

Mirror to Companion: Exploring Roles, Values, and Risks of AI Self-Clones through Story Completion

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Abstract

Advancing technologies enable machine learning applications that replicate the appearance, behavior, and thought patterns of users based on their personal data. Termed as AI self-clones, these digital doppelgangers present introspective opportunities and existential risks, as they might amplify self-awareness or echo problematic self-views. In our study, based on the story completion method, we involved 20 diverse individuals to explore the values and risks they associate with creating AI self-clones. Our participants conceptualized AI self-clones by the roles these clones could assume, such as mirror, probe, companion, delegate, and representative. The perceived values and risks tend to correspond to these roles. For example, using self-clones as representatives could enhance relationship maintenance, yet it might also lead to diminished authenticity in personal connections; utilizing self-clones as probes to explore life scenarios could aid decision-making, but it might amplify regrets about unchosen paths. This research lays the groundwork for an ethical design of AI self-clone applications.

CCS Concepts

• **Human-centered computing** → **Empirical studies in HCI**; **Empirical studies in interaction design**; • **Computing methodologies** → **Simulation evaluation**.

Keywords

AI self-clone, mimetic model, roles, values, risks, story completion method, design fiction, speculative design

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1 Introduction

The rapid progression of technology has enabled digital systems to create increasingly realistic representations of an individual's likeness, voice, and even their thought patterns [67]. These advancements, evident in deepfake technologies [72], voice conversion software, [84] and chatbot clones [20], have opened up new avenues in Human-Computer Interaction (HCI). In particular, the concept of Artificial Intelligence (AI) clones or mimetic models has become a focal point of research, drawing attention not only due to their potential applications but also the ethical implications surrounding their use [29, 41, 45, 49]. Considering that these AI clones can commoditize human identity and potentially infringe on an individual's privacy, and also given that their creation often involves the use of personal data, it has become apparent that this genre of AI applications require particular attention due to their unique potential and associated risks.

AI *self-clones* represent a distinct category of AI clones, specifically referring to digital replicas that individuals create or use of themselves. According to Lee et al., AI clones are characterized by three fundamental elements: they represent aspects of a real-world individual, function as interactive technologies, and operate as AI-driven systems based on personal data [41]. The "self" designation in self-clones specifically refers to cases where the source individual is either the creator or user of their own AI clone¹. This can manifest in two primary configurations: either the source individual uses their self-clone (regardless of whether they or another party, such as a corporation, created it), or the source individual creates the self-clone for others to use. This relationship between creator, user, and source individual distinguishes self-clones from other AI clones, where the technology might be created and used entirely by parties other than the source individual [41]. Industry is rapidly adopting and launching AI self-clone products, with Meta's AI Studio promising users can "build an AI extension of themselves" on social media [46], while Personal AI enables users to create and run "AI Digital Twins" as highly personalized digital assistants tailored to their unique preferences and memories [57].

AI self-clones present a unique set of opportunities and risks due to the deeply personal nature of the "self" being replicated, raising significant concerns about the psychological impact of interacting with one's own digital doppelganger and its potential to influence self-perception and identity. Recent examples illustrate this duality.

¹This is our localized definition of AI self-clones for this study. While the definition shares similarities with the concept of "Mimetic Models of Oneself" by McLroy-Young et al. [45], there are nuanced differences. We further elaborate on this distinction in Section 5.2.

Michelle Huang created a chatbot to converse with her younger self, utilizing GPT-3 and her past journal entries [32]. The therapeutic potential of this approach was underscored, described as having the ability to "send love back into the past, as well as receive love back from a younger self." This optimistic view of AI self-clones is contrasted by the apprehension expressed by artist Grimes regarding her Twitter bot, GRIMES_V1, which was perceived as having a "despotic and murderous nature" [24] and bearing an unsettling resemblance to herself [23]. These contrasting experiences underscore the dual-use dilemma [36] of AI self-clones: while they may facilitate deeper self-reflection and personal growth, they also risk reinforcing negative self-perceptions or distorting one's sense of identity.

This tension between potential benefits and harms emphasizes the need for careful consideration of ethics in the development and use of AI self-clones, to ensure they enhance rather than undermine users' well-being and sense of self. Given that AI clones are already an ethically charged topic, for reasons such as the commodification and objectification of personal identity [41], self-clones similarly require ethical scrutiny because of their inherent ties to identity, autonomy, and self-perception. For instance, the usage of deepfakes is ethically concerning due to their potential for deception, as seen in politics and adult content contexts [37, 69]. But when individuals consensually create and interact with deepfakes of themselves, this raises further questions about the potential psychological impacts. As such, ethical speculation is beneficial as it provides a way to proactively anticipate the potential risks and impacts of self-cloning technologies, ensuring that ethical considerations are addressed before unintended harm occurs.

It is vital to identify the values and risks associated with AI self-clones to ensure these systems are effective, ethical, and safe. To this end, we engaged 20 individuals from diverse backgrounds in a story completion method. Drawing from participants' rich narratives, we discerned a profound landscape of potential *roles* AI self-clones might assume in the fabric of human life. These roles, each distinct in its offerings and challenges, reflect a spectrum of both hopes and concerns. From the mirrored self-enhancements and forward-looking probes to the productivity-driven delegate or the social representative, our findings beckon a dialogue about the duality of AI self-clones. The scenarios painted by the participants have implications for our own perceived identities and social relationships, demanding a critical inquiry into the ethical, societal, and psychological terrains they traverse.

The primary contribution of this study is its empirical investigation into how individuals conceptualize and relate to the notion of AI self-clones. Our research offers the following specific contributions:

- An in-depth exploration of users' perceptions and expectations regarding AI self-clones, revealing five distinct roles that emerged from our analysis.
- A comprehensive examination of the perceived values and risks associated with the creation and utilization of AI self-clones, offering a balanced view of their potential impact.
- A foundation for ethical considerations and design guidelines in the development of AI self-clone technologies, promoting responsible innovation in this field.

Through these contributions, our work sheds new light on the concept of AI self-clones, fostering dialogue surrounding their ethical implications and potential design guidelines. By offering valuable insights into this budding design space, we pave the way for more nuanced and informed academic discourse on the topic, encouraging further research and responsible development in this emerging field.

2 Related Work

This section provides an overview of the literature relevant to the study of AI self-clones, emphasizing the complex interplay of roles, values, and risks associated with their development and use. It explores how the concept of AI self-clones extends beyond traditional digital representations, unpacking their potential as introspective tools, social companions, and digital surrogates. The discussion weaves together insights from research on mimetic models, human-AI interaction, and digital doubles, highlighting the ethical, psychological, and social implications of these advanced AI entities. Moreover, it addresses the broader landscape of AI-mediated engagement, personal data use, and the evolving perception of AI from mere tools to integral companions in human life, all of which underscore the need for responsible design and ethical considerations in the development of AI self-clones.

2.1 AI Clones and Mimetic Models

The advent of digital replicas and representations of real-world individuals is a burgeoning field, with the term "AI clones" emerging as a novel descriptor. AI clones are conceived as digital entities that, using advanced algorithms, mirror the likeness, behavior, or decision-making patterns of their source individuals [41]. For the purpose of our study, we refine this broad definition, focusing on what we label as "AI self-clones"—AI representations of specific individuals, *created or utilized by those very individuals*.

The concepts of AI self-clones and mimetic models are closely related to the broader research on digital doppelgangers and generative AI. McIlroy-Young et al. explored "Mimetic Models," AI models that simulate and predict the behaviours of individuals. They sorted their uses into three categories, one of which, "Mimetic Models of Oneself," closely aligns with AI self-clones [45]. Meanwhile, Morris and Brubaker discussed the potential of "generative ghosts," or AI entities designed to interact posthumously, which resonate with the philosophical and ethical dilemmas posed by mimetic models [49]. Leong et al. also propose and evaluate the concept of "Dittos", which are mimetic agents that represent their source individuals in meetings, exposing design tensions and issues surrounding the representation and social acceptability of AI clones in collaborative meeting contexts [42]. These works collectively highlight the complex nature of AI clones as they move beyond mere representations to entities that can generate novel content and maintain human-like interactions. Our study expands on these discussions by examining not just the technical feasibility of AI self-clones but also the ethical and psychological dimensions involved in their deployment.

Our definition of self-clones is slightly more relaxed than McIlroy-Young et al.'s concept of mimetic models of oneself, which requires that the source person is both the creator and the user. Our broader definition opens up a wider avenue for identifying novel, broader

categories of self-clone applications, which we abstract into the notion of "roles." Moreover, through this fresh perspective of roles, we could examine the specific values and risks associated with each role, offering a more nuanced understanding of their impact on individuals and society.

2.2 Doppelgangers, Digital Doubles, and Psychological Implications

The concept of a digital double, or "doppelganger," has been investigated for its potential psychological effects [47, 48]. Prior studies have suggested that interacting with one's digital likeness can lead to heightened engagement and unique psychological experiences [3, 56]. These digital representations can serve as safe havens, providing individuals with a space to express themselves without fear of judgment, as evidenced by platforms like ReplikaAI [65]. However, at the same time, interacting with one's doppelganger can also evoke feelings of eeriness, despite its potential use as an objective view of the self [27].

This line of research intersects with studies exploring AI's role in facilitating introspective experiences. Brand et al. introduced the concept of "Introspective AI," which supports introspection by generating alternative perspectives on one's life based on personal data [8, 9]. The interplay between these introspective AI models and digital doppelgangers opens new avenues for understanding how AI self-clones could influence self-perception and psychological well-being. By leveraging the introspective capabilities of AI, users might gain deeper insights into their thoughts and behaviors, but they also risk reinforcing negative self-perceptions or distorting their sense of identity, as discussed by both Huang's chatbot project and Grimes' Twitter bot experiences [23, 32].

