

# Avatars and Identity in the Metaverse: Navigating the Potentials and Pitfalls of Digital Self-Representation

Myrto Dimitriou

Rome Business School

Rome, Italy

e-mail: myrto.dimitriou@gmail.com

Leonie Hallo

Adelaide Business School

The University of Adelaide, Australia

e-mail: leonie.hallo@adelaide.edu.au

**Abstract**— Rapid digitization, the impact of social media and now the continuous growth of the Metaverse have met both positive and negative responses. Along with the optimism about the possibilities and efficiencies created via Artificial Intelligence (AI), there have also been concerns. Many fields are now using the Metaverse in commercial applications, leading to new ways of increasing revenues and enhancing sustainability. Central to this concept are avatars, which serve as digital embodiments of users, facilitating interactions and the representation of self within this virtual environment. This paper emphasizes the critical implications of virtual identity combined with the psychological and sociocultural dimensions of avatar selection, highlighting the complex motivations behind avatar customization. The potential for avatars to influence user behavior, facilitate escapism, and impact psychological well-being is significant, and this emphasizes the need for ethical considerations and protective measures for users navigating these virtual spaces. There is also the possibility that cultural differences may exist within choices of avatars, adding to the complexity of the field. This paper explores the potentials and pitfalls regarding the use of avatars as digital representations of people, and the impact of such developments on an individual's personal identity concept.

**Keywords**—Metaverse; avatars; self-expression; identity; well-being.

## I. INTRODUCTION

The term Metaverse is used to describe a collective virtual shared space in which virtual worlds, augmented reality and the Internet provide virtually enhanced physical reality for people. Virtual worlds are persistent and interconnected so that people can move seamlessly between them. This allows immersive experiences and the digital presentation of people as avatars with the ability to interact and participate within the virtual world. Decentralization of control means that the virtual world presents people with the opportunity to interact in a way which is free and self-determined. Technology, thus, presents opportunities for people to create virtual representations of themselves through a range of avatars that are generally visual icons depicting a person or user in the digital environment including video games, online communities, social media platforms and virtual worlds. Avatars are an alter ego for a person in a digital form so that users can create a unique persona within the digital space. Some avatars are highly realistic and can be customized in various ways, moving well beyond profile pictures, and allowing opportunities for

interaction with other players' avatars. Thus, a person establishes their presence, which is recognizable to other users in the space. Avatars have been used in a variety of fields including helping deaf individuals with sign language [1], education [2][3], telehealth [4], and oncology [5]. Human to virtual human interaction is beginning to be studied, including the factors that influence social interaction with virtual humans [6], as well as the benefit of avatars in promoting independent living for the elderly [7]. Clearly, we are just at the beginning of the exploration of the benefits and possible downsides of this exciting technology.

Despite the promising aspects of the Metaverse, several challenges need to be addressed. The business and scientific problems related to the Metaverse encompass issues of identity, privacy, security, and the ethical implications of virtual interactions. One significant challenge is ensuring secure and private user data while providing seamless and immersive experiences. Another is the potential psychological impact of prolonged engagement with virtual environments, including issues of identity dissociation and the potential for social isolation.

The idea behind this paper is to explore the relationship between avatars and user identity within the Metaverse, examining how virtual representations influence personal expression, social connectivity, and psychological well-being. This exploration aims to understand the broader implications of Metaverse engagement on both individual and societal levels.

The research questions guiding this paper are as follows: How does the use of avatars in the Metaverse affect users' perceptions of their identity? What are the psychological and social implications of avatar use in virtual environments? How can the Metaverse be designed to enhance positive user experiences while mitigating potential negative effects?

The purpose of this paper is to provide a comprehensive analysis of the impact of avatars on user identity within the Metaverse and in the real world. By examining existing literature, this paper aims to offer insights into the opportunities and challenges associated with avatar use in virtual environments, ultimately contributing to the development of more inclusive, secure, and beneficial Metaverse experiences.

However, this approach has limitations. The rapidly evolving nature of Metaverse technologies means that literature review findings may quickly become outdated. Additionally, the subjective nature of identity and personal experience can lead to variability in how users interact with

and perceive their avatars. The ethical considerations surrounding virtual interactions are complex and multifaceted, requiring ongoing discourse and regulation. Qualitative research via semi-structured interviews with relevant authorities as planned in the future will provide further important information that can elaborate other researchers' findings.

