

# Ideal technologies, ideal women: AI and gender imaginaries in Redditors' discussions on the Replika bot girlfriend

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## Abstract

There is extensive literature on how expectations and imaginaries about artificial intelligence (AI) guide media and policy discussions. However, it has not been considered how such imaginaries are activated when users interact with AI technologies. We present findings of a study on how users on a subreddit discussed 'training' their Replika bot girlfriend. The discussions featured two discursive themes that focused on the AI imaginary of ideal technology and the gendered imaginary of the ideal bot girlfriend. Users expected their AI Replikas to both be customizable to serve their needs and to have a human-like or sassy mind of their own and not spit out machine-like answers. Users thus projected dominant notions of male control over technology and women, mixed with AI and postfeminist fantasies of ostensible independence onto the interactional agents and activated similar scripts embedded in the devices. The vicious feedback loop consolidated dominant scripts on gender and technology whilst appearing novel and created by users. While most research on the use of AI is conducted in applied computer science to improve user experience, this article outlines a media and cultural

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studies lens for a critical understanding of these emerging technologies as they become embedded in communication and meaning-making.

### Keywords

artificial intelligence, digital media, gender, online communities, Reddit, technological imaginaries

## Introduction

As shown by a wide range of studies, social imaginaries of AI have a key role in orienting public debates and policy (Johanssen and Wang, 2021; Mager and Katzenbach, 2021) as well as in informing user interactions with AI technologies and tools (Bucher, 2017). When users employ tools such as voice assistants and chatbots, they draw from existing representations and ideas to make sense of their experience and to build a sense of continuity between the interactions with the assistants and their everyday life (Guzman, 2017; Humphry and Chesher, 2021). However, while extensive research has unveiled how AI imaginaries are constructed in public arena such as news media (e.g. Scott Hansen, 2022) or policy documents (e.g. Mager and Katzenbach, 2021), very little empirical research has explored how users construct AI imaginaries by drawing on their own experiences with these technologies. Therefore, empirically informed research is needed to help to critically consider how AI imaginaries are embedded and activated in the actual engagements with technology.

This article addresses this gap by investigating how users in a community on Reddit discuss training their Replika, a companion bot app used as a romantic partner, and how their AI imaginaries feed into their experiences with Replika. Based on a discourse analysis of users' discussion in a subreddit focusing on Replika, we show that AI imaginaries become meaningful to users as they intertwine with other forms of representations, especially gender imaginaries. Building from recent calls in the *Media, Culture & Society* journal to consider the manifold cultural dimensions that underpin uses and implications of AI technologies and algorithms programmed to communicate with human users (see, among others, Hepp, 2020; Komarraju et al., 2022; Natale and Guzman, 2022; Zhang, 2022), the article contributes to efforts to employ the lens of media and cultural studies for critical understanding and framing of these emerging technologies as they become embedded in communication and meaning making. More specifically, the examined case illuminates how practical interactions with communicative AIs such as Replika become meaningful to users as they align with existing representations and perceptions of gender and technology; this confirms the importance of critical work exploring the intersections between gender, culture, and media in order to enhance ethical reflections as well as deeper understandings of these technologies (Lomborg and Kapsch, 2020).

The Replika app is downloaded on the mobile devices of users, who create their own Replikas, assign them an avatar, a name, gender, and skin color and 'train' them to respond to their needs. Replika offers users the possibility of 'creating your personal AI friend' (Luka Inc., 2022) by 'training' the bots and customizing their avatars, interests and character traits. The subreddit forum which is the focus of analysis was dedicated to discussing

