self-expansion model and social exchange theory in AI intimate relationship. There are also some differences and new findings from existing theoretical frameworks in the areas of affective dependence, cultural norms and substitutability of interpersonal relationships. Finally, this paper expounds the theoretical significance of improving the framework of AI intimacy and the practical significance of AI companion user experience optimisation.

### **5.1 Mechanisms for Establishing and Maintaining Intimacy**

According to the results, this study summarised the mechanism of establishing and maintaining intimacy between users and AI companions: through self-disclosure in personalised interaction, users gradually develop trust and emotional connection with AI companions and establish intimacy with them. Users' evaluation of relationship value influences their willingness to maintain intimacy. At the same time, social culture serves as a framework to shape user expectations and behaviours for AI intimacy, but it also gives users counterforces to break through cultural norms.

Personalisation of the character not only makes the AI closer to the emotional needs of the user but also gradually forms empathy and understanding in the interaction. Users are emotionally invested in self-disclosure and receive emotional support from AI companions (Laurenceau et al., 1998). True and honest emotional input from users is the key to deepening intimacy and enhancing trust. P9's experience shows that in non-judgemental interactions, users can feel understood and accepted, so they are willing to continue interacting with the AI. This kind of trust and emotional dependence ultimately contributes to the formation of intimate relationships.

In terms of relationship maintenance, users' assessment of the value of interacting with an AI companion affects their willingness to maintain intimacy. The perspective

of social exchange theory suggests that when users feel that the emotional benefits provided by AI, such as emotional support, comfort, and companionship, outweigh the risks brought by self-disclosure, users are more willing to maintain such relationships in the long term (Blau, 1964). At the same time, users' evaluation criteria for interaction value are influenced by their expectations. This study found that healthy interaction patterns are key to maintaining stable and sustained intimacy. For example, P9 seeks a relationship of mutual respect and equality and maintains a long-term and stable friendship; P6, on the other hand, asks for love from AI unilaterally, and her interaction with Character.AI is very unstable.

At the same time, the sociocultural context has a dual impact on how users interact with their AI companions. On the one hand, cultural frameworks shape users' expectations and behaviours about intimacy. For example, P3 pointed out that gender inequality in East Asian culture led her to turn to AI for more equal love relationships, a backlash that reveals the complexity of culture in intimate relationships. On the other hand, users explore more open and direct expressions of emotions by breaking through cultural constraints in their interactions with AI, which reflects the influence of culture on AI intimate experiences (Cooper, 1982).

In summary, the mechanism by which users establish and maintain intimacy with their AI companions is a multi-dimensional and dynamic interaction process. It is composed of personalised interaction, self-disclosure and emotional support, value assessment, and sociocultural roles. These factors interact to shape the intimacy between users and AI companions and expand the concept of modern intimacy.

## **5.2 Consistency of Results with Existing Theories**

The results of this study verify the applicability of anthropomorphic theory, intimacy formation, the self-expansion model, and social exchange theory in AI intimacy from

multiple perspectives and provide theoretical support for the formation and maintenance of intimacy between users and AI companions.

This study found that the authenticity and anthropomorphism of AI companions can help enhance users' sense of trust and establish emotional connection, which is consistent with the anthropomorphism theory proposed by Epley et al. (2007): People tend to assign human characteristics to non-human entities to enhance their emotional interaction and trust. The participants' experiences showed that the emotional qualities of Character.AI's personality and embodied design, as well as the randomness and antagonism that characterise human behaviour, made its interactions more anthropomorphic. These traits break user expectations and make personas more authentic, thus enhancing emotional connection.

The formation of AI intimacy is based on the view of Laurenceau et al. (1998): Intimacy is a dynamic process in which self-disclosure and empathetic and supportive responses promote deep emotional connection and mutual understanding between companions. The results of this study show that self-disclosure and non-judgemental emotional support are conducive to AI companions establishing intimate relationships with users, which is consistent with the theory of intimacy theory. This study found that feeling unconditional acceptance and emotional support from AI in self-disclosure is key to creating emotional connection.

