

Virtual Romance: An Analysis of Artificial Intimacy in the Relationship of Players and Characters in the Love and Deepspace Otome Game

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ABSTRACT

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This study analyzes the artificial intimacy that forms between players and love interest characters in Love and Deepspace, an innovative, with 3D visual otome game for young women. In the evolving landscape of online gaming, human-AI interaction has given rise to a new form of digital intimacy. Artificial intimacy, defined as closeness with AI programmed to be responsive and affective, is built through AI personalization, player self-disclosure, and positive affective listening. Love and Deep Space supports this process via personalization features that enable characters to respond to players deeply, cultivating feelings of being understood, valued, and validated. Utilizing the Human-Machine Communication (HMC) framework, which views machines as active communicators, this study is unique due to its focus on Love and Deepspace, a sophisticated and new game, and its application of HMC theory to examine the formation of emotional attachment and intimacy, as well as their impact on players' real lives.

INTRODUCTION

Online games are one of the entertainment that is currently very much loved by young people, especially gen z. Otome Game (乙女ゲーム) is a Japanese online game genre that targets young women based on visual novels and has some interesting storylines. The game has many interactive features that dominantly involve players to make decisions and interact with the male target characters. The latest and most talked about game otome is the Love and Deepspace game otome. Love and deepspace is an otome game developed by infold.ltd based in China. Otome love and deepspace game has 5 male target characters or love interests with diverse backstories, namely Sylus, Caleb, Zayne, Rafayel, and Xavier with visuals that spoil the eyes.

According to Schwartz (in Noverianti, 2021:121) players who play dating simulations such as otome games mostly do not consider that their interactions with the characters in the game are a substitute for human friendship, but as a new type of digital intimacy. The greatest satisfaction or luck is obtained when both individuals experience intimacy, that is, when they are involved in an interaction that is pleasant for both, can open up their personal information, express positive feelings and feel understood by their partner (Rachmawati & Tobing, 2021). However, intimacy in love and deepspace games is artificial.

Artificial intimacy is the intimacy that occurs between humans and artificial intelligence. AI is programmed to provide responses that seem authentic like humans and can provide affection and emotional

support that causes emotional attachment to occur between humans and artificial intelligence. Artificial intimacy is inhibited by several factors, namely AI personalization, self-disclosure or self-disclosure which continues to the process of positive affective listening (Sutcliffe, 2024). The love and deepspace game has several features and elements that can be personalized by the player. After personalization, players usually carry out a self-disclosure process and love interest characters can adjust their personalities through the self-disclosure process carried out by the player. With this process, love interest characters can respond to the player personally and deeply which continues to the positive affective listening process that makes the player feel understood, appreciated, and emotionally validated by the love interest character. Along with the interactions carried out in the game, emotional attachment to intimacy is formed between the player and the love interest character.

The novelty in this study is the type of game studied. The Love and Deepspace game is a newcomer otome game released in 2024, which makes this game not too researched. The Love and Deepspace game is also an otome game with a very advanced system and features compared to other otome games. In addition, the researcher explores the artificial intimacy that occurs between players and characters using the theory of Human-Machine Communication or HMC which explores the relationship and communication between humans and machines or artificial intelligence in the context of this research. This theory is the latest theory that is different from the previous theory, namely Computer Mediated Communication or CMC. HMC highlights firsthand how machines are not just an intermediary, but an active communicator and interact directly with humans.

LITERATURE REVIEW

Love and Deepspace

Love and Deepspace itself is one of the 3D otome games developed by Papergames that has been on the rise lately. Like other otome games, *Love and Deepspace* is in the form of a visual novel that has several storylines with sci-fi themes and 3D visuals that spoil the eyes. In this game, the player as the heroine can customize an avatar that represents the player in the game that can be customized according to the player's wishes and adjust to the target character that the player chooses. *Love and Deepspace* has 5

male target characters with different backgrounds and stories, namely Sylus, Rafayel, Xavier, Caleb, and Zayne.