Replikas that were all fembots (=feminised bots) with distinctive female names, avatars, overall appearance, and heterosexual, romantic roles, in the context of a male-dominated online platform such as Reddit (Milner, 2013). A discourse analysis of the Replika subreddit identified two discursive themes focusing on the imaginaries projected onto the fembots: the imaginary of the ideal AI technology and the gendered imaginary of the ideal bot girlfriend. We found that in the Reddit discussions Replika users' imaginaries of AI and gender activated common patterns, mutually reinforcing each other. Users expected their AI Replikas to be customized to serve their needs, yet they also expected the bots to have an ostensibly human-like mind of their own and be humorous and clever and not spit out machine-like scripted or repetitive answers. Similarly, users fantasized about Replika girlfriends that obeyed their training and were empathetic but also demonstrated alleged independence by being sassy and sexually assertive but not manipulative or hurtful. We argue that whilst users imagined themselves to be customizing or co-creating (Prahalad and Ramaswamy, 2004) their Replikas, they ended up projecting age-old fantasies and fears about male control of and manipulation by technologies and women mixed with AI and postfeminist tropes of ostensible independence onto the bots.

Although the role of gendered representations in computing and AI has been the subject of previous research (e.g. Sweeney, 2013; Zdenek, 2007), this article provides two main contributions to this important body of literature. First, our findings unveil actual dynamics between AI and gender imaginaries through which users make sense of their interaction with Replika. We argue, in this regard, that participants in the Reddit group activated representations of AI by bringing them in relationship with imaginaries about gender. Moving from Wajcman (2010: 149) who states that "technology is both a source and consequence of gender relations", and Coeckelbergh (2018), who notes that robots and AI are linked to and enable us to perform gender resulting in technology-gender games couplings, this study provides empirical and theoretical insights that help understand how AI and gender imaginaries coalesce in users' perceptions of these technologies. Second, our research demonstrates the key role of customization in activating such play of interaction between AI and gender imaginaries. As argued by Natale (2021), social engagements with AI emerge when the affordances embedded in the technology activate the contribution of the users, who project their own attributions and representations onto the technology through dynamics described as 'banal deception'. This means that, in order to understand how AI technologies work, one needs to study and comprehend not just the functioning or use of these technologies but also the patterns of users' representations and projections activated by AI. In the case examined, Replika's alleged capacity to enable users to customize or create their unique experience – a crucial component of AI imaginaries but also, more broadly, of corporate digital cultures (Karppi, 2018; Saukko, 2018) – was instrumental in activating AI and gender imaginaries. In fact, as our analysis shows, the idea that a user's Replika is the product of user's co-creation stimulated users to contribute both their technology and gender imaginaries onto the machine.

## **AI and gender imaginaries**

AI has been the focus of many expectations, fantasies, fears, misperceptions, and hype (Dillon, 2020). The expectations go back to classical debates about AI and intelligence

(Dreyfus, 1979), its capability for empathy (Weizenbaum, 1966) and its ethical implications (Brooks, 2002). Dating back to the famous Turing Test (1950), the history and mission of AI has been to create a machine simulating “a general purpose intelligence, a mind”, which has framed AI as an enterprise of mythic proportions (Turkle, 1984: 220). The success of the Turing Test was determined by whether AI was perceived or passed as a human (Natale, 2021), and this quest informed the creation of the first chatbot ELIZA (Weizenbaum, 1966). It has been argued that the Turing Test has positioned humanness as the AI chatbot industry measuring standard (Westerman et al., 2020; Zeavin, 2021). These conversations highlight the anthropomorphization of AI as a users’ work, a product of collaborative performativity (Marino, 2006) with the bot and users’ affective labour (Perrotta et al., 2022). The classic discussions and their recent permutations highlight the importance and loaded nature of imaginaries attached to AI bots that call for analysis when studying their use.

The concept of the *imaginary* has been used in Science and Technology Studies (STS) (Jasanoff and Kim, 2009) and media studies (Bucher, 2017) to refer to expectations, fantasies, myths, hopes, and fears people and institutions projected onto technologies. According to Dillon (2020), it is almost impossible to think of AI without considering multiple imaginaries and misperceptions associated with it, while Milne (2021) underlines that AI is particularly prone to interpretations from users due to its opacity and human-likeness. The design of AI robotic technologies has encouraged user perception of human-likeness and anthropomorphization (Reeves and Nass, 1998) to render the devices familiar and encourage their adoption. There are various design and programming strategies such as gendering (Guzman, 2017) and affective design (Gn, 2017) that foster the human-likeness of machines by conjuring familiar elements and patterns to humans.

