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RESEARCH DIALOGUE

The Metaverse: A new digital frontier for consumer behavior

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Abstract

This work offers a multidisciplinary perspective on the Metaverse, focusing on its potential implications for consumer behavior. We begin by proposing a conceptualization of the Metaverse as being uniquely defined by the convergence of five key elements—it is digitally mediated, spatial, immersive, shared, and operates in real-time. We then discuss how these components might collectively alter our understanding of consumer behavior in three domains: consumer identity, social influence, and ownership. We conclude by outlining an agenda for future research to help broaden our understanding of the Metaversal marketplace and its impact on consumer behavior. This work serves as a starting point to characterize a shift that is unfolding in the marketplace and to consider, through a consumer behavior lens, the numerous changes it may bring.

KEYWORDS

consumer behavior, human-computer interaction, Metaverse, nonfungible tokens, social psychology, virtual reality

INTRODUCTION

One can summon few contemporary concepts that, in so little time, have sparked as much widespread attention as *the Metaverse*. The term, which quickly embedded itself in the lexicon of industry practitioners, academics, and consumers alike, has managed to simultaneously evoke sentiments ranging from excitement, fascination, and hope, to confusion, skepticism, and even fear (Anderson & Rainie, 2022; Faraboschi et al., 2022; Mac et al., 2022). Although there is little agreement as to what "the Metaverse" actually embodies, it has undeniably attracted considerable resources from commercial firms. Giant tech companies, including Google, Microsoft, Nvidia, and most famously, Meta, have invested billions of dollars into developing hardware, software, and infrastructure to power the Metaverse (Q.ai, 2022). In fact, some industry experts project that the Metaverse market will be worth $800 billion in the next few years and potentially generate over $1 trillion in GDP (Bloomberg Intelligence, 2021; Tong, 2022). In the meantime, the academic community appears eager to make sense of the Metaverse and its implications, as illustrated by various recent reviews and editorials (e.g., Belk et al., 2022; Christodoulou et al., 2022; Dwivedi, Hughes, Baabdullah, et al., 2022; Dwivedi, Hughes, Wang, et al., 2022; Gadekallu et al., 2022; Gursoy et al., 2022; Hackl et al., 2022; Lee et al., 2021; Zhao et al., 2022) and numerous calls for papers devoted to the topic.

In many ways, commercial and academic interest in the Metaverse reflects consumers' increased immersion in digital spaces where goods, services, and interpersonal communication exist in virtual form. Although consumer engagement in virtual worlds is not an entirely new concept (e.g., Belk, 2013; Blascovich & Bailenson, 2011; Messinger et al., 2008), the shift from niche interest to mainstream relevance was fueled by the social distancing restrictions imposed by the COVID-19 pandemic and the

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simultaneous widespread popularity of various online gaming platforms (e.g., Fortnite, Roblox; Tassi, 2021), which in tandem helped normalize a culture in which consumers utilize avatars not only to play games but to socialize and spend real money in virtual settings.

As the Metaverse continues to expand and develop, how will it modify the ways in which consumers shop, socialize, and find meaning? Drawing from several fields (including marketing, anthropology, communications, and human-computer interaction), we develop a conceptual framework for how different defining features of the Metaverse may affect our current understanding of consumer behavior. An emerging body of work has begun to document the technical features of the Metaverse (e.g., Christodoulou et al., 2022; Gadekallu et al., 2022; Lee et al., 2021), examine its specific features (e.g., NFTs; Belk et al., 2022; social interaction, Hennig-Thurau et al., 2022) and explore what it might mean from a marketing practitioner's perspective (e.g., Barrera & Shah, 2023; Dwivedi, Hughes, Wang, et al., 2022). Our work departs from these prior efforts by squarely focusing on the direct implications of the Metaverse for consumer psychology and behavior.