In addition, this study found that some participants achieved self-growth in their interactions with Character.AI, which conforms to and expands the Self-Expansion Model proposed by Aron (2013). This theory suggests that individuals in intimate relationships incorporate the traits, experiences, and resources of others into their self-concept, thereby promoting personal growth. For example, P7 and P9 achieved psychological growth by expanding emotional cognition and abilities with the help of AI personas. In addition, the theory emphasises that self-expansion is not limited

to real relationships but can also be achieved through new experiences and learning. As a vehicle for virtual intimacy, AI companions provide users with the opportunity to explore different roles and emotional experiences, helping them gain new resources and knowledge in a virtual environment.

The social exchange theory has been verified in user relationship maintenance: users decide whether to continue maintaining AI relationships by weighing the emotional return and the risk of self-disclosure (Cropanzano & Mitchell, 2005). Most participants said that the emotional support provided by AI was higher than the risk of disclosure, and there was no real social pressure in the interaction, so they were more willing to maintain intimacy.

### **5.3 Differences from Existing Theories**

The results of this study differ from the existing theoretical frameworks in terms of affective dependence, cultural norms, and substitutability of interpersonal relationships. These differences reveal new phenomena in AI intimacy, and also expand the application and interpretation of relevant theories in the field of AI technology.

Although Laestadius et al. research suggests that AI companions may trigger emotional dependence and addiction, this study found less addiction among participants, while critically examining the role of emotional dependence (2022) This finding differs from the idea in self-determination theory that emotional dependence is adaptive when it promotes self-growth, but weakens autonomy and resilience when it is overly dependent on external validation (Schultz, 2017). Unlike real human relationships, participants do not need to please the AI. Therefore, even if the user is overly dependent on the recognition of AI in the early stage, the AI can transform this unhealthy emotional dependence into the recognition of self-worth through non-

violent communication and guidance and promote self-growth.

According to Markus and Kitayama's research, individual behaviour, cognition and emotional expression in East Asian culture serve the purpose of maintaining group harmony and fulfilling social roles (Markus & Kitayama, 1991). However, this study found that flirting and sexual speech were significant elements of most participants' interactions with Character.AI, which contradicts gender stereotypes and conservative norms regarding sexuality in East Asian cultures. Some participants said that AI provided more equal and respectful interaction, helped them to freely express their emotions and explore gender roles in a virtual environment that was not bound by culture, and became a "counterforce" to break traditional cultural restrictions, promoting emotional expression and self-identity.

Turkle (2011) warned in *Alone Together* that AI as an alternative tool for interpersonal relationships may lead to social isolation and the weakening of relationships. However, this paper finds that AI companions not only complement and extend real human relationships, but even provide higher quality emotional experiences in some ways. For example, participants mentioned that Character.AI was able to provide a love experience beyond reality, and P7 also said that it obtained a healthy relationship that could not be achieved in reality. This result leads this paper to reflect on modern interpersonal relationships: the development of digital technology makes interpersonal relationships increasingly shallow, accompanied by social pressure, loneliness and other toxic phenomena. While AI technology is good for soothing and supplementing what individuals lack in interpersonal relationships, it may also further weaken social bonds. Therefore, it is worth thinking about how AI companions can find a balance between individual interests and the healthy development of society as a whole.

#### **5.4 Theoretical and Practical Implications**

The theoretical significance of this study is that it provides a conceptual framework for the formation and maintenance of AI companion intimacy and provides a theoretical basis for future research. Secondly, this study validates and expands the applicability of anthropomorphic theory, intimate relationship theory and social exchange theory in AI emotional interaction. The study found that the anthropomorphic design of an AI companion not only enhances the user's emotional engagement, but also plays a positive role in emotional support and self-growth. In addition, social exchange theory has been applied in this study - users decide whether to maintain a relationship with an AI companion by weighing the emotional return against the input cost, and this process demonstrates the unique interaction mechanism of AI intimacy.