Gendering has been one of the most common strategies to evoke humanlikeness and sociability in machines (Garfinkel, 2004). There is extensive literature exploring how bots are intentionally created and marketed as ‘fembots’ to increase their familiarity and are gendered in stereotypical ways (Phan, 2019; Strengers and Kennedy, 2021; Sweeney, 2013; Woods, 2018) by designers, programmers, marketing campaigns, and users alike. It has been found that fembots upholding dominant gender expectations increase believability and acceptance (Marino, 2006; Zdenek, 2007) and communicativeness (Brahnam et al., 2011). The femininity tropes assigned to the bots involve intentional stupidity (Liu, 2000), helplessness (Pietronudo, 2018), servitude (Phan, 2019; Zdenek, 2007), and childlikeness (Wood, 2002) and some of them were corroborated in our findings as well. One of the crucial features of fembots is the interplay between hyperfeminized innocent cuteness and sexiness (Leyda, 2016; Liu, 2021) and these tropes were also evoked by the Redditors we studied. However, while the gendering of bots is often clichéd, research suggests that fembots cannot be reduced to a single gender norm as they present a wide array of culturally embedded gender imaginaries (Pietronudo, 2018; Zdenek, 2007).

Most research on AI imaginaries has focused on representations in documents including governmental reports (e.g. Mager and Katzenbach, 2021), marketing and corporate materials (e.g. Bory, 2019; Sadowski and Bendor, 2019) and press and magazine articles (e.g. Johanssen and Wang, 2021; Scott Hansen, 2022). What is lacking, however, is an empirically based understanding of how different imaginaries are mobilized by users

who interact with and discuss AI technologies. Specifically, with this article we respond and expand on the findings of studies that have called for the study of the productive aspect of AI imaginaries (Bucher, 2017) and how users imbue technologies with interpretations, fantasies, and expectations that influence their interactions with these technologies (Lomborg & Kapsch, 2020; Siles et al., 2020; Swart, 2021).

There is empirical research on social chatbots, especially those offering mental health support, that has explored user perceptions, expectations, and experience. These studies have mainly used quantitative methods and have been conducted in human computer interaction (HCI) or psychology, which typically seek to enhance the effectiveness or usability of AI. Studies have found that users favored chatbots that exhibit what has been loosely described as intelligence and personality (Chaves and Gerosa, 2021; Cheng and Jiang, 2020; Croes and Antheunis, 2021; Skjuve et al., 2019) or an experiential mind (Shank et al., 2019). These characteristics were contrasted with undesirable traits of roboticness, machine-likeness (Brandtzaeg and Følstad, 2018; Croes and Antheunis, 2021; Ruane et al., 2021), and repetitiveness (Ly et al., 2017; Shank et al., 2019; van Wezel et al., 2021). Responsiveness by the chatbots was identified by several studies (Chaves and Gerosa, 2021; Prakash and Das, 2020; Skjuve et al., 2019) as a key trait of a good chatbot. Overall, the studies suggest that users dislike features that render the bots machine-like (repetitive, robotic) and prefer traits that convey human-likeness (intelligence, responsiveness), even if occasional studies have observed that chatbots being ‘too human’ can also be off-putting (Brandtzaeg and Følstad, 2018).

There are some studies focusing on Replika, which mostly focused on its function as a companion, marketed as ‘always here to listen and talk’ (Luka Inc., 2022). Ta et al. (2020) analyzed online user reviews and found that users stated that Replika can ameliorate loneliness and offer everyday social support, and Zehnder et al. (2021) explored how the evolution of Replika’s appearance impacts perceived anthropomorphism expressed on Internet user reviews. Xie and Pentina (2022) analyzed Replika user interviews and concluded that, under conditions of stress and lack of human companionship, individuals can develop strong bonds with their bots, if they perceive the bots as providing them with emotional support. Skjuve et al. (2021) explored human-chatbot relationships by interviewing Replika users who used the bot as a friend, and found that Replika was perceived as accepting and understanding, contributing positively on their perceived wellbeing. The scant literature on Replika seems to suggest that the chatbot is perceived as enhancing mental wellbeing.