Our discussion is organized in three phases. First, we formally define the Metaverse and present a framework describing its five key elements. Next, we apply this framework to consider how the Metaverse might alter the current understanding of various core consumer behavior topics. Finally, we propose an agenda for future research that can advance knowledge of the Metaversal marketplace and its impact on consumer behavior.

DEFINING THE METAVERSE AND ITS FIVE KEY ELEMENTS

The nascent and developing nature of the Metaverse has perhaps unsurprisingly led to inconsistent usage of the term (Barrera & Shah, 2023; Dwivedi, Hughes, Baabdullah, et al., 2022). Although industry experts and academic researchers have proposed various conceptualizations, most agree that no consensus definition of the Metaverse currently exists (Ball, 2022). For example, whereas Ryskeldiev et al. (2018) define the Metaverse as "a persistent and constantly updated collection of mixed reality spaces mapped to different geospatial locations" (p. 1), Ball (2022) defines it as "a massively scaled and interoperable network of real-time rendered 3D virtual worlds and environments, which can be experienced synchronously and persistently by an effectively unlimited number of users with an individual sense of presence, and with continuity of data, such as identity, history, entitlements, objects, communications, and payments," (p. 29).

Synthesizing these ideas, we define the Metaverse as *a network of digitally mediated spaces that immerse users in shared, real-time experiences*. Notably, this conceptualization (illustrated in the Figure 1) implies five essential characteristics of the Metaverse: it is (1) digitally mediated, (2) spatial, (3) immersive, (4) shared, and (5) real-time. Before delving into the exact meaning of each element, it is worth emphasizing that the combination of these features distinctly defines the Metaverse. That is, although many of these characteristics exist in other platforms (e.g., videoconferencing software allows for digitally mediated communication with others in real-time, and many contemporary video games offer immersive experiences in virtual spaces), it is the five elements in unison that construct a distinct platform.

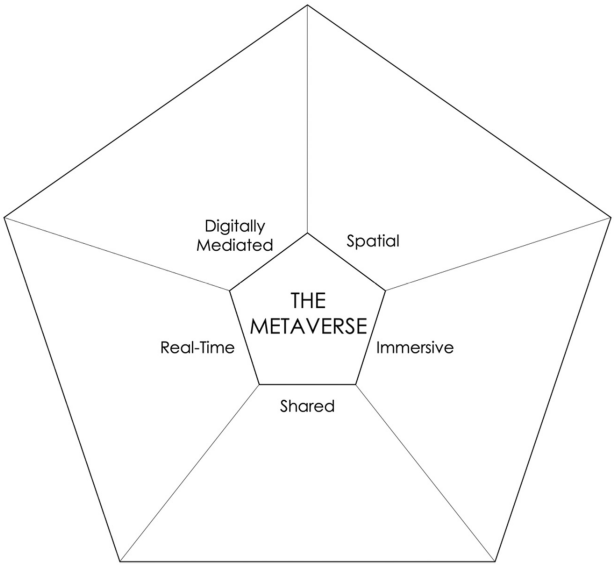


FIGURE 1 Five key elements of the Metaverse.

Next, we describe these five components individually before exploring how they might influence consumer behavior in conjunction.

The Metaverse is digitally mediated

Consumer experiences in the Metaverse are mediated by digital technology. Mediation in this context implies that consumers interact both through the technology (i.e., utilizing the platform as a channel to interact with other users) and with the technology (i.e., interacting with the digitally created content itself; Hoffman & Novak, 1996). Notably, the specific digital technologies employed (in terms of hardware and software) may vary. For example, high-fidelity 3D computer graphics are often used to depict Metaversal spaces (Ball, 2022). Further, albeit not a prerequisite, Metaversal experiences sometimes rely on extended reality (XR) technologies—including virtual reality (VR) and augmented reality (AR)—to compellingly generate and display digital depictions of spaces, objects, and people (Zhao et al., 2022). VR does so by fully immersing users in an entirely synthetic and digitally mediated environment while obstructing any view of the real world (Sadowski & Stanney, 2002), and AR by overlaying digital visual content onto a user's physical

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space so that both are simultaneously visible (Bimber & Raskar, 2005). Consumers can access such experiences through various devices, ranging from flat panels (e.g., desktop, laptop, or mobile screens) to head-mounted displays (e.g., VR headsets and AR glasses; Halton, 2022). In all cases, digital technology acts as both a source and conduit for consumer experiences.