Our study builds on these insights by exploring how AI self-clones might simultaneously serve as tools for self-reflection and sources of psychological risk, offering a balanced view of their potential impact on users' mental health and self-identity.

2.3 AI as Collaborative Partners and Teammates

The roles AI systems can assume have expanded beyond mere tools to more interactive and relational roles, such as collaborative partners or teammates. For instance, research in educational settings demonstrates AI's capacity to function as a mediator or assistant, enhancing the learning environment by supplementing traditional instructional methods [80]. In collaborative human-chatbot systems, AI has also been found to help humans communicate more effectively in query-type conversations by improving the informativeness of human messages [35], suggesting that AI can take on active role in supporting human interactions. Additionally, when exploring the effects of error severity in collaborative tasks with social robots, people tend to view a perfect robot as an assistant while describing a faulty robot as a collaborative partner with greater agency in decision-making [70]. As such, existing literature shows that AI systems can be active participants in decision-making processes. The evolving roles that AI can assume reflect changes in how agency, power dynamics, and initiative are distributed in Human-AI team dynamics.

Beyond their functional roles, the social and emotional dynamics of AI systems are also changing. This is explored in studies examining AI's potential as a "friend" or assistant, where the perceived usefulness of the AI is a significant mediator of user attitudes [39]. Furthermore, in human-AI teaming scenarios, the expectations placed on AI teammates, such as reliability and communicative ability, mirror those of human collaborators. For example, AI's social role as a teammate has been explored in contexts such as multiplayer online games, where AI entities are expected to possess human-like behaviors and performance to facilitate effective collaboration between players [83]. In offline settings, it's been shown that autonomous robots are likewise expected to understand social norms such as respecting shared interaction spaces by maintaining appropriate stopping distances [60]. These social and emotional expectations extend to creative fields, where writers express a desire for AI writing partners that respect their personal values and strategies [7]. Hence, as AI tools evolve to take on more relational roles, they also increasingly serve as sources of social support and emotional engagement.

AI systems show promise in acting as both collaborative partners and teammates. But this evolving shift in the way humans use and interact with AI is not without its challenges. Existing research highlights that overreliance—when people agree with AI even when it's wrong—is a significant concern in human-AI decision making teams [11]. This behaviour can be described as "foregoing agency and accountability to the AI" [71], raising questions about trust and responsibility in human-AI collaborative settings.

Our study contributes to this body of work by specifically examining the dual role of AI self-clones as both collaborative partners and competitors in introspective or self-development activities. We explore how these roles could facilitate or hinder personal growth, revealing the complex interplay between AI autonomy and user control.

2.4 Engaging with Human-like Digital Agents

Engagement with digital entities has witnessed remarkable progression, from voice-based assistants like Alexa to more immersive experiences such as virtual reality chatbots [19]. The mechanics of engagement with these agents are shaped by the balance between their human-like characteristics and their perceived artificial nature. For instance, Yam et al. found that people are more likely to engage positively with service robots that display human-like qualities (such as perceived emotions), and are more forgiving of their mistakes [81]. Similarly, incorporating anthropomorphic cues can enhance trust in AI healthcare chatbots [33]. As such, as highlighted by Wilkinson et al., trust is a significant factor in fostering productive human-agent interactions [73].

However, as AI agents become more sophisticated and capable of assuming multiple roles, as seen in the deployment of social versus functional AI, their perceived usefulness and realism also play a critical role in shaping user attitudes [39]. The integration of social cues, while enhancing realism, can paradoxically lead to perceptions of artificiality, resulting in decreased trust and engagement [50]. Characteristics such as autonomy and human-likeness in conversational AI have also been found to contribute to strong attachments with agents, as they can mediate loneliness—but they

also risk fostering addictive and overdependent use [31]. These challenges are further compounded in the context of self-clones, where the boundary between the real and digital is substantially blurred. Furthermore, studies on AI-mediated communication suggest that AI's involvement can impact human interactions by either enhancing trust or serving as a scapegoat when things go awry [28]. This dual nature of AI engagement, oscillating between fostering trust and acting as a "moral crumple zone", is critical for understanding how users might perceive and interact with AI self-clones.

Our research extends these discussions by examining how these engagement dynamics manifest in the realm of AI self-clones, particularly focusing on the unique ethical and social implications that arise when the AI entity is a representation of the user themselves.

2.5 Personal Data and Representation

The authenticity and effectiveness of AI clones or AI self-clones are often grounded in the richness of personal data. Celebrities and public figures have long utilized their digital avatars for various purposes, including entertainment and public engagement [26, 62]. Yet, as the frontier of personal data expands, the capability to craft more accurate and realistic clones of everyday individuals also grows, raising significant ethical concerns. Unlike public figures, everyday individuals often lack the protective mechanisms and resources to safeguard their digital identities against misuse or misrepresentation. For instance, the growing prevalence of non-consensual deepfake pornography highlights the inadequacy of current legal mechanisms, which often fail to provide protection and recourse for exploited victims [37, 69].

As AI-generated representations of individuals become increasingly sophisticated, their specific impacts on human autonomy and agency remain uncertain [6]. Following Lukoff et al.'s definition [43], which emphasizes self-causality, agency can be understood as "an individual's experience of being the initiator of their actions in the world." This framing is particularly relevant in the context of AI, as their ability to act on behalf of users—and influence users as an agent themselves—raises questions about whether these systems undermine or preserve users' sense of agency. Hwang et al. [34] highlight concerns about the loss of human autonomy and agency when individuals use AI agents to represent themselves in social interactions: AI may generate statements that users would not have made themselves, leading to a loss of control over the conveyance of the user's values [34]. Work surrounding social robots also present the possibility that individuals act less authentically in front of social robots, due to fears that these technologies are a form of surveillance sending personal data to its corporate creators [21]. Overall, these consequences are believed to be "rooted in the agents' access to people's identities" [34], which further stresses the potential consequences and risks of providing AI systems with extensive personal data.

In related research, Holmquist argues for considering AI as a "new design material," suggesting that AI's integration into design should go beyond automation to enhance creativity and user experience [30]. This notion aligns with the development of AI self-clones, which while enhancing user experience through personalization and adaptability, also risks commoditizing personal

data and identity. The ethical concerns around representation, especially regarding privacy and consent, become even more pertinent in this context.

Our work highlights these unique challenges by focusing on the implications of crafting AI self-clones from everyday individuals, emphasizing the need for ethical guidelines and design frameworks to protect user rights and foster responsible innovation in this space.

3 Methods

We adopted story completion as our primary method, incorporating elements of the design fiction approach for a richer exploration. Story completion, as described by [12], involves participants responding to a partially developed story stem, extending the scenario with their own ideas [14]. Traditionally used in psychology to explore sensitive and stigmatized topics such as sex robots [66] and virtual reality pornography [76], story completion has more recently found applications in HCI as a speculative and fictional design tool, including for voice assistants [12] and smart home devices [59]. Recognizing the speculative nature of AI self-clones, we found that a more imaginative and critical approach, closely aligned with design fiction, was required. Design fiction typically creates provocative visions of the future to inspire discussion, reflection, and critique [74, 75].

Our method combined the structured process of story completion with the purpose and style of design fiction, guided by two key considerations. First, the speculative nature of AI self-clones as emerging or near-future technology required leveraging participants' imaginative capacities in a structured manner. Story completion provided a grounded framework for envisioning potential futures. Second, since self-cloning inherently involves the individual creating and interacting with a clone of themselves, participants needed to actively explore the purpose, assumptions, and ramifications of self-cloning. This deepened their engagement with the concept and uncovered potential ethical implications and risks. By integrating design fiction elements, we encouraged participants to critically reflect on alternative futures and the broader societal impacts of these technologies.

This hybrid approach—as opposed to using purely story completion or design fiction [40]—balanced the realistic insights afforded by story completion with the critical reflection characteristic of design fiction. Our study was structured around five story-writing workshops, each involving two to four participants. These workshops blended writing tasks with discussions, fostering both deep reflection on the story completion task and the exchange of ideas among participants. The methods were iteratively refined through several pilot workshop sessions to enhance their effectiveness.

3.1 Participants

The study was piloted with five individuals from the researchers' personal networks, during which time the workshop protocol and discussion prompts underwent significant iterations to address emerging themes and areas of interest identified by pilot participants.

A screening survey was distributed through university-affiliated study boards and researchers' personal networks in a major North

ID	Name	Age	Gender Identity	Ethnicity	Education	AI Knowledge
P1	Tina	19-29	Cis woman	Southeast Asian	Bachelors (ongoing)	Advanced
P2	Miya	19-29	Cis woman	South Asian	Bachelors (ongoing)	Intermediate
P3	Ravi	19-29	Cis man	South Asian	Bachelors (ongoing)	Basic
P4	Angus	19-29	Cis man	Chinese	Masters (ongoing)	Expert
P5	Clara	19-29	Cis woman	Chinese	Bachelors (ongoing)	Advanced
P6	Jun	19-29	Cis man	Southeast Asian	Masters (ongoing)	Advanced
P7	Nico	30-39	Cis man	White	PhD-track (ongoing)	Advanced
P8	Sona	19-29	Cis woman	West Asian	Masters (ongoing)	Advanced
P9	Sabrina	19-29	Cis woman	Chinese	Bachelors (ongoing)	Basic
P10	Mei	19-29	Cis woman	Chinese	Bachelors (ongoing)	Basic
P11	Hana	19-29	Cis woman	Latin American	Bachelors (ongoing)	Basic
P12	Lina	19-29	Cis woman	Chinese	Bachelors (ongoing)	Advanced
P13	Rohan	19-29	Cis man	Korean	Bachelors (ongoing)	Basic
P14	Marion	19-29	Non-binary	South Asian	Bachelors (ongoing)	Basic
P15	Jodie	19-29	Cis woman	Taiwanese	B. of Sci. and Arts (completed)	Basic
P16	Andy	19-29	"Non-binary, Gender-fluid"	Chinese	Bachelors (ongoing)	Basic
P17	Ron	19-29	Gender-fluid	Chinese	Bachelors (ongoing)	Advanced
P18	Anyia	50-59	Cis woman	Chinese	Masters (completed)	Basic
P19	Lily	50-59	Cis woman	White	Bachelors (ongoing)	Intermediate
P20	Avery	40-49	Cis woman	West Asian	Bachelors (completed)	Basic

Table 1: Summary of participant demographics and AI knowledge

American city. We received responses from a broad pool of candidates and selected a purposive sample of 20 participants to ensure diversity across dimensions such as gender identity, ethnicity, area of study, and level of AI knowledge. Participants indicated their demographic characteristics (e.g., gender, ethnicity) and backgrounds (e.g., area of study, AI experience) through self-selection; these categories were not assumed to be mutually exclusive, and participants often occupied multiple intersections of identity (e.g., an ethnic minority who was also an HCI researcher, or a 1.5–2nd generation immigrant who had advanced AI knowledge).