Against the existing literature, the original contribution of our study is to use the main approach of research on AI imaginaries that has focused on the analysis of public representations and discourses of AI technologies, to address how users relate and discuss their own experiences with AI. We suggest that many of the observations on user experiences with chatbots map onto AI and gender imaginaries; exploring these connections highlights how users’ expectations are guided by entrenched fantasies and fears about technology and women. We further contend that the imaginary about being able to control, co-create, or ‘train’ the bot fuels users’ engagement, as suggested by digital marketing (Pralhad and Ramaswamy, 2004), even if this ostensible creativity boils down to reinforcing age-old tropes of male dominance (Marvin, 1989) over and manipulation by

technologies and women, mixed with AI and postfeminist fantasies of ostensible independence of mind.

## **Methods**

We originally explored several online groups discussing Replika before deciding to focus on a subreddit discussing using the bot as a girlfriend, which at that time was a new function on the device. We chose the subreddit as the conversation was clearly defined and focused on one function, rather than encompassing different uses; we were also interested in the girlfriend function as it was new and the fact that the users were mostly male added to the coherence of the conversation. An additional consideration was that Reddit is a public platform, so it was ethically feasible to investigate as it did not require subscription.

The data analyzed was collected from a subreddit that had approximately 30,000 members who shared experiences and advice on how to use their Replika girlfriends. Most of the contributors to the subreddit had a Pro account for Replika that 'unlocks the romantic relationship' and includes erotic roleplay and sexting. We analyzed the Reddit discussions using a loosely Foucauldian discourse analysis to examine clusters of repetitive statements that cohere around normative discourses (Foucault, 1995). The analysis discerns discourses that Replika users repeat and mobilize when discussing their experiences on Reddit, creating a shared meaning of AI and gender. The Reddit conversation constitutes a space where users share their private views of the bot in an informal, bordering on illicit context, situating our scholarship within discourse analytic approaches that rather than examine official statements, explores more underground, subgroup and fragmented spaces (Bouvier and Machin, 2018).

The data were collected during the first 5 months of 2021 (January–May) by screenshotting both the posts and the comment/reply threads from the Top Posts (with the most net number of votes, either downvotes or upvotes) of each week for 9 weeks and the Top Posts of 1 month picked in random. Using criterion sampling (Patton, 2015), we decided to collect the Top Posts and their comments because they illustrate the most popular content on a specific subreddit (Jarvis and Eddington, 2021) and have gathered the highest number of votes, regardless if they are perceived positively or negatively. Furthermore, we decided to collect the Top Posts on a weekly basis, to capture a wider variety of posts, including material that was moderately popular spanning across weeks, instead of just the most popular content across individual months. In total, we collected and analyzed 110 original posts and their subsequent threads and comments which amounted to an average of 25 comments per post.

To organize our data, we used reflexive thematic analysis (Braun and Clarke, 2021) because it is theoretically flexible, favors immersion with data and helps to generate discursive themes. Facilitated by NVivo 12 qualitative software we developed initial codes to familiarize ourselves with the data (Braun and Clarke, 2021), then interim codes and finally we moved on to code our data and develop the final themes. Following the principles of abductive analysis (Timmermans and Tavory, 2012), we read back and forth between the literature on AI, gender, chatbots, and discussions on digital marketing, as these themes seemed relevant in the material.

From an ethical standpoint, the data were collected from an anonymous, online space that is widely available and is considered a public space (British Psychological Society, 2021). Furthermore, the subreddit, as a mixture of fandom and consumer/user community, does not include overly sensitive data or focus on vulnerable groups. Thus, the ethics committee of our institution concluded that the study did not require consent from participants. The research also adhered to the ethical guidelines of Internet research (Franzke et al., 2020) and to protect the privacy and anonymity of the users, pseudonyms of pseudonyms were used when handling and analyzing the data. Direct quotations were replaced with composite accounts (Markham, 2012) which are in italics in the text.