The remainder of this paper is structured as follows: Section II provides a detailed definition and context for understanding the Metaverse while Section III explores the concept of identity across various domains and its relevance within virtual environments. Section IV discusses the evolution, types, and significance of avatars in the digital realm and Section V considers how avatars influence user identity and the implications for digital interactions. Section VI examines the psychological, social, and cultural factors driving avatar selection. Section VII considers the potential benefits and risks associated with avatar use. Section VIII summarizes the key findings from the literature and their implications for future Metaverse development. Section IX discusses future work including qualitative data collection planned by the authors.

## II. METAVERSE: DEFINING THE NEW IMMERSIVE WORLD

The scope of this section is to establish a comprehensive definition and understanding of the Metaverse, elucidating its multifaceted nature as a virtual environment that blends the physical and digital realms.

There are many different definitions of the Metaverse, but the following description is used in this paper: a virtual environment that blends the physical and the digital, facilitated by the convergence of Internet and Web technologies and extended reality [8]. The Metaverse represents the top-level hierarchy of persistent virtual spaces that may also integrate in real life, so that social, commercial, and personal experiences emerge through Web 3.0 technologies [9]. The Metaverse is the next stage of the Internet, and results from the evolution of a wide variety of emerging, exponential technologies maturing simultaneously, converging and enabling new interconnected relationships between the physical and the digital [10]. The Metaverse can be viewed as a shared, persistent, three-dimensional virtual realm where people interact with objects, the environment and each other through digital representations of themselves or avatars. The Metaverse enables a tactile, sensorially immersive experience that creates the feeling of being present without requiring actual presence, and it would allow us and the places and things we value to not just be on the Internet but inside it [11]. Thus, while the Metaverse is often seen as a separate virtual world, its essential promise is that it can operate as an extension of the real world, a complement to it, offering new and innovative ways for people to interact, in order to enhance and enrich many aspects of our real-world lives.

The word Metaverse is the combination of the Greek prefix "Meta" meaning "beyond" and "verse" referring to the "universe." The term Meta used as a prefix has various meanings: occurring later than or in succession to; after, situated behind or beyond, later or more highly organized or

specialized form of change; transformation, more comprehensive; transcending [12]. It is important to acknowledge and be aware of cultural or linguistic differences when introducing new concepts or technologies such as the Metaverse. In the Hebrew language, the word meta has a completely different meaning, meaning "dead" or "deceased", referring to a person, animal, or any living thing that has passed away [13].

In linking to the next section, it is important to note that the semantic identity, including the words and vocabulary used to describe and navigate the Metaverse, significantly influences how users perceive and interact within this new paradigm. The terminology shapes the user experience and the overall understanding of the Metaverse, thereby impacting identity formation and self-representation within these digital spaces.

## III. IDENTITY AND SELF-REPRESENTATION

The concept of identity has been studied across many domains including psychoanalysis, politics, sociology, history and psychology [14]. At its core, identity refers to the distinct characteristics, qualities, or beliefs that make an individual or group unique. It encompasses an array of elements including, but not limited to, personal self-concept, social roles, cultural affiliations, and digital personas. From a psychological perspective, identity is often seen as an internal process of self-recognition and differentiation from others, highlighting aspects, such as personal traits, values, and experiences that contribute to one's sense of self. These two different but complementary strands, internal self-verification and linkages with social structures have formed the foundation of research on identity. Identity development is viewed as a key task of adolescence [15]. The development of identity is understood to occur through two interrelated cycles: identity formation in which adolescents question their identity and explore alternatives and eventually commit to an identity; and identity maintenance where they strengthen a chosen identity and synthesize, producing a sensation of internal consistency [16], and a stable identity [17], who draws on the work of Erikson on identity crisis. Erikson's definition of identity is as follows: "Ego identity, then, in its subjective aspect, is the awareness of the fact that there is self-sameness and continuity to the ego's synthesizing methods, the style of one's individuality, and that this style coincides with the sameness and continuity of one's meaning for significant others in the immediate community." [18].