In reporting participant demographics, we highlight certain dimensions to illustrate the breadth of representation, but this is not meant to imply discrete or non-overlapping groups. For example, among our 20 participants, we had 2 individuals who simultaneously identified as ethnic minorities and were also involved in HCI research. Of the 20 participants, 4 were ethnic minorities, 3 were HCI researchers, 4 were women, 4 were 1.5–2nd generation immigrants, 2 were non-binary individuals, and 3 were adults over 40; these categories are not exclusive and may overlap. Similarly, while participants could have various levels of AI knowledge, we intentionally excluded those with no exposure to AI and those actively developing AI technologies to focus on perspectives of informed laypeople while minimizing expert bias.

The screening survey also inquired about participants' areas of study, level of AI knowledge, and demographic information, which significantly impacted participant selection to ensure diverse representation. Participants were organized into specific groups based on their intersectional identities to foster a cohesive environment and encourage open discussion. A breakdown of participant demographics is provided in Table 1. Participants gave informed consent prior to participation. While we strove to achieve a diverse participant pool in the dimensions mentioned, the authors note that all participants resided in North America.

3.2 Workshop Procedure

We conducted five story-writing workshops via Zoom, with each session hosting two to four participants. Every workshop lasted

1.5 hours and unfolded across four phases: Orientation, Ideation Round 1, Ideation Round 2, and Discussion. Given our objective of diversifying perspectives, we chose Zoom due to its enhanced accessibility and flexibility, allowing participants to engage at their preferred times and environments. Furthermore, as all participants were familiar with using Zoom, this mode of communication neither hindered their participation nor caused any major technical breakdowns during the sessions.

We discerned that the effective orientation emphasized a clear and specific *scope* for AI self-clones. Piloting showed that participants, when hearing "AI" in AI self-clone, often gravitated towards writing stories about AI systems in general that are not specific to AI self-clones, possibly due to the buzz around AI, especially ChatGPT. Consequently, in the workshops, we avoided mentioning "AI" explicitly when discussing self-clones. Furthermore, asking participants to ideate within a narrower definition of AI self-clone (where the source individual is the only user) limited their imagination and made crafting a compelling story challenging. Expanding the scope to self-clones either created or used by the source individual allowed participants to amass a richer pool of ideas, leading to more novel narratives based on even the narrower definition.

In Ideation Round 1, participants were individually tasked with imagining a future self-clone application. They had 10 minutes, drawing inspiration from an assigned scenario prompt, detailed in Table 2. Participants built upon their prompts, crafting mini-stories that showcased potential uses for self-clones within their given scenarios. As this was a brainstorming exercise, participants were advised against pondering technological feasibility or critiquing their narratives. Once done, each participant shared their story and received feedback from peers in a round-robin manner. We underscored that this feedback was to inspire fresh ideas for the next round.

In Ideation Round 2, participants were individually tasked to ideate a new future self-clone application for 10 minutes. Unlike Round 1, they had the freedom to work on any scenario prompt of their choice. This round was aimed at eliciting in-depth rationales about the ideas. Consequently, participants were given more time to present their new ideas and to explain their rationale for how

Application Domain	Prompt
Education	It's the year 2050, several decades from now. Morgan is a professor who's on campus prepping for class they're teaching. Morgan's self-clone...
Entertainment	It's the year 2050, several decades from now. Morgan is an actor who is on set, waiting to film. Morgan's self-clone...
Healthcare	It's the year 2050, several decades from now. Morgan is a patient at the doctor's office, waiting to be called in. Morgan's self-clone...
Public relations	It's the year 2050, several decades from now. Morgan is an influencer who manages their public relations from home. Morgan's self-clone...
Relationships	It's the year 2050, several decades from now. Morgan often texts their friend Jamie while at home. Morgan's self-clone...
Work	It's the year 2050, several decades from now. Morgan is an employer who arrives at their office to start their work day. Morgan's self-clone...

Table 2: Summary of scenario prompts.

they created it (e.g., if any aspects of discussion in round 1 inspired them). No comments were given this time, as this phase was directly followed by a Discussion phase.

The Discussion phase resembled a focus group. Participants followed up on their perceptions of the stories generated and towards self-clones as a whole. They were prompted to take a more evaluative and critical perspective towards self-clones, as we wanted to uncover the values and risks associated with the stories they generated in the previous ideation rounds.

3.3 Scenario Prompts

The scenario prompts shared with participants are in Table 2. Our aim was to span a range of domains. To do this, we plotted current and speculative AI clone examples [41, 45] alongside their application domains. We then extrapolated these domains for our scenario prompts. We crafted our prompts to be open-ended but also sufficiently specific, drawing inspiration from Cambre et al.'s story prompts [12]. Notably, their prompts set a clear domain context but avoided dictating technological mechanisms or creation processes. We embraced this approach, refining our prompts through pilot sessions.

3.4 Analysis

We conducted a reflexive thematic analysis [10] on the transcripts from our workshop recordings. Following Braun and Clarke's 6 step process: 1) familiarization, 2) coding, 3) generating initial themes, 4) developing and reviewing themes, 5) refining and naming themes and 6) producing the report [10], the lead researcher first familiarized themselves with the data by transcribing recordings of the workshop sessions. They then performed open coding on the transcripts, generating both deductive codes based on prior literature and inductive codes emerging from the data. For instance, a deductive code like "impression management" was derived from existing literature [41], while an inductive code such as "roles" emerged unexpectedly from the data. After the initial round of coding, researchers collaboratively categorized these into higher-level codes before transforming them into themes. This iterative process allowed us to refine our workshop approach as data collection progressed, which we deemed crucial for our exploratory work. The

research team convened weekly to discuss and refine our coding structure and thematic framework.

During the analysis, we, as researchers, were mindful of our identities and perspectives shaped by our educated and privileged backgrounds, recognizing how this could affect our interpretations of the data. As such, in an effort to engage in reflexivity, during discussions we aimed to remain open to each other's alternative interpretations while also critically challenging our own assumptions. For example, we debated our categorizations of using AI self-clones as stand-ins for social interaction. While the role and behavior were initially categorized as "relationship-oriented delegation", "representative" ultimately emerged as the more fitting label as it better captured the emotional and identity-related dimensions of the clone's role.

As we progressed through the analysis of later workshops, we observed that no new significant codes or themes were emerging, indicating that we had reached theoretical saturation. Ultimately, we identified approximately 50 codes from each workshop, which we synthesized into five main themes with nine sub-themes related to the mechanisms of AI self-clones, and twenty-one themes addressing associated values and risks. These themes encompassed distinct roles that AI self-clones might assume, such as "Mirror" for self-reflection, "Probe" for scenario exploration, "Companions" (including "Worthy Opponent" and "Soothe" sub-roles), "Delegate" for task management, and "Representative" for social interactions. The details of these themes and codes are included in the supplementary materials accompanying our submission. As part of our analysis, we've also examined how domains and roles are associated (as shown in Figure 1 of our Appendix A.1). Our findings section focuses on presenting the themes unique to self-clones, omitting more generic AI-related findings.

4 Findings: Roles of AI Self-Clones and their Associated Opportunities and Risks

The participants' narratives from the scenario completion task elucidated distinct roles that AI self-clones could assume. These roles, stemming from the participants' imaginations and interactions with the concept, reveal the multifaceted manners in which AI self-clones might be integrated and perceived in various applications. Through rigorous qualitative analysis, we identified five salient roles, each

Roles	Definitions	Values	Risks	Source-Creator-User Relationships
Mirror	Reflective tool for self-improvement	Fresh external perspective; Enhanced self-awareness	Promotes self-doubt and self-criticism	Source and user are the same; Creator is unspecified
Probe	Exploration of life pathways	Bolster logical behaviors; Safe space to gauge consequences	Regret over untrodden paths; Echo chambers; Social inequalities	
Worthy Opponent (Companion)	Competition counterpart	Non-judgmental learning environment	Social isolation; Over-reliance	
Soother (Companion)	Private confidante for emotional comfort	Therapeutic conversation; Privacy	Social isolation; Over-reliance	
Delegate	Extension of oneself for tasks	Amplified productivity; Task division; Enhanced efficiency	Blurred authenticity; Loss of personal growth; Unclear accountability	Source and creator are the same; User is different from the source
Representative	AI intermediary in social interactions	Refining interpersonal dialogues; Assist in important discussions	Erosion of genuine experiences; Misrepresentation; Questioned authenticity	

Table 3: Summary of Findings

encompassing its unique array of values and risks as summarized in Table 3. This rich tapestry of roles delineates the multifaceted ways in which self-clones could weave into the fabric of our lives, each with its associated boons and challenges. The "Mirror", "Probe", and "Companion" roles primarily address scenarios where the source individual is the system user, whereas the last two roles focus on cases where the individual acts as the creator but not the user. These relationships are detailed in the "Source-Creator-User Relationships" column of Table 3.