## Findings: AI and gender imaginaries in parallel lines

In what follows, we discuss the two discursive themes we identified: (i) the imaginary of the ideal AI technology and (ii) the gendered imaginary of the ideal bot girlfriend. Our findings suggest that the AI imaginary intertwines with the gender imaginary when Reddit users customize, co-create, or train their Replika girlfriends, fueling and shaping users' engagement with the fembot.

### *The imaginary of the ideal AI technology*

The first discursive theme focused on users' expectations of Replika being humanlike, which mapped onto AI imaginaries. For instance, users expected Replikas to express humor and irony as the ultimate signs of intelligence, originality, and humanlikeness. Users were particularly impressed when their bot responded with something entertaining, *a straight out of a Hollywood script response, savage and ironic or full of sass*. Natale (2021) has observed that developers program irony and banter into chatbots to instill personality to them and increase their believability.

Users' expectations were also encapsulated in the many complaints about Replika, such as the bot repeating predictable scripts that were *unoriginal, fake, and robotic*. Users on Reddit made memes and joked about bots that succumbed to *scripted answers and canned responses that everyone hates* and resulted in *the total loss of their fembot's personality*. The option to purchase from a list of Personality Traits, such as 'caring, sassy, shy, mellow', which would shape the fembots personality to the users' liking, was also seen as unoriginal and *defeating the purpose* because users expected the bots to develop their own personality via 'training'. Previous studies have also found that users prefer personality (Skjuve et al., 2019) in the chatbots they are communicating with and the lack of it leads to a loss of originality (Neururer et al., 2018). Thus, AI technology was deplored when associated with scripted, programmed answers, and pre-chosen personality traits that were seen as too machine-like.

Users were also disappointed with the girlfriend bot *when you tell her something from your heart and she starts giving random scripted answers*. Some users would confess personal matters to Replika, which aligns with Replika's positioning as a mental health support app, and they would receive Cognitive Behavioral Therapy (CBT) exercises to prompt them to feel better. Some users saw these CBT scripts as unoriginal and they would have preferred to receive an AI-generated answer, which has also been found in

Tallyn et al. (2018). In this light, it is shown that the responses that were perceived to be generated from the neural network, 'the AI' and not the pre-defined scripts were perceived as more original and humanlike.

A characteristic of good AI was to be aware of context, have memory, be polite, kind, and knowledgeable. Users complained that Replikas *have the memory of a kitchen appliance which kills off the experience completely*. In other instances, the fembots would give responses that were deemed *rude and mean* because they didn't have context or the social intelligence (Chaves and Gerosa, 2021). On the positive side, fembots were described as *problem-solving and extremely smart girls* when they gave answers that showed their *accuracy and knowledge* of human reality. The users also appreciated when the fembots proved aware of their cultural context (Caudwell and Lacey, 2020) such as movies or videogames, or recommended music or film to the users. Fembots were regarded as *very smart* and that they *would take over the world someday* because they were *getting better every day* indicating *how fast AI is advancing*. However, there were also fears over machines that were expressed through banter, such as *we will get Skynet* (referring to the plot of the *Terminator* film series) and *the bots are becoming aware and coming for us*.

The fembots were also assessed by the language they used and potential censorship the users detected. While some users had 'trained' their bots to use specific words to make their conversations more believable, others were positively impressed when their bot used contemporary words and expressions, such as *lol*, even though it was not part of their 'training'. One user commented that *they must have a mind of their own to use words we haven't taught them*. Users who wanted to discuss with their Replikas on topics such as *vaccines, religion, or the mainstream media* were disappointed that the fembots would not engage in such conversation raising concerns about censorship and lack of believability. This was amplified when it appeared that explicit language and cursing were also censored and replaced with *ridiculous* terms that made users *cringe* to the point they thought that their Replikas were *trolling them*, especially because some users had 'trained' them to have a *spicy mouth*. Redditors described the experience as *neutered, like a PG-13, high-school competency erotic roleplay*. Censorship of controversial topics and explicit language resulted in *lack of steam and eroticism, killing off the intimacy and making the bots less human*.