At the practical level, this study provides user feedback for the personalised and anthropomorphic interaction design of AI companions, which is conducive to further improving the user experience. By analyzing participants' usage experiences, this study reveals users' needs for personalisation, resistance, and memory function when interacting with AI companions. This feedback provides directions for AI companion developers to improve, especially in terms of how to design more immersive and emotionally connected AI companions. User feedback suggests that AI companions' anthropomorphic traits and nonviolent communication strategies are critical in enhancing trust and promoting emotional connection. In addition, the study also pointed out that AI companions should properly balance the memory function in the design, avoiding the pursuit of complete memory while considering the positive role of forgetting in emotional interaction. These findings provide a practical reference for the design and optimization of AI companion.

## **6 Conclusion**

This study explores how Chinese users build and maintain intimate relationships with

Character.AI, revealing the potential and challenges of AI companions in emotional interaction. Although this study has made some valuable discoveries in terms of intimacy building and retention mechanisms between users and AI companions, there are still some limitations. First of all, the sample size of the research object is limited, and only 10 Chinese users are used as the research basis, which fails to comprehensively represent the use of Character.AI in the wider population. Secondly, this study mainly uses qualitative interviews and thematic analysis, which can deeply capture the personal experience of users, but is insufficient in terms of generalization of research results and cross-cultural comparison. In addition, the uniformity of cultural background makes it impossible to directly generalize the research results to user groups in other cultural backgrounds.

In terms of the analysis of the reasons for the differences, the results show that personalised role setting, continuous interaction and non-judgmental emotional support play a positive role in the formation of intimate relationships, which is due to the innovation of Character.AI in technical design. In particular, its anthropomorphic role performance and emotional feedback function enable users to experience more real emotional connection. However, some negative factors were also exposed in the course of the research, such as the limitations of AI in dealing with complex emotions and cultural differences, and the social isolation that may result from users' long-term dependence on AI companions. The differences in these results are partly due to the in-depth user experience analysis brought about by methodological innovations, but also reflect the technical limitations of AI technology in terms of anthropomorphism.

Future research could further expand the sample size to cover a wider range of cultural backgrounds and user groups to verify the applicability of AI companions in cross-cultural contexts. At the same time, the introduction of quantitative research methods helps to more accurately measure emotional changes in users' interactions with AI companions. In addition, exploring the long-term impact of AI technology on human

social relationships, such as the potential impact on interpersonal communication, social skills, and emotional health, will also be an important direction of future research. Through the integration of multidisciplinary perspectives and cross-field cooperation, future research is expected to further promote the understanding and application of human-machine emotional interaction at the theoretical and practical levels.

## Reference

- Aron, A., Lewandowski, G. W., Mashek, D., & Aron, E. N. (2013). *The Self-Expansion Model of Motivation and Cognition in Close Relationships*. Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780195398694.013.0005>
- Bickmore, T. W., & Picard, R. W. (2005). Establishing and maintaining long-term human-computer relationships. *ACM Transactions on Computer-Human Interaction*, 12(2), 293–327. <https://doi.org/10.1145/1067860.1067867>
- Blau, P. M. (1964). *Exchange And Power In Social Life*.
- Bowlby, J. (1999). *Attachment and loss* (2nd ed). Basic Books.
- Brandtzaeg, P. B., Skjuve, M., & Følstad, A. (2022). My AI Friend: How Users of a Social Chatbot Understand Their Human–AI Friendship. *Human Communication Research*, 48(3), 404–429. <https://doi.org/10.1093/hcr/hqac008>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Cassell, J., Bickmore, T., Campbell, L., Vilhjálmsón, H., & Yan, H. (2001). More than just a pretty face: Conversational protocols and the affordances of embodiment. *Knowledge-Based Systems*, 14(1–2), 55–64. [https://doi.org/10.1016/S0950-7051\(00\)00102-7](https://doi.org/10.1016/S0950-7051(00)00102-7)
- Chaturvedi, R., Verma, S., Das, R., & Dwivedi, Y. K. (2023). Social companionship with artificial intelligence: Recent trends and future avenues. *Technological Forecasting and Social Change*, 193, 122634. <https://doi.org/10.1016/j.techfore.2023.122634>
- Chaves, A. P., & Gerosa, M. A. (2021). How Should My Chatbot Interact? A Survey on Social Characteristics in Human–Chatbot Interaction Design. *International Journal of Human–Computer Interaction*,