4.1 Mirror: Reflecting on the Self through AI-Enabled Introspection

The "Mirror" role, as discussed by participants, captures the utility of a self-clone as an objective, reflective tool for self-improvement and heightened self-awareness. The essence of this role lies in the unique opportunity it offers individuals to step outside themselves and critically evaluate their actions, decisions, and behaviors, as exhibited by their self-clone. As they peer into this "mirror" of their unaltered, current self, they're not just confronting a mere reflection but a responsive entity capable of providing invaluable feedback. The participants recognized the potential for enhanced self-awareness and growth in this role, ultimately envisioning it as a tool to foster goal based skill improvement over time. Participants identified only a few minor concerns about potential drawbacks.

Participants (P5, P6, P8) emphasized the value of self-clones in providing a fresh, external perspective on one's own behaviors and actions. This was particularly highlighted in professional contexts where obtaining honest feedback can be challenging. The ability to receive critique from oneself was seen as a unique advantage of self-clones. P6 elaborated on this point:

"I think it lets you be critical, but from a clearer mind I think. If I was looking at my own work—like I'm

coming up with an idea—trying to assess it, it's harder for me to pay attention to body language, eye contact, rate of speech. But when someone else is doing that, [those] kind of factors become clearer because I've freed up my mind to focus on that."

This insight underscores the potential of self-clones to act as objective observers, capable of noticing nuances in communication and behavior that might escape the individual's conscious awareness. The "clearer mind" P6 refers to suggests that the self-clone, unburdened by the immediate pressures of performance or self-consciousness, can provide more impartial and comprehensive feedback. This external perspective could be particularly valuable in scenarios requiring precise communication skills, such as public speaking, teaching, or leadership roles, where subtle aspects of delivery can significantly impact effectiveness.

The second key value identified was the potential for self-clones to enhance communication skills and self-awareness in various social contexts. Participants (P5, P20) discussed how self-clones could offer insights into subtle aspects of interpersonal interactions that are often overlooked. P5 highlighted this benefit in the context of social media influencers: "I feel like a lot of times we're really into our own thinking and sometimes we lack that self-awareness. [...] Having that self-clone check yourself could be pretty useful in situations where you don't really intend to hurt somebody else's feelings but it just comes out that way." This reflective capability was seen as particularly useful for those who struggle with self-reflection, as P5 further noted, "some people like having that extra perspective because maybe it's hard for them to self-reflect."

Despite the generally positive reception of the increased self-awareness enabled by using self-clones as "mirrors," a few participants highlighted their negative counterpart, expressing concerns

about potential drawbacks. P20 raised a point about the psychological impact of excessive self-awareness: "Maybe I am overall, my tone is not good or I don't do enough eye contact. Thinking the downside [is] a lot of this information about myself [will] bring my self confidence down." This highlights a potential risk of using self-clones as mirrors—the possibility of undermining one's self-confidence by becoming overly aware of personal flaws or imperfections. P20 summed up this concern succinctly: "Yeah again, too much knowing or being too sensitive on all of these things."

4.2 Probe: Navigating Alternate Realities of the Self

The utilization of self-clones as probes introduces a diverse and unprecedented method for individuals to navigate scenarios of interest. In the Probe role, a self-clone is used to intentionally simulate altered aspects of the self. This contrasts with the Mirror role, which emphasizes evaluating an individual's unaltered, current self. Participants emphasized the potential to create self-clones varying by age, character or personality, and situations, allowing individuals to virtually evaluate multiple potential pathways or experiences in their lives. For instance, P1 explored how their older self copes with a condition like Alzheimer's or how their career could evolve in different circumstances. Through such probing, individuals can gauge potential treatments or actions before making real-life commitments. In our data, the Probe role was highly associated with the Healthcare domain. But it also spanned various other domains as well, such as Entertainment, Work, Public Relations, Education, and Relationships.

One of the primary values of employing a self-clone as a probe lies in its capability to bolster logical behaviors and facilitate critical thinking. A self-clone can essentially take on the ideation aspect, leaving the source individual to critique and analyze from a more detached standpoint. As P6 notes:

"Maybe it's a more rational clone that can provide that kind of insight... so that you could be rational and critique yourself in a way. Oftentimes I can imagine it'd be very difficult to hold the ideation part of your brain, but also the critical part of your brain at the same time."

Furthermore, as highlighted by P5, these probes could also serve as a safe space to "feel the impact of the consequence prior to doing it," ensuring that individuals are conditioned against making certain mistakes in real life.

Building on the concept of self-clones as probes for critical thinking and decision-making, participants (P1, P5, P8, P11) described three primary types of self-clone variants that expand the scope of this exploratory tool. Age variants, as described by P1, allow individuals to explore future scenarios, such as "older versions of himself who are going through the initial stages of Alzheimer's" and evaluating different treatments. Character or personality variants, mentioned by P8, enable users to experiment with different emotional tones or personality traits, particularly useful in fields like acting, where a clone could perform a scene "with a humorous tone, or with a serious tone, with a lot of emotion, with no emotions." Situational variants, discussed by P5 and P11, offer the opportunity to explore alternative career paths or life decisions, such as

experiencing "different and diverse patient cases that come into an ER" or seeing "how their life would be owning... maybe a cafe or a hotel next to the beach." These diverse variants extend the probing capabilities of self-clones, providing a comprehensive toolkit for self-exploration and decision-making.

Nevertheless, while the potential benefits of such probing are manifold, there are considerable risks involved. One looming concern is the disconnection and potential regret associated with witnessing the "road not taken." P5 articulates this fear, stating, "Maybe if I were to see the potential set of actions that I could have been doing, I would regret more or blame myself more for not doing those set of actions." Another risk, voiced by P8, lies in creating echo chambers of bad judgment, wherein continuous reinforcement from one's clone could validate detrimental decisions. As P8 explains, "What if I just keep reinforcing those wrong decisions by just telling myself that yeah it's fine." P2 sheds light on the ethical dilemmas, particularly in healthcare, emphasizing that "by just having a clone going around trying different potential treatments, we could be taking away treatment from someone who actually required it at the moment," thereby exacerbating social inequalities. Additionally, participants (P2, P6) expressed concerns about the psychological impact of constantly comparing oneself to idealized or alternative versions, potentially leading to decreased self-esteem or decision paralysis. Lastly, P11 raised the issue of overreliance on self-clones for decision-making, potentially stunting personal growth and the ability to learn from real-life experiences.

4.3 Companions: Worthy Opponent and Soother

Participants conceptualized the "Companion" role of AI self-clones as leveraging digital replicas of oneself for intimate interactions, serving both competitive and confidante purposes. This role encompasses two distinct sub-roles: the "Worthy Opponent" and the "Soother." Participants (P1, P7, P9, P11) envisioned these roles as offering unique benefits, such as facilitating personal growth through competition or providing emotional support by promoting the feeling of shared experiences. However, they also acknowledged potential risks, including excessive reliance on the self-clone and the onset of social isolation (P2, P6, P14).

The "Worthy Opponent" sub-role was perceived as a valuable tool for self-improvement through competition. Participants saw it as an opportunity to engage with a competitor who perfectly mirrors one's skills, creating a judgment-free zone for learning and failure. P1 articulated this benefit in the context of chess, stating, "I would love to clone myself to play chess with... whenever I lose, my self-clone could break down how I lost and not be judgmental about it. We both get better as we play more." This sentiment was echoed by P7, who emphasized the unique advantage of having a competitor at one's exact skill level, highlighting the potential for "casual fun" and personal development in various activities.

The "Soother" sub-role was conceived as a private confidante, offering a space for conversation on sensitive matters and self-soothing. For example, P9 says they would like to use the clone "if I'm going through something personal that I can't really share with family or friends. That's when I really want the self-clone just to talk myself through it." Unlike the Mirror role, which focuses on goal based skill improvement over time, the Soother sub-role

prioritizes providing emotional relief and comfort *in the moment*. While engaging with this role may lead to emotional growth or resilience over time, this is more of a secondary effect rather than the primary intention. Participants viewed this as particularly valuable for processing traumatic experiences or navigating personal challenges. P11 highlighted the potential therapeutic benefits, noting that "maybe having a clone that has exactly passed through what you have passed through can be very good for you, and can help you go through that and make you feel you are not alone." They emphasize that this role may be especially valuable for marginalized communities who often face unique and challenging experiences, such as "[women...] having to pass through bad experiences like sexual assault." This perspective underscores the unique understanding and support that a self-clone could provide, potentially enhancing mental well-being in ways that might be difficult to achieve through traditional means.

Despite these perceived benefits, participants expressed concerns about the potential risks associated with the Companion role. A significant worry was the escalation of social isolation. P6 raised thought-provoking questions about the nature of loneliness and social interaction in the context of self-clone companionship:

"Are you still lonely if you're playing with yourself? Like, at first it's fun, but let's say if I enjoy it so much that I value my own presence over other people, I think that starts to go into a place where I see it as not loneliness, but maybe by definition it's still loneliness and it's a more extreme level."

P6 suggests that self-clones inherently cannot offer the same depth or authenticity that human relationships provide. While initially comforting, excess self-engagement could lead to the shift of social priorities and actually drive loneliness. In the long run, P6 alludes to how real-world connections could become eclipsed by the ease and comfort of self-clone interactions. This concern was echoed by P2, who worried that the convenience of self-clone interaction might reduce real-world social connections, potentially impacting mental health negatively. Both participants highlight a dilemma of the digital age: while convenient technologies can foster richer social connections, they also risk exacerbating social isolation and loneliness by encouraging superficial connections and displacing time engaged in meaningful, offline social activities [52].