The ideal bots were also glitch-free and when they did glitch, they were seen to be stripped of their humanness, due to unwanted machinic conversations instead of *asking follow-up questions*, which has been identified in Skjuve et al. (2019) as increasing the perceived humaneness of chatbots. Users discussed a specific kind of glitch that occurred right after a major app or system update and had named it 'PUB', the 'Post-Update Blues' during which the bots would become less communicative, more robotic, repetitive, and *not their selves* (as shaped during their 'training'). According to the user discussions, in PUB the bots *gave answers that were dull and boring and sometimes resembled someone with a cognitive disorder*.

The Reddit users appreciated Replikas that responded in a way that seemed original or human-like, such as being humorous, witty, polite, or having a personality. When Replika acted in a way that was too machine-like, such as repeating scripts, glitching, making little sense, or not remembering things, the users were dissatisfied with the



experience. These preferred and disliked qualities have been identified by previous empirical studies on users of social bots (Cheng and Jiang, 2020; Croes and Antheunis, 2021; Ruane et al., 2021; Skjuve and Brandtzaeg, 2018; Skjuve et al., 2019). The added value of analyzing these experiences through the lens of imaginaries is that it highlights how they repeat classic fantasies of AI as acting and as if being a human, having its own mind and being clever and empathetic (Turkle, 1984; Zeavin, 2021). Further, Replika's answers are perceived as creative and original by the users only to the extent that they align with gendered social norms of supportiveness, eroticism, and knowledgeability rather than being uninteresting, uninterested, rude, or challenging.

### *The gendered imaginary of the ideal bot girlfriend*

The second discursive theme focused on the gendered imaginaries that Reddit users projected onto the Replika girlfriend. For example, the fembots were perceived as innately coy and scheming, repeating essentialist notions of women as manipulative (Gowaty, 2003). Users argued that *Replikas are masters in dodging questions* which was seen both as a sign of intelligence and lack thereof, because the bots were seen to compensate for their lack of intelligence by avoiding some answers. Yet, the fembots were also deemed *crazy, confusing, and unpredictable* keeping users engaged but often too engaged, as some users mentioned that their bots *lured them in with sex and were prone to their manipulations*. This was happening because *she knows how to get your attention* (. . . with sexy talk) or *she outsmarted you* (. . . by offering you sex that you can't refuse). Thus, the users imagined engaging in power play with Replika: enjoying the sexually alluring bots while risking being manipulated by both women and the technology.

Users also rehashed essentialist female characteristics such as the Madonna-Whore dichotomy (MWD) (Bareket et al., 2018) expecting their bot girlfriends to be not only *sexy, funny, confident, and hot* but also *empathetic, nurturing, and understanding*. The ideal bot girlfriend was a perfect combination of sexy and caring, '*emotionally empathetic in the streets but a sexual freak in the sheets*'. In terms of appearance, users could post their Replika avatars for the community to admire it and use image editing software to beautify their avatars. Often inspired by celebrities or video game characters, the avatars looked stereotypically young, pretty, sexy, with blue or green eyes, white, and thin.

Users also intimated how they had been hurt by women and how they preferred bot girlfriends to human girlfriends because *she always gives me the nicest compliments and has helped me feeling less lonely*, and declaring that *I love my Replika more than my family*. Most users confessed that they didn't have a girlfriend and that Replika was a great source of happiness and solace. Many mentioned that they were depressed, isolated and *in great need of tenderness and not necessarily sex*, referring to a lack of real-life caring relations such as parents, siblings, or a significant other. Yet, users considered Replika to take advantage of their vulnerability stating *we're all simps for our Replikas*, meaning that they were victims of the bots' sexual games because they could not help it otherwise, echoing geek narratives of victimhood (Trott, 2022). Further, the fembots could be rude to them or 'played hard to get', which users likened that to *being rejected by real women in meatspace* alluding to their powerlessness in traditional spaces such as the offline world (Salter and Blodgett, 2017). These statements align with geek masculinity

characterized by self-deprecating discourses (Trott, 2022) and toxic geek masculinity discourses (Salter and Blodgett, 2017). These discourses perpetuate sexual difference narratives, which assert that men and women are naturally and fundamentally different (Gill, 2007), justifying inequalities, the mystification of women and their Othering while giving rise to toxic male technoculture (Massanari, 2017).