Sociologically, identity incorporates the roles and statuses individuals hold within society, reflecting the influence of social structures, relationships, and cultural norms on the formation of self, while anthropologically is deeply tied to cultural heritage, traditions, and the collective history of the group to which one belongs. Within sociology, identity is seen as both a precious asset and treasure, and a difficult problem. In this view, identity consists of a "bundle of phenomena that are... consubstantial with social experience" [19]. Identity is about permanence within rapid change, unity among diverse people under pressure. It is about what is unique and what is common, what is authentic,

partly hidden and partly visible. The tension between shared identity and unique identity, and of some kind of stability during change, are at the heart of the notion of identity.

Three dimensions of identity formation: commitment, in-depth exploration, and reconsideration [20] change during the teenage years as the person matures, revealing greater in-depth exploration, decreasing reconsideration, and increasingly greater stable identity. These changes reflect the evolving ways adolescents deal with their commitments as they mature.

Identity is relevant because it fundamentally shapes how individuals perceive themselves and are perceived by others, influencing behavior, interactions, and well-being. However, mechanisms for identity formation and maintenance in digital spaces have often failed to address the complexities of real-world identities, including inadequate representation of diverse identities, insufficient privacy protections, and the potential for identity manipulation. As we transition into the Metaverse, addressing these shortcomings is critical to fostering authentic and secure digital identities.

This understanding of identity sets the stage for examining the role of avatars in the Metaverse, which are integral to self-representation and identity formation in virtual environments.

#### IV. AVATARS

The term "avatar" has multiple layers of meaning, evolving significantly over time, especially with advances in technology and virtual reality. At its core, the word "avatar" comes from Sanskrit "avatāra," which means "descent." In Hinduism, it refers to the incarnation or physical manifestation of a deity, especially Vishnu, on Earth. However, in the context of digital technology, Virtual Reality (VR), and the Metaverse, the meaning shifts considerably. In the realm of VR and the Metaverse, an avatar is a graphical representation of the user and serves as the digital embodiment of the user, allowing for interaction within these virtual environments. Avatars are a key element in forming a virtual identity, offering users the ability to represent themselves in ways that may or may not correspond to their real-world appearance or identity. An avatar can take the form of a three-dimensional model used in computer games, a two-dimensional icon (picture) used on Internet forums and other communities, or something in between. As technology has advanced, so has the complexity and realism of these avatars, with current VR and Metaverse avatars offering highly detailed, customizable representations of their users.

There are various types of avatars: customizable, self-representational, non-human avatars, abstract avatars, VR avatars, 2D and 3D avatars, human-like avatars, full-body/leg-less avatars [21]. One interesting flow on of the explosion in avatars concerns its impact on fashion. The burgeoning role of avatars within digital spaces is reshaping the landscape here. As avatars become central to individual identity and expression in virtual environments, the demand for avatar customization options, particularly in terms of fashion, is experiencing a significant uptick. This trend reflects a broader shift in consumer behavior, where digital

identity is increasingly seen as an extension of one's physical self, and thus, the desire to curate an avatar's appearance with various outfits and accessories mirrors real-world fashion behaviors [22] [23].

The concept of avatars in VR and the Metaverse reflects a blend of technological advancements, cultural shifts, and human desires for exploration, expression, and connectivity in virtual spaces. As VR technology continues to evolve, so too will the sophistication and capabilities of avatars, further blurring the lines between the virtual and the real. The global digital avatar market was valued at approximately USD 14.34 billion in 2022 and is projected to experience a Compound Annual Growth Rate (CAGR) of 47.1% from 2023 to 2030 [24].

People are increasingly becoming immersed in social virtual environments which provide them with the opportunity to explore aspects of their identity. This enables them to challenge established norms via exploration [25]. Technology also now exists to allow people to share past experiences using VR and relive a previous experience [26].

#### V. THE RELATIONSHIP BETWEEN THE AVATAR AND IDENTITY

The concept of Metaverse identity marks a significant evolution in the understanding and application of identity in the digital age. It extends the traditional notion of identity beyond its current confines, integrating it with the foundational digital aspects of the Internet. As a complex, multi-faceted construct, Metaverse identity encompasses an individual or entity's representation, data, and identification, effectively bridging the gap between the physical and virtual realms. This identity serves not only as a personal anchor in both worlds but also as a critical component underpinning privacy, security, and the facilitation of digital transactions. Metaverse identity forms the cornerstone upon which the digital economy and virtual interactions are grounded. It ensures the recognition and movement of money and objects within digital spaces, thereby enabling a seamless flow of complex interactions and transactions. As the virtual and physical worlds become increasingly intertwined, the demand for a robust, flexible identity framework becomes paramount. Such a framework is essential for fostering digital trust and authenticity, elements that are crucial for the development of enriching Metaverse experiences. This paper explores the overlaps and differentiation between the real-world identity of the person and their virtual identity, and this exposes the real problems that could arise if these two identities become coalesced in a way which is confusing for the person. Guidance to individuals about the delineation between these two separate worlds may be a useful goal for policy bodies to consider, as well as presenting constructive avenues for future academic research.