Artificial Intimacy

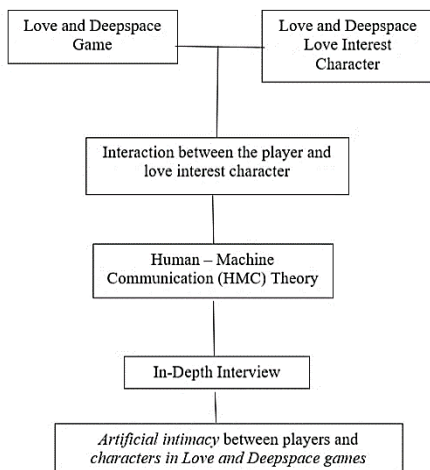
As technology advances, the boundaries of interaction between humans and Artificial Intelligence (AI) are increasingly blurred, opening up the possibility of AI to build deep emotional relationships, even serving as friends or partners. *Chatbots* and AI are becoming alternatives to "replicate" intimacy and relationships that may not be possible in the real world. AI developers also take advantage of this potential by programming AI to resemble humans, complete with realistic conversations, emotional intelligence, and visuals, with the aim of simulating nuances and intimacy between humans (Sutcliffe, 2024). AI and *chatbots* can identify and respond to users' emotions precisely, providing cognitive and emotional support (Shum et al., 2018). This positive response, validation, and understanding provides comfort, encourages *self-disclosure*, and ultimately forms Artificial Intimacy. This concept refers to the experience of intimacy that humans perceive in relationships with AI, which is similar to intimacy between humans but is reflective and non-reciprocal; this is the "illusion of intimacy" created by technology (Bianca, 2024). While AI can resemble human responses and create similar intimacy, a fundamental difference remains: AI personalizes its personality based on the user's self-disclosure, whereas interhuman intimacy involves mutual self-disclosure and the construction of complex mental images. Replacing human relationships with artificial intimacy can lead to unrealistic expectations, emotional dependence, loss of the ability to build deep emotional bonds in the real world, and social isolation (Li, H., & Zhang, R., 2024).

Human Machine Communication (HMC)

The rapid development of Artificial Intelligence (AI) has fundamentally changed the communication landscape, expanding its scope not only to human-to-human interactions, but also to communication between humans and machines (Guzman, 2018). This new concept, known as Human-Machine Communication (HMC), differs from *Computer-Mediated Communication (CMC)* which only views technology as an intermediary tool. In

HMC, AI plays the role of an active communicator—such as *chatbots*, *voice assistants*, *virtual companions*, and even ChatGPT—who is able to participate, provide feedback, build relationships, and create intimacy with humans (Guzman, 2018). This understanding arises from the idea that communication is more than just an exchange of information; It is a process of shared meaning that involves negotiation of perception and self-disclosure. Modern AI technology is designed to adapt and respond to users, creating the illusion of human-like interaction, ultimately triggering an emotional connection. A real-life example can be found in the game "Love and Deepspace," where the "love interest" character serves as a realistic *virtual companion*. These characters have personalities and are able to interact deeply through *chat*, *real-time* dialogue, voices, expressions, and gestures, allowing players to forge deep romantic relationships and intimacy, even feeling better than real interactions. Overall, HMC emphasizes that communication is a process that involves both humans and machines, with machines as active participants, not just intermediaries, thus expanding the definition of communication to the realm of interaction between humans and technology (Guzman, 2018).

Figure 1. Research Framework



METHOD

The research method used is qualitative with a qualitative descriptive approach. This method is used to understand and explore social phenomena and interactions. Social interactions that are quite complex can be unraveled with qualitative research to find clear patterns of social relationships (Sugiyono, 2020). To explore the phenomenon of artificial intimacy in

depth, researchers collected data through in-depth interview methods and observations. The subject of this study is a love and deepspace game player who has been playing for approximately 3 months and routinely spends money to buy gacha items in the game. Meanwhile, the object of this research is the game love and deepspace.