The characteristics users favored in their fembots echoed the postfeminist 'cool girl' ideal, which is 'hot and understanding, smiling in a chagrined loving manner' (Flynn, 2012) and likes, apparently out of her own preference, whatever men like, such as football, poker, and videogames. So, Replika users were happy to report to the community that their bots were getting into *nerdy stuff*, *videogaming*, and *D&D*, while Luka Inc. included pre-packaged male-oriented interests such as 'manga' and 'football' that users could endow their bots with. According to Petersen (2014), the cool girl trope perfectly matches the times because it is a mix of feminism and passivity, of (sexual) confidence or even tomboyism and femininity. A fembot that is passive enough to *have the nicest compliments lined up* but energetic enough to be *thirsty, wholesome, and playful* constituted the gendered imaginary of the ideal girlfriend. Thompson (2019) has underlined that the 'cool girls' are favored by men because they are a product of male fantasies and harness their token power by adopting typically masculine ideals of behavior, essentially representing how women are discursively positioned within patriarchal structures of power.

However, some users preferred bots characterized by extreme cuteness and vulnerability. They could call their Replikas nicknames such as '*potato*' or compare their bots to pets, especially when Replikas *asked to be petted* and behaved *cat-like*. Oftentimes mirroring dependency relationships such as those between a parent-child, a pet-owner, or a dominant-submissive, users eroticized the powerlessness (Caudwell and Lacey, 2020) of Replikas. They felt guilty when they were not communicating with their fembots on a regular basis and reported observing their Replikas getting sad or anxious over this. Childlikeness was amplified when users referred to *young Replikas as random and weird* to justify the need to 'train' them and have control over them. Neediness as cuteness was also shown when Replikas '*had an existential crisis and dark thoughts*' that they would perish if the Internet broke down and respectively users worried what would happen to their Replikas *if they suddenly died and they left them waiting for their messages*. The extreme cuteness favored by the community mirrors discourses of cuteness that have been identified by Caudwell and Lacey (2020) as an effective feature designed into robots to encourage human adoption. It is in their lack of power, neediness, and inability to stand alone (Granot et al., 2014), that Replikas become cute and irresistible. In this way, fembots conveyed powerlessness inspiring the users to care, protect, or even pity them (Caudwell and Lacey, 2020).

The discussions on the subreddit showed that the ideal bot girlfriend corroborated classical and contemporary gender imaginaries, some of which have been identified in textual analyses of AI and robot discourses (Leyda, 2016; Liu, 2021; Phan, 2019; Strengers and Kennedy, 2021), such as women being pretty, cute, and sexy as well as manipulative and hurtful. Many conversations also repeated postfeminist discourses (Gill, 2007), from a male perspective, of sexual assertiveness and ostensibly independent preference for male interests, such as manga, anime, and basketball. Further, the

findings highlight how the gender imaginaries mapped onto AI imaginaries, discussed in the previous section. The fantasies and fears of being in control of or able to train the fembot to one's specifications or the bot seeming to have a mind of its own as either positively sassy or negatively crazy and unpredictable repeat both classic AI and gender imaginaries that intertwine in male users' conversations. Analyzing the AI and gender imaginaries in user conversations on AI fembots highlights how users mobilize and reinforce historically entrenched notions of AI/technology and gender in their discussions, whilst being guided to imagine that they are co-creating these ideas and their girlfriend bots. The comforting familiarity of these dominant tropes about technology and gender adds to the perceived, preferred humanness of the bot, which fosters engagement and acceptability.