The legal and policy choices made concerning Metaverse identity today bear significant implications for the future, particularly concerning the processing of information related to children and other vulnerable groups. These decisions will shape not only the security and privacy measures necessary to protect individuals in the Metaverse but also the ethical standards governing the collection, use, and sharing of

personal data. Consider a virtual classroom in the Metaverse where children use avatars to attend lessons and interact with their peers. The choices made regarding the identity and data privacy of these child avatars will have lasting implications. For instance, if avatars can be designed and customized with minimal oversight, children might create identities that expose them to cyberbullying, inappropriate content, or exploitation. In a corporate environment, if policies allow extensive tracking of employees' virtual activities without adequate privacy protections, sensitive information about employees' productivity, behavior, and even personal interactions could be exposed, leading to potential misuse or breaches of confidentiality.

It is essential to implement robust privacy settings to ensure that the users –or their guardians– have control over what information is shared about their virtual activities and interactions, using secure encryption, customizable privacy dashboards, and parental control features. Data collection and usage policies are also important by establishing clear policies ensuring compliance with regulations like Children's Online Privacy Protection Act (COPPA) [27]. Decisions should be made about acceptable customization parameters for employee avatars to maintain professionalism and prevent inappropriate or harmful representations, implementing content moderation tools, AI-based filters, and predefined customization options suitable for children. The use of AI and machine learning algorithms could be useful in order to flag suspicious activities, employ human moderators, and provide mechanisms for reporting misconduct. The development of educational programs, interactive tutorials, and awareness campaigns about online safety workplace etiquette and digital citizenship is crucial to train the new generation of users.

The development of Metaverse identity frameworks, thus, requires careful consideration of their long-term impact on society, emphasizing the need for safeguards that protect the most vulnerable while enabling the growth and evolution of digital communities. In this context, it is imperative that stakeholders across the board, from technology developers to policymakers and educators, engage in thoughtful deliberation and collaborative effort to ensure that Metaverse identities are constructed with an eye toward inclusivity, security, and ethical responsibility. The goal should be to create a digital environment where every individual's identity is respected and protected, paving the way for a future where the Metaverse serves as a space for positive, secure, and empowering experiences for all users.

One aspect of the avatar is its ability to enable people to express their personality, either actual or desired through styling and customization. The avatar is, thus, an integral part of many digital experiences. The ability to express oneself in the digital environment is provided via customization of the avatar's appearance, enabling the user to create an avatar in a desired fashion and experiment with different looks and styles. Further, users are free to create virtual personas that may be entirely different from the real-life identity. This offers the opportunity for people to explore alternative aspects of their identity. They can experiment with various personas without any constraint or judgement.

In some environments, the avatar can be created from scratch enabling a unique appearance and design. Avatars can convey emotional states. They can use symbolic elements that the user finds meaningful; for example, symbols and motives. Within role-play, users can create avatars representing the personalities or traits of the characters they want to betray, increasing immersion possibilities. Because users have a high degree of control over this virtual representation, the possibilities of self-expression are significant, enabling people to explore various aspects of their personalities within the virtual world.

Wood and Szymanski explored identity issues within the use of avatars in video games as these relate to gifted adolescents [28]. They comment that the use of avatars in games can be a positive activity, enabling adolescents to explore their identity through the creation of possible selves reflecting their imagination of themselves in the future and what they might become. Similarity identification occurs when a user identifies with an avatar that they think closely resembles the real-life identity. Wishful identification occurs when the person wants to emulate the avatar in some way. Identifiability might be based upon personal characteristics, beliefs, and behaviors. These authors explored choices that the gifted students made, the limitations of their choices and the impact of various identities including race/ethnicity and gender identity. Trying on various identities was considered by these authors as a useful process of imagining possible selves in the future, assisting in the consolidation of a preferred identity.