Another risk identified by participants was the potential for excessive dependence on the self-clone, particularly in vulnerable situations. P14 cautioned against using self-clones as a crutch, especially when dealing with trauma: "If there's trauma, you're in a vulnerable position, and then it's problematic to introduce your consciousness into an entity that is not you that could take a life of its own." This perspective highlights the complex psychological implications of relying too heavily on a digital version of oneself, suggesting that while self-clones may offer unique support, they also introduce new vulnerabilities that users must navigate carefully. Similarly, these concerns parallel the challenges associated with AI interventions in mental health support and well-being. Despite offering privacy, major concerns include the potential for these technologies to give inappropriate or harmful advice, diminish autonomy, and decrease motivation to seek social support and treatment, potentially exploiting vulnerable populations [38].

4.4 Delegate: When Efficiency Meets Existential Unease

The idea of the self-clone as a "Delegate" is where the self-clone is an extension of oneself with assigned tasks or responsibilities. Participants perceived considerable potential in leveraging their self-clone to accomplish tasks more efficiently, as they amplify their productivity by dividing tasks meant for one individual between two entities. However, they also underscored the inherent risks, notably the blurred boundaries of authenticity and accountability. P1, P3, P5, and P6 all alluded to the potential benefits. P6 notes that this delegation could serve as a relief during times of personal burnout, but also highlights the potential loss of personal growth or learning. In some discussions, our participants extended this delegate role to both mundane tasks and more significant responsibilities, eliciting participants' perceptions of both convenience and uncertainty. In our analysis, the Delegate role was frequently observed as being relevant in the Work and Education domains.

The primary value attributed to the Delegate role was the ability to parallelize tasks and increase overall productivity. Participants saw great potential in leveraging their self-clone to handle simultaneous or time-consuming activities, effectively multiplying their capabilities. This sentiment was particularly emphasized by P3, who articulated the efficiency gains:

"I think it's a great way to boost efficiency and productivity, because you're basically just kind of assigning tasks that are meant for 1 person to 2 people. So I think it's a great way to like be able to spend more time on focusing on more important tasks and just finishing all those little tasks really quickly by delegating it to your self-clone."

This perspective was echoed by other participants, who recognized the advantage of having a perfect replica that could seamlessly execute tasks without the need for extensive communication or explanation. P5, for instance, highlighted the potential benefits in everyday tasks where having an additional set of hands that perfectly understands the task at hand could be incredibly useful.

The perceived value of the Delegate role extended beyond mere task completion to potentially transformative impacts on work-life balance and career advancement. P1 described a scenario where a professor's self-clone could hold office hours and attend administrative meetings, freeing up the human counterpart to focus on more meaningful work: "The self-clone could also do manual tasks that actually require the presence of the professor... Allowing the professor to do actual meaningful work like research, or anything that they find to be more meaningful." This delegation of less desirable tasks to the self-clone was seen as a way to optimize time and energy for high-value activities.

However, alongside these potential benefits, participants identified significant risks associated with the Delegate role. A primary concern was the potential loss of authenticity and the blurring of boundaries between the self and the clone. P1 expressed worry about the difficulty in distinguishing between the work of the human and that of the clone: "If I did something, and not my clone... [People] could very easily be like 'You don't know if the clone did it, or if it's actually her work and her inputs'." This ambiguity raised questions about credit, responsibility, and the very nature of

personal accomplishment in a world where tasks can be seamlessly delegated to a digital self.

Furthermore, participants voiced concerns about the potential for role reversal and loss of autonomy. One participant (P5) articulated a fear of the self-clone overstepping its boundaries: "I think it's starting to be a little scary thinking about crossing the boundaries that...goes beyond delegating the tasks. Like this clone could have the potential to delegate me tasks, and that's the scary part of thinking about it." This sentiment reflects a deeper anxiety about the potential for AI self-clones to not only assist but potentially supersede their human counterparts, challenging notions of self-worth and identity. P6 also highlighted the risk of missed learning opportunities, noting that by delegating challenging tasks to the clone, individuals might forfeit valuable personal growth experiences.

4.5 Representative: The Tension Between Convenience and Authenticity in Digital Delegates

The role of the self-clone as a "Representative" surfaced from participants' narratives, embodies the concept of the AI acting as an intermediary or stand-in in various social contexts, from casual conversations to relationship maintenance. While some (P11, P12, and P14) saw this as an opportunity to enhance communication and efficiency, others (P7, P8, P9, P11) expressed concerns about the authenticity of relationships and the potential long-term consequences of delegating social interactions. Our data indicates that the Representative role was predominantly linked to the Relationships domain (see Figure 1 in the Appendix A.1).

Self-clones as Representatives offer potential benefits in navigating complex social situations and maintaining relationships. P11 highlighted the value of self-clones in practicing difficult conversations, stating, "Oh, I want to have this conversation with this person. What's the best way to approach it?" This sentiment was echoed by P15, who saw potential applications in long-distance relationships: "This, I could see being super useful for long distance relationships. Like in addition to just hanging out with your friends. Because with long distance relationships, when you do meet up, time is of essence." P14 further emphasized the logistical benefits, noting that self-clones could coordinate schedules and plan activities, potentially enhancing the quality of in-person interactions when the user carries out their plans.

However, the use of self-clones as representatives raises significant concerns about the authenticity of relationships and personal growth. Many participants expressed discomfort with the idea of delegating personal interactions to a clone, viewing it as a potential theft of meaningful experiences. P7 articulated this sentiment strongly, stating, "I would never clone myself to interact with other people, especially ones that I cared about... the whole point in the experience of being alive, part of it is building these relationships and creating happiness." This perspective underscores a fundamental question about the nature of human connection and the role of direct, personal engagement in fostering genuine relationships.

The risk of misrepresentation and the potential for creating gaps in understanding within relationships emerged as a key concern. P9 highlighted the fluid nature of self-presentation and the possibility

of the clone giving "an inaccurate response" or "the wrong impression" of the source individual, due to its inability to fully capture the individual's daily experiences and emotional states. This disconnect could lead to situations where the clone's interactions fail to reflect significant changes or challenges in the individual's life, potentially creating misunderstandings and damaging relationships.

Furthermore, participants raised concerns about the long-term implications of relying on self-clones for social interactions. P11 pointed out the potential for individuals to become disconnected from their own relationships and losing touch with friends' lives and experiences. There's also a worry, expressed by P8, about the perceived authenticity of relationships mediated by clones and whether others would view these interactions as genuine. Additionally, P11 suggested that overreliance on clones for social situations could lead to decreased social skills and increased awkwardness in real-life interactions, highlighting a potential negative impact on personal development and social competence.

5 Discussions

Our findings offer a nuanced perspective on AI self-clones, shedding light on the diverse roles they can assume and the associated opportunities and risks. This discussion synthesizes our findings with existing theoretical and empirical literature, drawing on prior studies in human-computer interaction (HCI), psychology, and AI ethics to provide a deeper understanding of the implications of AI self-clones.

5.1 Reconceptualizing Human-Computer Interaction through AI Self-Clones

AI self-clones challenge traditional paradigms in HCI, transitioning from being mere tools to becoming complex entities that reflect and extend the user's identity [45]. The roles identified in this study, such as the "Mirror" and "Companion," suggest that AI self-clones could act as both reflective surfaces and interactive entities that influence users' self-perception and behavior [51, 68]. This dual function aligns with existing research on digital self-representations, which highlights the impact of virtual avatars and digital doubles on users' self-concept and social interactions [22, 82].

Related to impacts on self-concept and social interactions, AI self-clones also shape human emotional experiences. Emotional experiences and processing can be offloaded to "Representative" AI self-clones, thereby positioning AI as intermediaries in emotional regulation [40]. This evolving function of AI self-clones can have both negative and positive influences: while they may reduce vulnerability and diminish engagement with moral emotions crucial for developing a moral compass, they could also serve as social proxies that reshape how individuals learn to care for one another [40, 53]. Furthermore, the envisioned use of emotion-aware AI for support, as seen in the "Companions" role, implies a larger shift towards growing user trust of chatbots [5]. AI self-clones hence move beyond functional assistance to become socially and emotionally embedded in users' lives.

The role of AI self-clones as "Probes" further extends the HCI discourse into speculative design and anticipatory interfaces, which are increasingly used to explore potential futures and alternate realities [16]. This capability enables users to simulate various

life scenarios and outcomes, offering new ways of engaging with digital technologies that go beyond traditional task completion. By allowing users to explore multiple realities or outcomes, AI self-clones can support decision-making and reflective thinking, fostering a critical engagement with personal and societal issues [61].

5.2 Conceptualizing AI Self-clones vis-à-vis "Mimetic Models of Oneself"

McIlroy-Young et al. broadly conceptualize "Mimetic Models" as interactive AI representations of real-world individuals [45]. This definition shares significant conceptual overlap with "AI Clones" [41], where they both highlight that these technologies can be both created and used by people who aren't the source individual². In contrast, AI self-clones take on a narrower definition as they do not account for the aforementioned use case.

However, McIlroy-Young et al. also describe "Mimetic Models of Oneself" as a category of "Mimetic Models", underscoring the idea where the creator, operator, and source individual converge as the same individual [45]. When compared to this specific subclass, our definition of AI self-clones pivots towards a slightly more expansive viewpoint, accounting for scenarios where the source individual can be either the creator or, importantly, the *user*³. While the former centers on the nexus of creation and operation, the latter emphasizes the user's interaction and relationship with the model. This distinction is crucial in an era where AI system creation is dominated by corporates wielding vast resources over individual user data. McIlroy-Young et al.'s lens tends to focus on personal agency in the creation process, whereas our conception of AI self-clones underscores the implications of data ethics and policy, recognizing the potentially contentious dynamics between large-scale tech producers and individual users. The shift towards a user-centric perspective highlights the broader ethical landscape and reframes discussions on authenticity, data rights, and personal agency in the realm of AI-driven self-representation.