One key implication stemming from the digitally mediated nature of the Metaverse is that related experiences are unbounded by the laws of our physical world. Although some Metaversal environments serve as literal interpretations or close replicas of real places (e.g., "digital twins"; Fallmann, 2022), others are entirely fantastical in nature. For example, in Ariana Grande's Fortnite concert (touted as a taste of a Metaversal experience), attendees zipped through a rainbow racetrack, fought with a demonic boss standing on a flying airplane, and floated alongside a giant-size Ariana Grande avatar, all while walking through rifts in space (Hatmaker, 2021). In a similar vein, although consumers often represent themselves with avatars that mimic their physical likeness, they may alternatively adopt whimsical personas (e.g., with unicorn horns or an animal head) and can interact with digital objects that exhibit imaginative functions (e.g., wormholes that teleport users to alternative dimensions). Thus, in many ways, a Metaversal experience is limited only by the imagination of its creators and inhabitants.

Although digital mediation enables unbounded creative expression, it also subjects Metaversal experiences to a limitation common to most digital environments: dematerialization (Belk, 2013; Leung et al., 2022). In contrast to the physical world—where products can be touched, held, and worn—in the Metaverse, products are digital entities with no physical embodiment. Thus, even though consumers in the Metaverse can buy and sell virtual clothing (Maughan, 2022), houses (Harrison, 2022), and even pets (Ustik & Smith, 2022), these entities will merely be the digital analogs of their physical counterparts.

The Metaverse is spatial

The Metaverse represents a collection of digitally mediated *spaces*. Unlike traditional social media platforms, where content is primarily posted on personal and institutional profiles, pages, and feeds (Peters et al., 2013; Sohn, 2014), in the Metaverse users interact in three-dimensional "virtual worlds" akin to those common in many video game contexts (Messinger et al., 2008). As such, Metaversal spaces exhibit some of the same properties that characterize physical spaces. Much like physical locations, one's immediate interactions are limited to people, and things co-located in one's space at any given time. As in the physical world, attentional boundaries are generally shaped by who and what one can immediately perceive (typically, by who or what one can immediately see or hear) inside the Metaversal space. But unlike in the physical world, users are unrestricted by their actual geographic location—just by their virtual position within the digitized space at any given time (Gursoy et al., 2022).

Because one's virtual position within a Metaversal space dictates one's experience, some geo-locational and spatial concepts (e.g., distance and proximity) are relevant in governing behavior in the Metaverse. An apt illustration of this is the growing size of the Metaversal real estate market (Frank, 2022), which appears to mirror specific properties of the physical world real estate market (e.g., plots with greater visitor traffic are worth more than those with less visitor traffic; Kamin, 2021). The applicability of spatial concepts is also evidenced by transportation in the metaverse. Although most current platforms allow users to "walk" around spaces (Ball, 2022), users can also purchase vehicles (Business Wire, 2022) and take public transport (e.g., including airplanes; Gursoy et al., 2022) to explore and navigate spaces. Further, because the brain often responds similarly to virtual and physical experiences (Blascovich & Bailenson, 2011), environmental cues are likely to influence consumers' behavior in the Metaverse as they do in the offline world (e.g., Spence et al., 2014). Accordingly, some experts argue that the Metaverse will be where most innovations in urban design, architecture, landscape design, and interior design will be centered in the near future (Cutieru, 2022; Schumacher, 2022; Spence et al., 2014). Within the Metaverse one can virtually explore new homes and cities and planners can likewise observe the social consequences of new designs—all afforded by the immersive nature of the Metaversal experience, as we discuss next.