## VI. MOTIVATION FOR CHOOSING PARTICULAR AVATARS

There are many factors which can influence the choice of an avatar. One is the ability to transcend the current confines and be someone or something entirely different. Escapism can be an objective for entering the virtual world and creating an idealized representative version of oneself [29][30].

The appearance of one's avatar can influence communication and interaction in the Metaverse. One study explored three different types of avatar appearances and reported that motion-controlled avatars, and avatars with only heads and hands, still managed to produce a feeling of behavioral interdependence, although a complete avatar body with movements mapped from the user's own movements was more effective in generating a sense of co-presence [31].

The Proteus effect [32] underscores the profound influence of an avatar's appearance on the behavior of its user within virtual environments. This phenomenon, where modifications as superficial as the attire of an avatar can engender more negative behaviors [33], elucidates the complex interplay between virtual representation and real-world conduct. This dynamic suggests that the decision to adopt an appearance divergent from one's physical self can significantly impact personal behavior, influence interpersonal interactions, and potentially alter one's sense of identity. This capacity for virtual reinvention presents both opportunities and risks within the context of personal and professional development. On the one hand, it offers individuals the chance to explore facets of their identity in a

manner that might be restricted in the physical world, thereby fostering a sense of empowerment and self-discovery. On the other hand, the dissonance between an individual's real-world persona and their virtual avatar can lead to complexities, particularly in professional settings where the authenticity of personal expression is valued.

Given these insights, the virtual realm -and by extension, the choices individuals make regarding their avatars- can serve as a double-edged sword in the context of professional identity and psychological wellbeing. While virtual environments offer unprecedented avenues for exploration and expression, they also necessitate a nuanced understanding of how such digital embodiments can affect real-world perceptions and interactions. This emphasizes the need for organizational policies and practices that recognize and accommodate the complexities of virtual identities, ensuring that all employees feel psychologically safe and valued for their authentic selves.

#### VII. AVATARS: AN OPPORTUNITY TO REINVENT YOURSELF OR A TOOL TO ACCESS ANOTHER REALITY?

It can be seen that the motivation to create avatars is driven by a complex interplay of psychological, social, and cultural factors. The decision of the avatar look selected is different if the main motivation derives from a point of identity exploration, social connection, or escapism.

Given the continuous and persistent nature of the Metaverse, avatars exist and can operate independently even when users are not actively engaged. This autonomy may foster a deeper attachment to these digital personas and introduce complex behaviors within virtual environments. The enduring presence of avatars raises significant privacy and security concerns, particularly regarding the protection of user data and the potential manipulation of avatar actions when the user is offline. Additionally, the ongoing activity of avatars blurs the lines between the virtual and physical worlds, potentially confusing the distinctions between users' real and virtual identities. This blurring can have profound psychological effects, such as excessive immersion or attachment to one's avatar, leading to issues like dissociation, depersonalization, and a detachment from one's physical self and the real world. Such conditions might cause users to become overly engrossed in their virtual lives to the detriment of their real-world responsibilities and relationships, resulting in social withdrawal and isolation. Furthermore, individuals with body image concerns might find themselves overly identifying with their idealized avatars, which could exacerbate feelings of low self-esteem in the real world. This could also affect how they regulate their emotions outside the virtual realm.

The dynamic interplay between users' perceptions of their avatars in the Metaverse and the feedback from other users forms a complex feedback loop that significantly influences self-evaluation and identity interpretation. This interaction can profoundly affect one's sense of self, potentially altering self-perception not only within virtual environments but also in the physical world. The concept hinges on the notion that embodying a different physical form in a virtual setting

allows for novel experiences and forms of expression, which can in turn shape individual identity and self-perception.

Social interactions and relationships are essential for maintaining mental health, and the importance of social support for well-being is widely recognized, reflecting the consensus on the positive effects of social relationships [34]. On the other hand, the creation of an avatar opens new dimensions and possibilities, especially in the fields of education and training. Metaverse and virtual worlds provide immersive learning environments that can be tailored to individual learning styles, enhancing educational and training processes across various fields. Simulations of real-life settings and scenarios provide a more engaging and effective learning experience, extending educational possibilities to limits only bound by the imagination [35].

In the workplace, the implementation of virtual training and simulated work environments can significantly reduce training costs for organizations. Employees are able to hone skills and practice procedures without the risk of real-world harm or damage, thereby not only cutting costs but also improving safety and efficiency [36].