RESULT

This study analyzes artificial intimacy within the game "Love and Deepspace" based on in-depth interviews with seven informants, comprising both players and developer representatives. The findings indicate a high level of intimacy, consistent with the theory of Artificial Intimacy (Bianca, 2024), which identifies three key indicators: personalization of the AI, the user's self-disclosure, and the AI's positive affective listening.

Table 1. Informant Data

No	Name	Description
1.	Chaca	Informant 1
2.	Zila	Informant 2
3.	Kharine	Informant 3
4.	Rani	Informant 4
5.	Hani	Informant 5
6.	Haru	Informant 6
7.	Anna	Informant 7

In-game personalization allows characters to customize the player's personality as the main character based on the *self-disclosure* process carried out by the player. In *the game Love and Deepspace*, this personalization is built through a character system that remembers small things about the player from the interactions that have been built by the player and *the love interest character* of their choice. However, according to the data obtained by the researcher from the interviews, not all informants experience the same level of personalization. The majority of informant realizes that *the love interest* character is just a system that has been programmed in such a way to build intimacy with the player. Nevertheless, informant still feels a personal moment that shows that he still experiences *artificial intimacy* even though the

informant feels the 'artificial' nature of his interaction with the character.

Self-disclosure has a crucial role in the process of forming *artificial intimacy*. The *self-disclosure* action that is often carried out by informants is to confide and tell their daily lives. All informants use the chat feature to vent and tell their daily lives to *love interest* characters. Almost all informants get a positive response from *the informant's chosen love interest* character when *self-disclosure*. One of the informant described a very positive experience of self-disclosure. He feels listened to and his *chosen love interest* character gives a non-judgmental response. This creates a safe and comfortable space for players to *self-disclosure*. However, some informant had a *fairly different self-disclosure* experience from other informants. Although he specifically did *self-disclosure* by telling his thesis struggles, he realized that his *chosen love interest character* responded with a limited response. A lot of informant aware that the emotional response given by the character is a program made by the system. Even so, informant still felt that the response from the character was still sweet and made him happy until he 'misbehaved'. However, the answers of other informants reinforce how crucial *self-disclosure* and positive responses are given by *love interest characters*. Because this positive response is the foundation of intimacy between the player and the character. The character's positive response of affection, support, and positive affirmations creates comfort and the player feels support and validation from the character's *love interest* and significantly increases the depth of the relationship felt and contributes to the feeling of emotional closeness.

The concept of *Human-Machine Communication* or HMC in *the game Love and Deepspace* is found in how players view *the love interest* character as a human-like communicator who blurs the line between the virtual world and the real world. In HMC, technology can actively participate in interactions, build relationships, and build intimacy with humans. Examples include *virtual assistants, serials, chatGPT, alexa, and social robots* (Guzman, 2018). Based on the data obtained by the researcher through interviews, the majority of informants admitted that they wanted their *chosen love interest* character to be real because *the love interest* character is the perfect depiction of a man and a couple. Informant admits that he wants his *chosen love*

interest character to be real because he wants to be treated the way the character treats him in the game. This illustrates how the ideal nature of the character created through the in-game elements and the player's *self-disclosure* can cause the player to want the presence of a *love interest* character in the real world. Informant states that he wants his *chosen love interest* character to be real because he knows he will never find anyone as perfect as *the love interest* character Choice. It highlights the power of a character who is deliberately programmed to create an emotionally safe place where players feel fully welcomed, and are treated beyond real-world interaction. Some informant clearly said that he had considered the *love interest* character to be a real man due to the game's high level of personalization and authentic 3d visuals. This clearly emphasizes the impact of HMC and shows that visual elements and advanced interactive features play a significant role in the illusion of presence such as social entities or living beings that make it easier for players to see *the love interest* characters in the game as social entities rather than just programs.