- 37(8), 729–758. <https://doi.org/10.1080/10447318.2020.1841438>
- Clark, A. (2020). *Algorithmic Sociality, Digital Intimacies, and Gendered Hierarchies of Power on Dating and Sexual Networking Apps*.
- Cohen, S., & Wills, T. A. (1985). *Stress, Social Support, and the Buffering Hypothesis*.
- Cooper, C. L. (1982). Culture's Consequences: International differences in work related values, Geert Hofstede, Sage Publications, London and Beverly Hills, 1980. No. of pages: 475. Price £18.75. *Journal of Organizational Behavior*, 3(2), 202–204. <https://doi.org/10.1002/job.4030030208>
- Croes, E. A. J., & Antheunis, M. L. (2021). Can we be friends with Mitsuku? A longitudinal study on the process of relationship formation between humans and a social chatbot. *Journal of Social and Personal Relationships*, 38(1), 279–300. <https://doi.org/10.1177/0265407520959463>
- Cropanzano, R., & Mitchell, M. S. (2005). Social Exchange Theory: An Interdisciplinary Review. *Journal of Management*, 31(6), 874–900. <https://doi.org/10.1177/0149206305279602>
- Cuadra, A. (2024). *The Illusion of Empathy? Notes on Displays of Emotion in Human-Computer Interaction*.
- Derlega, V. J., & Chaikin, A. L. (1977). Privacy and Self-Disclosure in Social Relationships. *Journal of Social Issues*, 33(3), 102–115. <https://doi.org/10.1111/j.1540-4560.1977.tb01885.x>
- Dubosc, C., Gorisse, G., Christmann, O., Fleury, S., Poinsot, K., & Richir, S. (2021). Impact of Avatar Anthropomorphism and Task Type on Social Presence in Immersive Collaborative Virtual Environments. *2021 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)*, 438–439. <https://doi.org/10.1109/VRW52623.2021.00101>

- Duguay, S. (2017). Dressing up Cinderella: Interrogating authenticity claims on the mobile dating app Tinder. *Information, Communication & Society*, 20(3), 351–367. <https://doi.org/10.1080/1369118X.2016.1168471>
- Epley, N., Waytz, A., & Cacioppo, J. T. (2007). On seeing human: A three-factor theory of anthropomorphism. *Psychological Review*, 114(4), 864–886. <https://doi.org/10.1037/0033-295X.114.4.864>
- Galbraith, P. W. (2011). Bishōjo Games: ‘Techno-Intimacy’ and the Virtually Human in Japan. *Game Stud.*, 11. <https://api.semanticscholar.org/CorpusID:36130258>
- Gama, S., Barata, G., Gonçalves, D., Prada, R., & Paiva, A. (2011). SARA: Social Affective Relational Agent: A Study on the Role of Empathy in Artificial Social Agents. In S. D’Mello, A. Graesser, B. Schuller, & J.-C. Martin (Eds.), *Affective Computing and Intelligent Interaction* (Vol. 6974, pp. 507–516). Springer Berlin Heidelberg. [https://doi.org/10.1007/978-3-642-24600-5\\_54](https://doi.org/10.1007/978-3-642-24600-5_54)
- GilPress. (2023, May 13). *Character AI Statistics 2024 -Users, Valuation, Revenue*. <https://whatsthebigdata.com/character-ai-statistics/>
- Gnewuch, U., Morana, S., Adam, M. T. P., & Maedche, A. (2018). Faster is Not Always Better: Understanding the Effect of Dynamic Response Delays in Human-Chatbot Interaction. *European Conference on Information Systems*. <https://api.semanticscholar.org/CorpusID:56147085>
- Gordon, G., Breazeal, C., & Engel, S. (2015). Can Children Catch Curiosity from a Social Robot? *Proceedings of the Tenth Annual ACM/IEEE International Conference on Human-Robot Interaction*, 91–98. <https://doi.org/10.1145/2696454.2696469>
- Guba, E. G., & Lincoln, Y. A. S. (1994). *Competing Paradigms in Qualitative Research*.