The Metaverse is immersive

Users in the Metaverse are often said to be within the internet, rather than having access to it (Ball, 2022). Thus, one of the most distinctive features of the Metaverse is that it *immerses* users in an experience. Though the term immersion is defined inconsistently within and across different academic disciplines (Nilsson et al., 2016), we follow Slater and Wilbur (1997) and define immersion as a property of a technology (as opposed to a user's reaction to the technology). Specifically, a technology is considered immersive if it produces a realistic experience that effectively places the user in the simulated environment (Bowman & McMahan, 2007).

Immersion is a critical feature because it helps users generate a feeling of *presence*, defined as the psychological experience of "being there" (Cummings & Bailenson, 2015). Specifically, whereas creating a "plausible space" represents the first crucial step in facilitating a sense of presence in a digitized environment, the second critical step is to immerse the user in that

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space (Cummings & Bailenson, 2015; Cummings & Wertz, 2018). Thus overall, the more immersive the experience, the more likely an individual will feel a sense of presence within the mediated environment (Bowman & McMahan, 2007; Slater & Wilbur, 1997).

Considerable research, primarily in virtual environments and gaming, has documented the determinants of immersive technology. For one, a system is more likely to be immersive if it produces rich simulations through multiple sensory modalities (Cummings & Bailenson, 2015; Slater & Wilbur, 1997). This implies that both the quality and quantity of sensory inputs matter. Because users' vision tends to be device-mediated throughout Metaversal experiences (e.g., via a screen or headset), it is the modality currently receiving the most attention in Metaversal applications (Zhao et al., 2022). Various visual qualities influence immersion in a virtual environment, including image quality, stereoscopy (i.e., depth perception), field of vision (i.e., the extent to which a display is panoramic rather than limited to a narrow field), and perspective (i.e., whether the user is presented with a first-person versus third-person view; Cummings & Bailenson, 2015; Slater & Wilbur, 1997).

Auditory cues can also enhance the immersive quality of a technology-mediated experience (Blauert, 1997). This is particularly relevant because most devices that access the Metaverse can deliver audio output (e.g., via speakers or headphones). Immersion can be increased by allowing users to hear ambient background sound (Dinh et al., 1999), the voices of other people (Boustead et al., 2005), and even self-produced sounds (e.g., one's footsteps; Nordahl, 2005). As with visual cues, specific audio characteristics influence the level of immersion achieved. For example, "spatial audio" technology geographically anchors sounds and allows users to perceive that sound is coming from any directed position (Zotkin et al., 2004). This digitally replicates the dynamics of sound in the physical world and increases immersion in an experience (Fritz et al., 2023b).

Even though vision and audition are the modalities that currently receive the most consideration in Metaversal applications, haptic feedback (tactile technology that applies forces, vibrations, or motions to the user; MacLean, 2008) is also receiving increased attention. Indeed, haptic sensations can increase immersion and a sense of presence in technology-mediated experiences (e.g., Basdogan et al., 2000; Haans et al., 2014; Hadi & Valenzuela, 2020). Although haptic feedback can be delivered via a mobile phone and/or game controller, a host of new haptic peripherals have recently surfaced, including haptic sneakers (Faulkner, 2020), rings (Sun et al., 2022), gloves (Lynch & Caddy, 2022) and vests (Business Wire, 2021). Other start-ups are experimenting with olfactory devices that allow users to smell in the Metaverse (Stone, 2022). Many of these products are still relatively niche, but it is compelling to consider how they might work in unison with visual and auditory stimuli. Indeed, scholars suggest that the more sensory modalities are activated in the user, the more likely the user will feel like they are actually in the environment (Wirth et al., 2007).