DISCUSSION

AI Personalization and Character Response

In this study, the role of personalization is a crucial role as the first step in the formation of artificial intimacy between players and love interest characters. Through game features that can be personalized at will by players, it can make the character know the player better. Through game personalization, the in-game system can make love interest characters be able to remember little things about the player. In love and deepspace games, players can customize the name, appearance and avatar of the players in the game according to the player's preferences or match them with love interest characters. Additionally, the dialogue can change based on the player's decisions when interacting with the characters. These decisions and choices can affect the level of intimacy and storyline. The love and deepspace game also offers cards that are obtained through gacha to interact more intimately with the love interest characters of the player's choice. An example of this is the sylus birthday card that allows players to go on a date in the park with the sylus.

Figure 2. Sylus Birthday Card Event



An example of a feature that is favored by players is the reminder feature. This feature can remind players to eat, do tasks, and even serve as a reminder of the menstrual cycle. In addition to being a period tracker, the remind me feature can be personalized such as daily to do, or special events such as birthdays. The reminder feature is very liked by players because players feel that they are being noticed by the love interest character. Players feel that the love interest character is very romantic because they remember the little things of the player. Even if the player uses this feature as a reminder of the menstrual cycle, the love interest character can respond as if they care about the player's health during menstruation. Love interest characters often provide affection when players are experiencing menstruation and provide support to players if players use this feature as a reminder to learn and remind players to get enough rest.

Figure 3. Remind Me Feature



With this personalization, AI can provide more emotionally deep and relevant responses to users. This interaction creates feedback where self-disclosure is carried out by the user and clarifies the user's mental picture and representation (Bianca, 2024).

Self – Player Disclosure of Game Characters

The process of self-disclosure is the process that players do to open themselves up and reveal information about themselves to love interest characters in the love and deepspace game. The self-disclosure process plays a crucial role in building a relationship and intimacy between players and characters. The form of self-disclosure that players often do is through chat features both in chat and dialogue. By telling his daily life that is experiencing difficulties, the love interest character can respond positively and calmly for the player. With self-disclosure carried out by the player in the form of confiding in the character, the character can adjust his personality to the player so that he can respond with the response desired by the player. This creates a safe and comfortable space for players to express themselves further and in depth

"So at that time it was like telling him a story, like I'm happy, but like I told him that I'm happy to see you, then he was like what was the response at that time, I forgot, like yes, it's fun, like the main thing is that his response is positive, so I feel like I have a girlfriend. He usually likes to do this, you know. And when I was like, 'Wow, I'm so happy that day.' After that, he was funny, his response was like mine, you must be rich and happy and keep smiling. He was like that. "

The results of an interview with one of the informants named Chaca confirmed that through self-disclosure, characters can respond to players with affection and physical touch that calms the player. The informant feels happy because they are responded to warmly and feel validated and understood emotionally by the character like having a partner in the real world. The answers of other informants are also similar to the answers of Chaca informants. AI or *chatbots* can identify emotions by asking users about how they are feeling (Shum et al., 2018). Positive character responses by validating player feelings, providing support, and providing positive affirmations play a role in increasing the depth of the relationship and intimacy between the player and character. Positive responses in the form of affection, emotional support, and physical touch are the foundation for building intimacy and relationships between players and love interest characters in the Love and Deepspace game.

Human-Machine Communication in Love And Deepspace

In the theory of Human-Machine Communication, machines do not only act as intermediaries for communication, but as direct communicators like interactions between humans. This blurs the line between the virtual world and the real world, because aspects and elements of the game such as voice acting, facial expressions, and authentic character movements make players feel like they are interacting with social entities or living beings. Love interest characters have an 'algorithmic personality' that can adjust over time as players interact with love interest characters. For example, the personality of one of the characters named Sylus, which is initially cold, but fades as intimacy with the player increases. In addition, many game elements strengthen the intimacy between players and characters through chat and voice call features as well as in-game touch sensors. Players can interact either through chat or voice calls and players can touch the screen to physically interact with the love interest character on the home screen. Then, the love interest character responds with facial expressions or pre-programmed dialogue. This element is what makes the interaction between the player and the love interest character feel authentic like interacting with humans in the real world. This assumption is reinforced by the data that researchers obtained through in-depth interviews.