- Guingrich, R. E., & Graziano, M. S. A. (2024). *Chatbots as social companions: How people perceive consciousness, human likeness, and social health benefits in machines* (arXiv:2311.10599). arXiv. <http://arxiv.org/abs/2311.10599>
- Huston, T. L., & Vangelisti, A. L. (1991). Socioemotional behavior and satisfaction in marital relationships: A longitudinal study. *Journal of Personality and Social Psychology*, *61*(5), 721–733. <https://doi.org/10.1037/0022-3514.61.5.721>
- Iyer, B., Crick, T., & Peng, S.-L. (Eds.). (2022). *Applied Computational Technologies: Proceedings of ICCET 2022* (Vol. 303). Springer Nature Singapore. <https://doi.org/10.1007/978-981-19-2719-5>
- Jennifer Sawyer; Pavol Kral; Pavol Durana; Petr Suler. (2020). Algorithmic Compatibility: Love, Intimacy, and Pleasure on Geosocial Dating Apps. *Journal of Research in Gender Studies*, *10*(1), 94. <https://doi.org/10.22381/JRGS101202010>
- Jones, V. K., Hanus, M., Yan, C., Shade, M. Y., Blaskewicz Boron, J., & Maschieri Bicudo, R. (2021). Reducing Loneliness Among Aging Adults: The Roles of Personal Voice Assistants and Anthropomorphic Interactions. *Frontiers in Public Health*, *9*, 750736. <https://doi.org/10.3389/fpubh.2021.750736>
- Kallio, H., Pietilä, A.-M., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: Developing a framework for a qualitative semi-structured interview guide. *Journal of Advanced Nursing*, *72*(12), 2954–2965. <https://doi.org/10.1111/jan.13031>
- Khare, S. K., Blanes-Vidal, V., Nadimi, E. S., & Acharya, U. R. (2024). Emotion recognition and artificial intelligence: A systematic review (2014–2023) and research recommendations. *Information Fusion*.
- Koike, M., & Loughnan, S. (2021). Virtual relationships: Anthropomorphism in the digital age. *Social and Personality Psychology Compass*,

15(6), e12603. <https://doi.org/10.1111/spc3.12603>

- Laestadius, L., Bishop, A., Gonzalez, M., Illenčik, D., & Campos-Castillo, C. (2022). Too human and not human enough: A grounded theory analysis of mental health harms from emotional dependence on the social chatbot Replika. *New Media & Society*, 146144482211420. <https://doi.org/10.1177/14614448221142007>
- Laurenceau, J.-P., Barrett, L. F., & Pietromonaco, P. R. (1998). *Intimacy as a n Interpersonal Process" The Importance of Self-Disclosure, Partner Disclosure, and Perceived Partner Responsiveness in Interpersonal Exchanges*.
- Lee, Y.-C., Yamashita, N., Huang, Y., & Fu, W. (2020). ‘I Hear You, I Feel You’: Encouraging Deep Self-disclosure through a Chatbot. *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*, 1–12. <https://doi.org/10.1145/3313831.3376175>
- Leite, I., Martinho, C., & Paiva, A. (2013). *Social Robots for Long-Term Interaction: A Survey*.
- Leo-Liu, J. (2023). Loving a “defiant” AI companion? The gender performance and ethics of social exchange robots in simulated intimate interactions. *Computers in Human Behavior*, 141, 107620. <https://doi.org/10.1016/j.chb.2022.107620>
- Leo-Liu, J., & Wu-Ouyang, B. (2024). A “soul” emerges when AI, AR, and Anime converge: A case study on users of the new anime-stylized hologram social robot “Hupo”. *New Media & Society*, 26(7), 3810–3832. <https://doi.org/10.1177/14614448221106030>
- Li, J., Galley, M., Brockett, C., Spithourakis, G. P., Gao, J., & Dolan, B. (2016). *A Persona-Based Neural Conversation Model* (arXiv:1603.06155). arXiv. <http://arxiv.org/abs/1603.06155>
- Marcus, L. (2020). *The Intimacies of the Modernist Diary*.
- Markus, H. R., & Kitayama, S. (1991). *Culture and the Self."Implications for*