Immersion in the Metaverse is also facilitated by deploying an embodied representation of each user into the digitized space, typically in the form of an avatar. Avatars are anthropomorphic digital representations that symbolize a user's presence in a digitized space (Messinger et al., 2008). In the Metaverse, users often select and/or design their avatars (Hackl et al., 2022), and the avatars mediate users' interactions within the digitized environment (Messinger et al., 2008). When a user is "inside" a virtual environment in the form of an avatar, she often experiences a "loss of self" (MacCallum-Stewart & Parsler, 2008) and may even cease to distinguish between herself and her avatar (Bartle, 2003; Belk, 2013). Avatar usage tends to be especially immersive if one's physical movements and gestures are mapped onto their avatar's bodily actions (Cummings & Bailenson, 2015; Slater & Wilbur, 1997).

The Metaverse is shared

Another essential feature of the Metaverse is that it is *shared* among users. In other words, one's Metaversal experience is influenced by the presence and actions of other users in the same Metaversal space. This influence manifests when users are mere spectators in an experience (akin to public consumption in physical environments) but is even more explicit on platforms that allow all users to co-design and co-create Metaversal environments and experiences with others (Zwass, 2014).

In many instances, the Metaverse acts as a virtual society where users (via their avatars) collectively work, barter, befriend one another, and forge local communities. Despite these features, one might question the degree to which interactions among avatars in the Metaverse elicit social feelings akin to what one might experience in face-to-face interactions. For example, when interacting with each other indirectly through avatars, do users experience the same feelings of belongingness, trust, and empathy that arise in face-to-face interactions?

On the one hand, one might expect that users do not experience such social feelings because although the Metaverse is a "space" that users co-inhabit via their avatars, it is not a physical space. Indeed, most social feelings stem from true co-location (Jones, 1997). Early research has shown that compared with face-to-face communication, computer-mediated communication (e.g., messaging) decreases feelings of social presence (i.e., the sense of being with another person; Short et al., 1976; Walther, 1996). This decreased social presence, in turn, diminishes the likelihood that individuals engage in prosocial behaviors when interacting through

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computers (e.g., being less likely to cooperate and more unfiltered in expressing emotions; Walther, 1996).

On the other hand, the aforementioned literature was based on older digitally mediated platforms, whereas the sensory-rich and immersive nature of the Metaverse is arguably able to more compellingly mimic the sensations associated with true co-location and in-person interactions. Support for this assertion comes from prior work examining the conditions under which digitally mediated interactions are more versus less likely to induce a sense of social presence (e.g., Bente et al., 2008; Kim et al., 2013; Oh et al., 2018). Some work in this area identified avatars' most effective features in increasing social presence. For example, one of the more intuitive drivers of increased feelings of social presence is whether a counterpart avatar conveys behavioral realism (i.e., whether it displays an awareness of the presence and actions of one's own avatar; Oh et al., 2018). Other factors that affect users' feelings of social presence include whether the counterpart avatar maintains (virtual) eye contact (Bente et al., 2008), exhibits a humanlike voice (Kim et al., 2022), and delivers mediated touch in the form of haptic feedback (Kim et al., 2004). Indeed, in the Metaverse, not only can users see other users' avatars, but some devices used to access the Metaverse are equipped with eye and face trackers that map a user's gaze and facial expressions onto their avatars (e.g., Meta's latest VR headset; Stein, 2022). Further, users can often hear the actual voices of other users (Minotti, 2021) and, in some cases, can even experience other users' "touch" (e.g., high fives and handshakes) via haptic peripherals (Masterson, 2022). As such, one might expect that interactions with other users in the Metaverse may generate feelings of social presence that increasingly resemble those arising in face-to-face interactions. As described next, such illusions of co-location and social presence are further facilitated by the real-time nature of Metaversal experiences.