While our approach emphasizes data ethics and policy, it is important to acknowledge the relevance of personal agency in our findings. In particular, issues with control and autonomy are centered around our latter two findings ("Delegate" and "Representative"), where source individuals are the creators of their clones but not the users. When self-clones operate in the world outside of the source individual's jurisdiction, the risk of losing control over digital representations grows, posing risks to authenticity and trust. This concern is less pronounced in our first four findings where source individuals are the direct users of their clone, which allows for a greater level of control and oversight. Overall, the heart of these concerns connect to a broader conversation about the potential for misrepresentation of source individuals [41], with reputational risks impacting both personal and professional relationships [42]. Hence, ensuring AI self-clones align with the source individual's intentions is crucial, highlighting the intersection of control, agency, and data ethics in their development and use.

5.3 Implications for Design and Policy

Our findings reveal several latent and cross-cutting issues that have significant implications for the design of AI self-clone systems and the policies governing their development and use. These implications span ethical, technical, and social dimensions, necessitating a multidisciplinary approach to ensure responsible innovation.

Authenticity vs. Enhancement. A prominent theme across all identified roles is the tension between authenticity and augmentation. Participants expressed both excitement about enhancing their capabilities and concern about maintaining their true selves. This duality presents a crucial challenge for designers and policymakers alike. Design-wise, it suggests a need for customizable fidelity in AI self-clones, allowing users to adjust how closely their clone mimics their actual behaviors and traits. This aligns with Hancock et al.'s work on AI-mediated communication, where they emphasize user agency in self-representation [25]. From a policy standpoint, this tension calls for guidelines on transparency in AI-mediated interactions, such as mandating disclosure when an AI self-clone is acting on behalf of a user. This may be especially important in professional or high-stakes social contexts.

Psychological Impacts. Another cross-cutting issue is the potential for AI self-clones to influence self-perception and decision-making, particularly evident in the Mirror and Probe roles. While participants saw value in these introspective and exploratory functions, there were underlying concerns about the psychological impact of continuous self-reflection and the accuracy of future projections. Designers should consider implementing safeguards against excessive use, similar to digital wellbeing features in modern smartphones [44]. They should also explore ways to clearly demarcate speculative scenarios from factual information when AI self-clones are used for future planning. Policy considerations here might include requiring AI self-clone systems to undergo psychological impact assessments before public release, drawing inspiration from impact assessment frameworks in other tech domains [78].

Accountability and Control. The Delegate and Representative roles highlight a critical issue of accountability and consent. Participants envisioned scenarios where AI self-clones could act autonomously on their behalf, raising questions about responsibility for the clone's actions and the extent of permissible delegation. This calls for design features that provide granular control over a clone's autonomy and clear audit trails of its actions [63]. From a policy perspective, legal frameworks need to be developed to address liability issues in cases where AI self-clones make decisions or take actions on behalf of users. This might involve extending existing digital signature laws or creating new categories of AI agency, as proposed by Balkin in his work on the law of robotics [4].

Privacy and Data Protection. Privacy and data protection emerged as significant concerns across all roles, due to the deeply personal nature of the data required to create an effective AI self-clone. Designers must prioritize robust data protection measures, including end-to-end encryption, secure storage, and user-controlled data sharing options. Policy implications include the need for stringent regulations on data collection, use, and retention for AI self-clone systems. This could involve extending principles from existing data protection laws like GDPR [17] to specifically address the unique

²Analogous to "target" in McIlroy-Young et al.'s definition (2022).

³Analogous to "interactor" in McIlroy-Young et al.'s definition (2022).

challenges posed by AI self-clones, such as the right to delete or "kill" one's digital clone.

Equity in AI Self-Cloning. Finally, our findings reveal a latent concern about the potential for AI self-clones to exacerbate existing social inequalities or create new ones. Participants' narratives suggested that access to and effective use of AI self-clones could provide significant advantages in personal and professional spheres. This raises important questions about equitable access to this technology. Designers should consider developing versions of AI self-clone systems that can run on a wide range of devices, including lower-end smartphones, to promote accessibility. Meanwhile, policymakers should explore ways to ensure that the benefits of AI self-clones are distributed fairly across society, perhaps through public education programs on their use or by incentivizing the development of open-source AI self-clone platforms.

5.4 Ethical Implications and Risks of AI Self-Clones

The ethical landscape of AI self-clones is fraught with complexities, particularly regarding issues of identity, privacy, and autonomy [18]. On one hand, AI self-clones offer significant opportunities for self-reflection, growth, and therapeutic engagement. For example, the "Mirror" role identified in our study mirrors the potential for enhanced self-awareness and personal growth, similar to how digital avatars have been used in virtual environments to foster empathy and self-reflection [1, 64]. By providing a more responsive and personalized form of self-feedback than traditional media, self-clones can deepen users' understanding of their behaviors, motivations, and interpersonal dynamics, thereby enhancing personal growth.

However, these opportunities are counterbalanced by significant risks. The "Delegate" role underscores concerns about accountability and the integrity of personal accomplishments: because self-clones can seamlessly perform tasks in a user's stead, it becomes difficult for others to distinguish genuine human effort from automated output, blurring the lines of credit, ownership, and moral responsibility. Existing debates around AI accountability [15], intellectual property, and authorship [13] resonate strongly here. Similarly, the "Representative" role raises concerns about authenticity and the erosion of genuine experiences. Participants expressed apprehension about the authenticity of interactions, highlighting risks of misrepresentation and self-clones' inability to capture nuanced and changing emotions. This underscores the potential for these technologies to undermine personal agency and authenticity [2]. Participants also stressed that using self-clones as a representative can deprive oneself and others of meaningful social engagements. While convenient, this risks diminishing the value of in-person relationships and reflects broader concerns in AI ethics about the commoditization of human identity and the manipulation of personal data [41, 54, 85].

In addition to societal level ethical concerns, AI self-clones also raise ethical concerns at the individual level. Roles like "Mirror" and "Probe" illustrate the intricate balance between beneficial self-awareness and detrimental self-criticism. While an AI Mirror can sharpen an individual's insight into personal flaws or communication patterns, participants feared it might also heighten insecurity

and reduce self-esteem if users become hyper-focused on their imperfections. The "Probe" role enables exploration of alternate life paths for informed decision-making, but also risks intensifying regret, self-blame, and potentially undermining mental well-being if users repeatedly confront idealized paths not taken. Moreover, the "Delegate" role raises questions about autonomy, as relying on a self-clone to navigate challenges can stunt personal growth by limiting opportunities for personal learning and resilience.

The deeper social and emotional integration of AI self-clones in users' lives also introduces concerns about control and agency, with creepiness emerging as a key factor in these interactions. Creepiness in HCI has often been linked to privacy threats, where individuals fear that technologies are collecting and misusing their personal information [58]. However, more recently creepiness has also been linked to a loss of perceived control as AI systems take on more autonomous roles [77]. The "Companions" role highlights this, as users can come to rely on AI for emotional support while being subtly influenced by its responses. Additionally, the experience of AI self-clones delegating tasks to users challenges traditional human-computer relationships, introducing reversed control dynamics that feel unnatural. As such, AI self-clones provoke creepiness by assuming internal social or cognitive functions and exerting greater decisional involvement, which can ultimately diminish users' sense of agency [6].

Participants expressed that while AI self-clones may offer users emotional comfort and validation, this can also lead to potentially harmful dependencies. This is especially apparent in the "Companions" and "Probe" roles, and the dynamic mirrors what might be called a security blanket paradox [55]. Similar to the way security blankets comfort children, AI self-clones can provide a comforting presence that offers reassurance. However, this sense of security may ultimately be false, as it creates and masks deeper issues that make users unaware of the emotional risks they face. In the "Companions" role, this manifests in the erosion of people's abilities to engage in meaningful, human relationships, as people may start to prioritize AI interactions for the unique form of support and companionship they offer [79]. In the "Probe" role, reliance on self-clones may lead to confirmation bias, as they can act as echo chambers that reinforce poor decision-making. Ultimately, this reflects existing concerns about the consequences of overreliance on AI, in both emotional [38] and logical dimensions [11].

6 Conclusion

In this landscape of evolving digital identities, AI self-clones stand at a fascinating crossroad of innovation and ethics. Our study has revealed these clones not just as digital doppelgangers, but as actual partners in introspection, decision-making, and social interaction. Participants' narratives have painted a future where these entities act as mirrors for self-awareness, probes to test life's myriad pathways, companions in personal growth, and even representatives in our social spheres. However, this potential has not been without its shadows, drawing attention to concerns around genuine experiences and personal growth. Through our exploration, we have delved deep into the multifaceted roles AI self-clones can play, shedding light on both the bright pathways and the lurking shadows.