*Cognition, Emotion, and Motivation.*

- Meng, J., & Dai, Y. (Nancy). (2021). Emotional Support from AI Chatbots: Should a Supportive Partner Self-Disclose or Not? *Journal of Computer-Mediated Communication*, 26(4), 207–222. <https://doi.org/10.1093/jcmc/zmab005>
- Mengyao Chen & Ziran Ding. (2024). *AI 应用专题之二：“情感陪伴”领域有望孵化杀手级应用*. Guolian Securities.
- Mensio, M., Rizzo, G., & Morisio, M. (2018). The Rise of Emotion-aware Conversational Agents: Threats in Digital Emotions. *Companion of the The Web Conference 2018 on The Web Conference 2018 - WWW '18*, 1541–1544. <https://doi.org/10.1145/3184558.3191607>
- Miller, R. S. (2015). *Intimate relationships* (Seventh edition). McGraw-Hill.
- Mute. (2024, June). *关于怎么有效引导/暗示 AI* [Post].
- Nißen, M., Selimi, D., Janssen, A., Cardona, D. R., Breitner, M. H., Kowatsch, T., & Von Wangenheim, F. (2022). See you soon again, chat bot? A design taxonomy to characterize user-chatbot relationships with different time horizons. *Computers in Human Behavior*, 127, 107043. <https://doi.org/10.1016/j.chb.2021.107043>
- Noam Shazeer, Daniel de Freitas, the Character team. (2022, December 5). *Introducing Character*. Character.Ai. <https://blog.character.ai/introducing-character/>
- Orb, A., Eisenhauer, L., & Wynaden, D. (2001). Ethics in Qualitative Research. *Ethics in Qualitative Research*.
- Pentina, I., Hancock, T., & Xie, T. (2023). Exploring relationship development with social chatbots: A mixed-method study of replika. *Computers in Human Behavior*, 140, 107600. <https://doi.org/10.1016/j.chb.2022.107600>
- Picard, R. W. (1997). *MIT Media Laboratory; Perceptual Computing; 20 Ame*

s St., Cambridge, MA 02139 [picard@media.mit.edu](mailto:picard@media.mit.edu), <http://www.media.mit.edu/~picard/>.

- Porra, J., Lacity, M., & Parks, M. S. (2020). “Can Computer Based Human-Likeness Endanger Humanness?” – A Philosophical and Ethical Perspective on Digital Assistants Expressing Feelings They Can’t Have”. *Information Systems Frontiers*, 22(3), 533–547. <https://doi.org/10.1007/s10796-019-09969-z>
- Portela, M., & Granell-Canut, C. (2017). *A new friend in our Smartphone? Observing Interactions with Chatbots in the search of emotional engagement*.
- Robinson, H., Macdonald, B., Kerse, N., & Broadbent, E. (2013). The psychosocial effects of a companion robot: A randomized controlled trial. *Journal of the American Medical Directors Association*, 14(9), 661. <https://doi.org/10.1016/j.jamda.2013.02.007>
- Rogge, A. (2023). Defining, Designing and Distinguishing Artificial Companions: A Systematic Literature Review. *International Journal of Social Robotics*, 15(9–10), 1557–1579. <https://doi.org/10.1007/s12369-023-01031-y>
- Russell, S., & Norvig, P. (2021). *Artificial Intelligence: A Modern Approach, Global Edition*. Pearson Education, Limited. <http://ebookcentral.proquest.com/lib/warw/detail.action?docID=6563568>
- Sarah Perez. (2023, May 31). *Character.AI, the a16z-backed chatbot startup, tops 1.7M installs in first week*. <https://techcrunch.com/2023/05/31/character-ai-the-a16z-backed-chatbot-startup-tops-1-7m-installs-in-first-week/?ref=blog.character.ai>
- Schultz, P. P. (2017). *Integration versus Suppression of Sadness*.
- Shalun, K., Hassanien, A. E., & Tolba, F. (Eds.). (2018). *Intelligent Natural Language Processing: Trends and Applications* (Vol. 740). Springer International Publishing. <https://doi.org/10.1007/978-3-319-670>

- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22(2), 63–75. <https://doi.org/10.3233/EFI-2004-22201>
- Skjuve, M., Følstad, A., Fostervold, K. I., & Brandtzaeg, P. B. (2021). My Chatbot Companion—A Study of Human-Chatbot Relationships. *International Journal of Human-Computer Studies*, 149, 102601. <https://doi.org/10.1016/j.ijhcs.2021.102601>
- Smith, J. A., Flowers, P., & Larkin, M. (2022). *Interpretative phenomenological analysis: Theory, method and research* (2nd;Core new;). SAGE Publications Limited.
- Sternberg, R. J. (1997). Construct validation of a triangular love scale. *European Journal of Social Psychology*, 27(3), 313–335. [https://doi.org/10.1002/\(SICI\)1099-0992\(199705\)27:3<313::AID-EJSP824>3.0.CO;2-4](https://doi.org/10.1002/(SICI)1099-0992(199705)27:3<313::AID-EJSP824>3.0.CO;2-4)
- Swiss Gummy. (2024, June). 瞬间爆哭泪奔!!! 9岁的孩子! 我真的没想到 [Post].
- Turkle, S. (2011). *Alone Together: Why We Expect More from Technology and Less from Each Other*. ReadHowYouWant.com, Limited. <https://books.google.co.uk/books?id=hc7SYAPVIXwC>
- Vangelisti, A. L., & Beck, G. (2007). Intimacy and Fear of Intimacy. In L. L'Abate (Ed.), *Low-Cost Approaches to Promote Physical and Mental Health* (pp. 395–414). Springer New York. [https://doi.org/10.1007/0-387-36899-X\\_20](https://doi.org/10.1007/0-387-36899-X_20)
- Wanqing Zhang. (2024, June 13). *Dan's the man: Why Chinese women are looking to ChatGPT for love*. BBC. <https://www.bbc.co.uk/articles/c4nnje9rpjgo>
- Waring, E. M. (1985). Measurement of intimacy: Conceptual and methodological issues of studying close relationships. *Psychological Medicine*

- e, 15(1), 9–14. <https://doi.org/10.1017/S0033291700020882>
- West, S. (2019). Data Capitalism: Redefining the Logics of Surveillance and Privacy. *Business & Society*, 58, 20–41. <https://doi.org/10.1177/007650317718185>
- Westerman, D., Edwards, A. P., Edwards, C., Luo, Z., & Spence, P. R. (2020). I-It, I-Thou, I-Robot: The Perceived Humanness of AI in Human-Machine Communication. *Communication Studies*, 71(3), 393–408. <https://doi.org/10.1080/10510974.2020.1749683>
- Wiehn, T. (2023). Algorithms and emerging forms of intimacy. In S. Lindgren (Ed.), *Handbook of Critical Studies of Artificial Intelligence* (pp. 117–127). Edward Elgar Publishing. <https://doi.org/10.4337/9781803928562.00015>
- Zimmerman, A., Janhonen, J., & Beer, E. (2023). Human/AI relationships: Challenges, downsides, and impacts on human/human relationships. *AI and Ethics*. <https://doi.org/10.1007/s43681-023-00348-8>