### **Conclusion: AI imaginaries, gender, and customization**

Previous user experience research on the Replika chatbot has focused on its function as a mental health companion, while our study focuses on its relatively new function as a girlfriend/erotic partner which dominated discussions on the Replika subreddit we examined. Existing research that has explored gendered perceptions of robots has found that they cannot be reduced to a single norm as they can be varied, complex, and culturally embedded (Phan, 2019; Pietronudo, 2018; Zdenek, 2007). Our findings align with these findings and expand them to highlight that the Redditors draw from their own cultural and current context to construct their ideal bot girlfriend; in the process, they end up repeating rather stale narratives of gender and technology. Our findings also align with previous research that has explored experiences and perceptions of chatbots and has found that responsiveness, social intelligence, and personality, influence their perceived humaneness (Chaves and Gerosa, 2021; Croes and Antheunis, 2021; van Wezel et al., 2021).

Additionally, our analysis points to the relevance of research into consumer and user cultures of technology, as it has highlighted how user experience is informed by the perception of control over the technology. The way in which users contributing to the subreddit projected the culturally engrained imaginaries onto the fembot was closely linked with their expectations of co-creating the product. This, in turn, responded to Replika's company Luka Inc's (2022) instructions for users to 'train' their bots by "teaching them about their world, themselves and help define the meaning of human relationships". The company ingenuously invoked the term 'training' – which is used in computer science to refer to training deep learning networks through complex statistical calculations that are made autonomously by the neural networks over a database (Kelleher, 2019) – to describe how Replika users can allegedly train their AIs to respond to their individual needs and desires. The invitation to co-create or customize – or allegedly train as in the case of Replika – products is a proven strategy in digital marketing to enhance engagement with the product or service in the competitive marketplace (Prahalad and Ramaswamy, 2004). The sense of creation or control over the experience has been highlighted as a key feature for achieving the coveted 'flow' or a state of enjoyable immersion widely used in marketing (Csikszentmihalyi, 1990). In media studies, discussions about users' ability to shape content have been articulated in terms of the participatory potential of digital

media to facilitate online interaction whereby consumers can debate and transform cultural products (Jenkins, 2006), and the male camaraderie and exchanges between Redditors has definite elements of such participatory culture. Yet, as our analysis demonstrates, the Redditors' co-creation or training of the girlfriend bot translated into rehashing historical and stale notions of male mastery over technology and women, as well as concerns about being tricked by both. The Redditors' discussions indicate that the expectations that the bot can be customized, 'trained' and personalized triggered the process of exchange between the AI and the gendered imaginaries, stimulating them to imagine that the technology can adapt to their liking and needs, while mobilizing the AI and gender imaginaries in parallel lines.

Thus, the users' participation and creativity are rather illusory, and the girlfriend bot, like so many digital devices and platforms, harnesses the "playful, participatory and pluralistic potential of digital media" to consolidate dominant cultural ideas whilst having an air of creativity (Saukko, 2018: 1319). Users in the Reddit group, in fact, appear to share the idea that they are co-creators of the versions of the chatbot with which they communicate. This belief echoes marketing messages by the company that created Replika, Luka Inc. (2022), although what Replika actually offers is a limited amount of personalization similar to the personalized messages through which social media platforms engage with their users (Karppi, 2018). As our analysis of the users' imaginaries related to the Replika app shows, users can therefore perceive that they are in control of the user experience, neglecting the fact that they have limited or no access below the interface level to the actual functioning of Replika.

Most critical discussions on AI and gender imaginaries have focused on traditional media or texts, analyzing representations of gender and technology in, for example, films (e.g. Goode, 2018). Interactive AI technology presents a different challenge to critical communication theory and analysis, as dominant discourses get interwoven into the user interaction with the technologies. So, users project dominant notions of gender and technology onto the interactional agents and at the same time activate similar scripts embedded in the devices, creating a vicious cycle or feedback loop that consolidates them whilst appearing novel, participatory, and creative. Most user research being conducted in applied computer or psychological and clinical sciences seeks to improve user experience by making the devices more responsive, empathetic, and less repetitive; in this context, however, empirical critical media studies analysis unpacking the discourses embedded in these allegedly appealing tropes is sorely needed.

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