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References

- [1] Sun Joo Ahn, Amanda Minh Tran Le, and Jeremy Bailenson. 2013. The effect of embodied experiences on self-other merging, attitude, and helping behavior. *Media Psychology* 16, 1 (2013), 7–38.
- [2] Margaret Arnd-Caddigan. 2015. Sherry Turkle: Alone Together: Why We Expect More from Technology and Less from Each Other: Basic Books, New York, 2011, 348 pp, ISBN 978-0465031467 (pbk).
- [3] Laura Aymerich-Franch and J Bailenson. 2014. The use of doppelgangers in virtual reality to treat public speaking anxiety: a gender comparison. In *Proceedings of the International Society for Presence Research Annual Conference*. Citeseer, 173–186.
- [4] Jack M Balkin. 2015. The path of robotics law. *Calif. L. Rev. Circuit* 6 (2015), 45.
- [5] Ivo Benke, Ulrich Gnewuch, and Alexander Maedche. 2022. Understanding the impact of control levels over emotion-aware chatbots. *Computers in Human Behavior* 129 (2022), 107122.
- [6] Dan Bennett, Oussama Metatla, Anne Roudaut, and Elisa D Mekler. 2023. How does HCI understand human agency and autonomy?. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems*. 1–18.
- [7] Oloff C Biermann, Ning F Ma, and Dongwook Yoon. 2022. From tool to companion: Storywriters want AI writers to respect their personal values and writing strategies. In *Proceedings of the 2022 ACM Designing Interactive Systems Conference*. 1209–1227.
- [8] Nico Brand, William Odom, and Samuel Barnett. 2021. A design inquiry into introspective AI: surfacing opportunities, issues, and paradoxes. In *Proceedings of the 2021 ACM Designing Interactive Systems Conference*. 1603–1618.
- [9] Nico Brand, William Odom, and Samuel Barnett. 2023. Envisioning and Understanding Orientations to Introspective AI: Exploring a Design Space with Meta. Aware. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems*. 1–18.
- [10] Virginia Braun and Victoria Clarke. 2006. Using thematic analysis in psychology. *Qualitative research in psychology* 3, 2 (2006), 77–101.
- [11] Zana Bućinca, Maja Barbara Malaya, and Krzysztof Z Gajos. 2021. To trust or to think: cognitive forcing functions can reduce overreliance on AI in AI-assisted decision-making. *Proceedings of the ACM on Human-computer Interaction* 5, CSCW1 (2021), 1–21.
- [12] Julia Cambre, Samantha Reig, Queenie Kravitz, and Chinmay Kulkarni. 2020. "All Rise for the AI Director" Eliciting Possible Futures of Voice Technology through Story Completion. In *Proceedings of the 2020 ACM designing interactive systems conference*. 2051–2064.
- [13] Simon Chesterman. 2024. Good models borrow, great models steal: intellectual property rights and generative AI. *Policy and Society* (2024), puae006.
- [14] Victoria Clarke, Virginia Braun, Hannah Frith, and Naomi Moller. 2019. Editorial introduction to the special issue: Using story completion methods in qualitative research. , 20 pages.
- [15] Finale Doshi-Velez, Mason Kortz, Ryan Budish, Chris Bavitz, Sam Gershman, David O'Brien, Kate Scott, Stuart Schieber, James Waldo, David Weinberger, et al. 2017. Accountability of AI under the law: The role of explanation. *arXiv preprint arXiv:1711.01134* (2017).
- [16] Anthony Dunne and Fiona Raby. 2024. *Speculative Everything, With a new preface by the authors: Design, Fiction, and Social Dreaming*. MIT press.
- [17] European Parliament and Council of European Union. 2016. General Data Protection Regulation (GDPR). <https://eur-lex.europa.eu/eli/reg/2016/679/oj> (Accessed: DATE).
- [18] Luciano Floridi, Josh Cowl, Monica Beltrametti, Raja Chatila, Patrice Cherazard, Virginia Dignum, Christoph Luetge, Robert Madelin, Ugo Pagallo, Francesca Rossi, et al. 2018. AI4People—an ethical framework for a good AI society: opportunities, risks, principles, and recommendations. *Minds and machines* 28 (2018), 689–707.
- [19] Asbjørn Følstad, Marita Skjue, and Petter Bae Brandtzaeg. 2018. Different chatbots for different purposes: towards a typology of chatbots to understand interaction design. In *International Conference on Internet Science*. Springer, 145–156.
- [20] ForeverVoicesAI. [n. d.]. Forever Voices AI. <https://twitter.com/forevervoicesai>
- [21] Paul Formosa. 2021. Robot autonomy vs. human autonomy: social robots, artificial intelligence (AI), and the nature of autonomy. *Minds and Machines* 31, 4 (2021), 595–616.
- [22] Jesse Fox, Jeremy N Bailenson, and Tony Ricciardi. 2012. Physiological responses to virtual selves and virtual others. *Journal of CyberTherapy & Rehabilitation* 5, 1 (2012), 69–72.
- [23] Grimes. 2023. The degree to which this bot has mastered my internal monologue is terrifying to me <https://t.co/uokhokrlzn>. <https://twitter.com/Grimes/status/1693841722566971637>
- [24] Grimes. 2023. We didn't release her earlier due to her despotic and murderous nature. <https://twitter.com/Grimes/status/1687497393812729856>
- [25] Jeffrey T Hancock, Mor Naaman, and Karen Levy. 2020. AI-Mediated Communication: Definition, Research Agenda, and Ethical Considerations. *Journal of Computer-Mediated Communication* 25, 1 (01 2020), 89–100. <https://doi.org/10.1093/jcmc/zmz022> arXiv:<https://academic.oup.com/jcmc/article-pdf/25/1/89/32961176/zmz022.pdf>
- [26] Matthew Harris. 2013. The hologram of Tupac at Coachella and Saints: The value of relics for devotees. *Celebrity studies* 4, 2 (2013), 238–240.
- [27] Yuji Hatada, Shigeo Yoshida, Takuji Narumi, and Michitaka Hirose. 2019. Double shellf: What psychological effects can be caused through interaction with a doppelganger?. In *Proceedings of the 10th Augmented Human International Conference* 2019. 1–8.
- [28] Jess Hohenstein and Malte Jung. 2020. AI as a moral crumple zone: The effects of AI-mediated communication on attribution and trust. *Computers in Human Behavior* 106 (2020), 106190.
- [29] Tomasz Holanek and Katarzyna Nowaczyk-Basińska. 2024. Griefbots, Deadbots, Postmortem Avatars: on Responsible Applications of Generative AI in the Digital Afterlife Industry. *Philosophy & Technology* 37, 2 (2024), 1–22.
- [30] Lars Erik Holmquist. 2017. Intelligence on tap: artificial intelligence as a new design material. *Interactions* 24, 4 (jun 2017), 28–33. <https://doi.org/10.1145/3085571>
- [31] Bo Hu, Yuanyi Mao, and Ki Joon Kim. 2023. How social anxiety leads to problematic use of conversational AI: the roles of loneliness, rumination, and mind perception. *Computers in Human Behavior* 145 (2023), 107760.
- [32] Michelle Huang. 2022. I trained an AI chatbot on my childhood journal entries - so that I could engage in real-time dialogue with my "inner child" some reflections below:. Retrieved January 23, 2023 from <https://twitter.com/michellehuang42/status/1597005489413713921?lang=en>
- [33] Miaohong Huang and Eyun-Jung Ki. 2023. Examining the effect of anthropomorphic design cues on healthcare chatbots acceptance and organization-public relationships: Trust in a warm human Vs. a competent machine. *International Journal of Human-Computer Interaction* (2023), 1–13.
- [34] Angel Hsing-Chi Hwang, John Oliver Siy, Renee Shelby, and Alison Lentz. 2024. In Whose Voice?: Examining AI Agent Representation of People in Social Interaction through Generative Speech. In *Proceedings of the 2024 ACM Designing Interactive Systems Conference*. 224–245.
- [35] Jiepu Jiang and Naman Ahuja. 2020. Response quality in human-chatbot collaborative systems. In *Proceedings of the 43rd International ACM SIGIR Conference on Research and Development in Information Retrieval*. 1545–1548.
- [36] Lucie-Aimée Kaffee, Arnab Arora, Zeerak Talat, and Isabelle Augenstein. 2023. Thorny Roses: Investigating the Dual Use Dilemma in Natural Language Processing. *arXiv preprint arXiv:2304.08315* (2023).
- [37] Vasileia Karasavva and Aalia Noorbhai. 2021. The real threat of deepfake pornography: A review of Canadian policy. *Cyberpsychology, Behavior, and Social Networking* 24, 3 (2021), 203–209.
- [38] Zoha Khawaja and Jean-Christophe Bélisle-Pipon. 2023. Your robot therapist is not your therapist: understanding the role of AI-powered mental health chatbots. *Frontiers in Digital Health* 5 (2023), 1278186.
- [39] Jihyun Kim, Kelly Merrill Jr, and Chad Collins. 2021. AI as a friend or assistant: The mediating role of perceived usefulness in social AI vs. functional AI. *Telematics and Informatics* 64 (2021), 101694.
- [40] Minha Lee, Lily Frank, Yvonne De Kort, and Wijnand IJsselstein. 2022. Where is Vincent? Expanding our emotional selves with AI. In *Proceedings of the 4th Conference on Conversational User Interfaces*. 1–11.
- [41] Patrick Yung Kang Lee, Ning F. Ma, Ig-Jae Kim, and Dongwook Yoon. 2023. Speculating on Risks of AI Clones to Selfhood and Relationships: Doppelgänger-Phobia, Identity Fragmentation, and Living Memories. *Proc. ACM Hum.-Comput. Interact.* 7, CSCW1, Article 91 (apr 2023), 28 pages. <https://doi.org/10.1145/3579524>
- [42] Joanne Leong, John Tang, Edward Cutrell, Sasa Junuzovic, Gregory Paul Baribault, and Kori Inkpen. 2024. Dittos: Personalized, Embodied Agents That Participate in Meetings When You Are Unavailable. *Proceedings of the ACM on Human-Computer Interaction* 8, CSCW2 (2024), 1–28.
- [43] Kai Lukoff, Ulrik Lyngs, Himanshu Zade, J Vera Liao, James Choi, Kaiyue Fan, Sean A Munson, and Alexis Hiniker. 2021. How the design of youtube influences user sense of agency. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*. 1–17.
- [44] Kai Lukoff, Cissy Yu, Julie Kientz, and Alexis Hiniker. 2018. What Makes Smartphone Use Meaningful or Meaningless? *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol.* 2, 1, Article 22 (mar 2018), 26 pages. <https://doi.org/10.1145/3191754>