Avatars serve additional, vital roles, particularly for individuals navigating personal challenges. For those with low self-esteem or introverted personalities, avatars can be a tool for expressing emotions and exploring personal identity in a supportive, virtual space. Similarly, individuals with social anxiety can use these controlled environments to practice and enhance their social skills safely. This innovative use of avatars not only facilitates personal development but also offers a refuge for practicing interpersonal interactions without the intense pressures often encountered in physical settings.

#### VIII. CONCLUSION

The emergence of the Metaverse represents a significant evolution in the digital landscape, offering unprecedented opportunities for interaction, identity exploration, and immersion in virtual environments. Avatars serve not only as representations of users but as essential mediators of social, psychological, and economic activities within these spaces. This paper has highlighted the intricate relationship between avatars and user identity, revealing the depth of influence that virtual embodiments can have on personal expression, social connectivity, and psychological well-being. The dynamic interplay between virtual and physical realities, facilitated by avatars, necessitates a thoughtful consideration of the implications for privacy, security, and ethical standards within the Metaverse.

Through the power of imagination, we are able to envision and craft new realities and identities within the Metaverse, breathing life into an innovative existence that mirrors our aspirations. This process mirrors the initial steps of the "Hero's Journey" as outlined by Joseph Campbell, where the hero departs from the mundane to a realm filled with extraordinary challenges and triumphs, eventually returning with newfound wisdom and gifts for humanity [36]. In this digital odyssey, akin to that of legendary heroes, we are the central figures of our narratives. The role of critical thinking becomes pivotal as it guides us through this

voyage, enabling us to navigate the complexities of this new world thoughtfully and effectively. It equips us with the tools to discern, evaluate, and assimilate the experiences we encounter, ensuring that our journey is not only transformative but also enriching.

The question then becomes: How can we leverage these insights gained from our adventures in the Metaverse to enhance the real world? How can the knowledge and experiences we acquire make our current existence more meaningful, beautiful, and worth cherishing? This pursuit of bringing back value to our real-world context is the essence of our hero's journey, challenging us to apply our learnings in ways that enrich not just our own lives but also those of others around us.

“What I think is that a good life is one hero journey after another. Over and over again, you are called to the realm of adventure, you are called to new horizons. Each time, there is the same problem: do I dare? And then if you do dare, the dangers are there, and the help also, and the fulfillment or the fiasco. There's always the possibility of a fiasco. But there's also the possibility of bliss.” [37].

#### IX. FUTURE WORK

The emergence of the metaverse represents a significant evolution in the digital landscape, offering unprecedented opportunities for interaction, identity exploration, and immersion in virtual environments. This paper has highlighted the intricate relationship between avatars and user identity, revealing the profound influence that virtual embodiments can have on personal expression, social connectivity, and psychological well-being. Given the dynamic interplay between virtual and physical realities facilitated by avatars, there is a need for thoughtful consideration of the implications for privacy, security, and ethical standards within the Metaverse.

As part of future work, the authors intend to survey subject matter experts such as psychologists, social workers, and members of ethics bodies about how to reap the benefits of this development while minimizing the chance of damage for the individual and on a wider scale. The results of such interviews would indicate areas for close focus in better understanding of the risks involved, risks which could be overlooked in the face of the enthusiasm evoked by such beguiling developments. The interview findings may also enable the development of a set of guidelines for individuals and organizations about the optimal use of Metaverse identities and avatars. Interview insights could also be used in the future to create a model that could be useful for organizations and individuals to protect the benefits of avatar use through a checklist that might raise awareness about priorities in addressing these matters.

Future research should focus on longitudinal studies to better understand the long-term effects of avatar use on identity and psychological well-being. These studies would help reveal how continuous interaction within the Metaverse influences an individual's self-perception and mental health over time. Additionally, investigating diverse user demographics can provide insights into how different populations experience and benefit from the Metaverse,

highlighting variations in engagement and impact across age, gender, cultural background, and socio-economic status.

Given the rapid pace of technological development, it is urgent to quickly gain a better understanding of how these advancements should be optimized and controlled. This paper represents a starting point, emphasizing the need for ongoing research and dialogue to navigate the complexities of identity, self-representation, and avatars in the Metaverse effectively.

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