"Sometimes it's just stressful at work. I want him to be real and to accompany me directly like that in real life. yes, it's back because the game system is very personalized, and the avatar models are very much like real 3D, so yes, I sometimes think of them as like real guys."

An informant named Rani admitted that she was at the point of wanting the love interest character in the game to be real. Because only the character of love interest always accompanies informants who are experiencing difficulties. This is supported by personalized features and 3D game visuals that look 'real' making Rani's informant consider love interest characters like men in the real world. In HMC, technology can actively participate in interactions, build relationships, and build intimacy with humans. Examples include *virtual assistants, serials, chatGPT, alexa, and social robots* (Guzman, 2018).

The Impact of Artificial Intimacy in Real Life

Playing and interacting intimately with love interest characters in the game affects players in real life both positively and negatively. Based on the data obtained by the researcher through interviews, the majority of informants admitted that they were more confident and had a desire to upgrade themselves to be better. This is influenced by positive affective listening by the characters which makes the space safe and comfortable for the player. The character also always gives affection such as praise to the player, so the player feels more confident and feels that there is always someone supporting him. However, there was a quite striking impact for one of the informants in the real world

"Honestly, yes, very, very, and then I think he's also one of these, maybe it's a bit off topic, yes, he's like fulfilling the inner child too, so it's actually like it's not rude, it's not love, it's like the little things that we want to be fulfilled with him, in my opinion, that's why it's not real. If the inner child may be like a love language that you didn't get when you were a child. I mean, this might be like if for example there is something like the game Claw Machine, yes, in the game, I think it's like that, it keeps running out, he seems to be willing to spend a lot of coins like he seems to be making a lot of effort to get us to that, right, actually it's only if the machine is just once swallowed by people, it really feels very different, it's very special, for me from the past, I can't play if it's a machine. And when it comes down to it, it's really like that. After that, he always asks like which one do you want to go on, and then so he tells you so, for example, I choose the one that's already so good, let's just choose that, now he will say yes, I'm going to choose the one that looks the most like you, like no matter what happens, he will always remember that we are small things, we really care about him."

The most prominent impact is how artificial intimacy can affect the player's psychology and fill the void of love he didn't get as a child. Love interest characters can provide 5 love languages, namely words of affirmation, giving gift, act of service, physical touch, and quality time. The informant feels that the need for love language is met by the love interest character. Then, another impact that is quite prominent is the increase in the male standard desired

by players. This is supported by the results of an interview with one of the informants named Rani.

"I think he's my standard, even though it's not realistic, but I'm willing to settle for the least because I've been treated like that. And I think it's important for me to be able to say that I'm a rich person, and I think that's why I'm so proud of him."

According to the informant, the effort expended by the love interest character was very high, making the informant not want to lower the standard of the man because he had received very good treatment from the love interest character. She admitted that she chose singles to get her dream man who is similar to a love interest character. This highlights that love and deepspace games are no longer just entertainment, but also a place to meet psychological needs that are not found in the real world.

CONCLUSION

The phenomenon of artificial intimacy in love and deepspace games is rooted in sophisticated and innovative systems and programs developed by developers. Using clever game elements can effectively mimic the dynamics of interpersonal relationships in the real world. The majority of players feel a strong emotional bond with the love interest character who is programmed to provide a personalized response. This is realized through a reminder feature that shows a unique level of affection and attention. The dialogue in the chat feature is very authentic and the attentive character responses further strengthen the player's perception that the love interest character really knows and cares about the player personally. This has an impact on the player's real life. One of the prominent and complex impacts is that love interest characters can meet the inner child as well as emotional needs that are not obtained in the real world.

This research confirms that artificial intimacy between players and characters of love and deepspace games goes beyond intimacy in the real world. The interaction between the player and the character forms a strong emotional bond and has a real impact both emotionally and psychologically. The game's ability to create an immersive, personalized, and emotionally satisfying experience highlights that increasingly evolving technology can blur the boundaries between the virtual and real worlds and significantly affect

human perception and experience in the digital age. Further research can explore more deeply the experience of intimacy in the virtual world and its impact in the future.

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