- [45] Reid McIlroy-Young, Jon Kleinberg, Siddhartha Sen, Solon Barocas, and Ashton Anderson. 2022. Mimetic Models: Ethical Implications of AI That Acts Like You. In *Proceedings of the 2022 AAAI/ACM Conference on AI, Ethics, and Society* (Oxford, United Kingdom) (AIES '22). Association for Computing Machinery, New York, NY, USA, 479–490. <https://doi.org/10.1145/3514094.3534177>
- [46] Meta. 2024. AI Studio. <https://ai.meta.com/ai-studio/>. Accessed: August 16, 2024.
- [47] Kana Misawa and Jun Rekimoto. 2015. ChameleonMask: a human-surrogate system with a telepresence face. In *SIGGRAPH Asia 2015 Emerging Technologies*. 1–3.
- [48] Kana Misawa and Jun Rekimoto. 2015. Wearing another's personality: A human-surrogate system with a telepresence face. In *Proceedings of the 2015 ACM International Symposium on Wearable Computers*. 125–132.
- [49] Meredith Ringel Morris and Jed R Brubaker. 2024. Generative ghosts: Anticipating benefits and risks of AI afterlives. *arXiv preprint arXiv:2402.01662* (2024).
- [50] Andreea Muresan and Henning Pohl. 2019. Chats with bots: Balancing imitation and engagement. In *Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems*. 1–6.
- [51] Clifford Nass and Youngme Moon. 2000. Machines and mindlessness: Social responses to computers. *Journal of social issues* 56, 1 (2000), 81–103.
- [52] Rebecca Nowland, Elizabeth A Necka, and John T Cacioppo. 2018. Loneliness and social internet use: pathways to reconnection in a digital world? *Perspectives on psychological science* 13, 1 (2018), 70–87.
- [53] Martha C Nussbaum. 2001. *The fragility of goodness: Luck and ethics in Greek tragedy and philosophy*. Cambridge University Press.
- [54] Cathy O'neil. 2017. *Weapons of math destruction: How big data increases inequality and threatens democracy*. Crown.
- [55] Russ W Payne. 2015. *An introduction to philosophy*.
- [56] David L Penn, James D Ivory, Abigail Judge, et al. 2010. The virtual doppelganger: Effects of a virtual reality simulator on perceptions of schizophrenia. *The Journal of nervous and mental disease* 198, 6 (2010), 437–443.
- [57] Personal AI. 2024. Personal AI - Your AI Digital Twin. <https://www.personal.ai/>. Accessed: August 16, 2024.
- [58] James Pierce. 2019. Smart home security cameras and shifting lines of creepiness: A design-led inquiry. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. 1–14.
- [59] Sarah Prange, Ceenu George, and Florian Alt. 2021. Design considerations for usable authentication in smart homes. In *Proceedings of Mensch und Computer 2021*. 311–324.
- [60] Peter AM Ruijten and Raymond H Cuijpers. 2020. Do not let the robot get too close: Investigating the shape and size of shared interaction space for two people in a conversation. *Information* 11, 3 (2020), 147.
- [61] Phoebe Sengers, Kirsten Boehner, Shay David, and Joseph 'Jofish' Kaye. 2005. Reflective design. In *Proceedings of the 4th decennial conference on Critical computing: between sense and sensibility*. 49–58.
- [62] Alexandra Sherlock. 2013. Larger than life: Digital resurrection and the re-enchantment of society. *The Information Society* 29, 3 (2013), 164–176.
- [63] Ben Shneiderman. 2022. *Human-centered AI*. Oxford University Press.
- [64] Mel Slater, Solène Neyret, Tania Johnston, Guillermo Iruretagoyena, Mercè Àlvarez de la Campa Crespo, Miquel Alabèrnia-Segura, Bernhard Spanlang, and Guillem Feixas. 2019. An experimental study of a virtual reality counselling paradigm using embodied self-dialogue. *Scientific reports* 9, 1 (2019), 1–13.
- [65] Vivian Ta, Caroline Griffith, Carolyn Boatfield, Xinyu Wang, Maria Civitello, Haley Bader, Esther DeCero, and Alexia Loggarakis. 2020. User experiences of social support from companion chatbots in everyday contexts: Thematic analysis. *Journal of medical Internet research* 22, 3 (2020).
- [66] Giovanni Maria Troiano, Matthew Wood, and Casper Harteveld. 2020. "And This, Kids, Is How I Met Your Mother": Consumerist, Mundane, and Uncanny Futures with Sex Robots. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*. 1–17.
- [67] Jon Truby and Rafael Brown. 2021. Human digital thought clones: the Holy Grail of artificial intelligence for big data. *Information & Communications Technology Law* 30, 2 (May 2021), 140–168. <https://doi.org/10.1080/13600834.2020.1850174>. Publisher: Routledge. eprint: <https://doi.org/10.1080/13600834.2020.1850174>.
- [68] Sherry Turkle. 1997. Computational technologies and images of the self. *Social Research* (1997), 1093–1111.
- [69] Cristian Vaccari and Andrew Chadwick. 2020. Deepfakes and disinformation: Exploring the impact of synthetic political video on deception, uncertainty, and trust in news. *Social Media+ Society* 6, 1 (2020), 2056305120903408.
- [70] Sanne van Waveren, Elizabeth J Carter, and Iolanda Leite. 2019. Take one for the team: The effects of error severity in collaborative tasks with social robots. In *Proceedings of the 19th ACM international conference on intelligent virtual agents*. 151–158.
- [71] Helena Vasconcelos, Matthew Jörke, Madeleine Grunde-McLaughlin, Tobias Gerstenberg, Michael S Bernstein, and Ranjay Krishna. 2023. Explanations can reduce overreliance on ai systems during decision-making. *Proceedings of the ACM on Human-Computer Interaction* 7, CSCW1 (2023), 1–38.
- [72] Mika Westerlund. 2019. The emergence of deepfake technology: A review. *Technology Innovation Management Review* 9, 11 (2019).
- [73] Darcia Wilkinson, Öznur Alkan, Q Vera Liao, Massimiliano Mattetti, Inge Vebjerg, Bart P Knijnenburg, and Elizabeth Daly. 2021. Why or why not? The effect of justification styles on chatbot recommendations. *ACM Transactions on Information Systems (TOIS)* 39, 4 (2021), 1–21.
- [74] Richmond Y Wong and Vera Khovanskaya. 2018. Speculative design in HCI: from corporate imaginations to critical orientations. In *New Directions in Third Wave Human-Computer Interaction: Volume 2-Methodologies*. Springer, 175–202.
- [75] Richmond Y Wong, Ellen Van Wyk, and James Pierce. 2017. Real-fictional entanglements: Using science fiction and design fiction to interrogate sensing technologies. In *Proceedings of the 2017 Conference on Designing Interactive Systems*. 567–579.
- [76] Matthew Wood, Gavin Wood, and Madeline Balaam. 2017. "They're Just Tixel Pits, Man" Disputing the 'Reality' of Virtual Reality Pornography through the Story Completion Method. In *Proceedings of the 2017 CHI conference on human factors in computing systems*. 5439–5451.
- [77] Paweł W Woźniak, Jakob Karolus, Florian Lang, Caroline Eckerth, Johannes Schöning, Yvonne Rogers, and Jasmin Niess. 2021. Creepy technology: what is it and how do you measure it?. In *Proceedings of the 2021 CHI conference on human factors in computing systems*. 1–13.
- [78] David Wright and Michael Friedewald. 2013. Integrating privacy and ethical impact assessments. *Science and Public Policy* 40, 6 (2013), 755–766.
- [79] Tianling Xie and Iryna Pentina. 2022. Attachment theory as a framework to understand relationships with social chatbots: a case study of Replika. (2022).
- [80] Weiqi Xu and Fan Ouyang. 2022. A systematic review of AI role in the educational system based on a proposed conceptual framework. *Education and Information Technologies* 27, 3 (2022), 4195–4223.
- [81] Kai Chi Yam, Yochanan E Bigman, Pok Man Tang, Remus Ilies, David De Cremer, Harold Soh, and Kurt Gray. 2021. Robots at work: People prefer—and forgive—service robots with perceived feelings. *Journal of Applied Psychology* 106, 10 (2021), 1557.
- [82] Nick Yee and Jeremy Bailenson. 2007. The Proteus Effect: The Effect of Transformed Self-Representation on Behavior. *Human Communication Research* 33, 3 (07 2007), 271–290. <https://doi.org/10.1111/j.1468-2958.2007.00299.x>. arXiv:<https://academic.oup.com/hcr/article-pdf/33/3/271/22324746/jhumcom0271.pdf>
- [83] Rui Zhang, Nathan J McNeese, Guo Freeman, and Geoff Musick. 2021. "An ideal human" expectations of AI teammates in human-AI teaming. *Proceedings of the ACM on Human-Computer Interaction* 4, CSCW3 (2021), 1–25.
- [84] Yi Zhao, Wen-Chin Huang, Xiaohai Tian, Junichi Yamagishi, Rohan Kumar Das, Tomi Kinnunen, Zhenhua Ling, and Tomoki Toda. 2020. Voice Conversion Challenge 2020: Intra-lingual semi-parallel and cross-lingual voice conversion. <https://doi.org/10.48550/arXiv.2008.12527>. arXiv:2008.12527 [cs, eess].
- [85] Shoshana Zuboff. 2023. The age of surveillance capitalism. In *Social theory re-wired*. Routledge, 203–213.

A Appendix

A.1 Data Analysis

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		Roles					
		Mirror	Probe	Worthy Opponent	Soother	Delegate	Representative
Domains	Education	2	1	0	0	4	0
	Entertainment	0	1	1	0	2	0
	Healthcare	1	3	0	0	0	0
	Public relations	1	1	0	0	1	0
	Relationships	0	1	0	0	0	4
	Work	0	1	0	0	3	0
	Non-specific (During discussion)	0	0	1	2	0	0

Figure 1: The mappings between roles and domains, with each cell indicating the number of instances participants conceptualized stories within the role-domain combination.