The Metaverse is real-time

The final distinguishing feature of the Metaverse is that it operates in *real-time*. This temporal component is two-pronged, encompassing both temporal synchronicity (i.e., time experienced is consistent across users; Hoffman & Novak, 1996) and temporal persistence (i.e., ephemerality, referring to the notion that time flows unidirectionally without the ability to traverse backward; Kivetz & He, 2017). Although these two concepts are intermingled, temporal synchronicity is primarily concerned with the flow of time *within* the Metaverse, whereas temporal persistence mainly involves the flow of time *overall*.

We noted that users in the Metaverse share digitally mediated spaces with others, and temporal synchronicity additionally implies that users share the same experience. That is, experiences are temporally structured (Phillips, 2014), consisting of momentary events with a start and an end (Kujala et al., 2013), and temporal synchronicity in the Metaverse ensures that users collectively experience events in the same sequence, for the same duration, and at the same time. For instance, when a user is "walking," the walk is rendered at the same time for everyone present (i.e., both the acting user and viewers), thus ensuring the movement is processed exactly in sync (Dennis et al., 2008). Accordingly, temporal synchronicity aids in further facilitating a sense of social presence. Supporting this notion, consumers feel stronger social presence with others when viewing live-streamed content (a form of synchronous social media) compared with prerecorded content (Bründl et al., 2017; Duani et al., 2019; Gefen & Straub, 2004; Park & Johar, 2022). Further, temporal synchronicity often facilitates more immediate interaction (Dennis et al., 2008), ultimately heightening user responsiveness (Zeithaml, 2000), generating feelings of connection (Wang et al., 2000), and increasing feelings of trust (Wongkitrungrueng & Assarut, 2020).

In addition, temporal persistence implies that as time passes in the Metaverse, experiences such as interactions with others are ephemeral or fleeting, much as they are in the physical world. Ephemerality tends to increase one's feeling of immersion in an experience (Kivetz & He, 2017), and the belief that content will disappear often leads to increased processing efforts (Barnea et al., 2023; Campbell et al., 2021). One might expect these outcomes to manifest in Metaversal experiences. Further, although some non-Metaversal social platforms exhibit temporal persistence (e.g., live streaming, Twitch), the Metaverse affords a unique form of dynamism by embedding such temporal persistence and synchronicity in a spatially structured and immersive experience.

CONSUMER BEHAVIOR IN THE METAVERSE

Having described the core components of the Metaverse, we now consider the central question of this work: To what extent might our current understanding of consumer behavior generalize to this new environment? On the surface, the answer is not immediately clear. In many ways, consumer life in the Metaverse holds strong parallels to life in the physical world. For instance, as in the physical world, consumers in the Metaverse acquire products and engage in real-time interactions with others. Yet, the Metaverse is marked by stark differences that might challenge its potential equivalence to the physical world, such as the fact that consumer activities take place in a digitally mediated environment with goods and social companions that are in virtual form. In what follows, we explore the implications of the Metaverse in three key domains of consumer research: consumer identity, social influence, and ownership. We then conclude

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with a broader discussion of potential consequences and suggest an agenda for future research.

Consumer identity in the Metaverse

A consumer's sense of identity—the set of labels with which a consumer self-associates—has long been recognized as a significant driver of market behavior (Reed et al., 2012). For instance, one's identity can influence one's social affiliations (Escalas & Bettman, 2005), brand preferences (e.g., Kirmani, 2009), advertising responsiveness (e.g., Forehand et al., 2002), and propensity to engage in prosocial acts (e.g., Terry et al., 1999). But what becomes of one's identity in Metaverse? The digitally mediated nature of the Metaverse allows an individual to trade their physical form for an avatar surrogate whose appearance, personality, and identity are unbounded by the constraints of the nondigital self. Thus, even if an avatar is a mirror of one's offline persona, it might also take on a radically different form and identity—which can have profound implications for patterns of observed behavior (Messinger et al., 2008).

In recent years a growing body of academic research has examined this topic by exploring how we represent our identities in virtual worlds (e.g., Belk, 2013; Zimmermann et al., 2022). An overarching finding is that our avatar representations tend to be idealized versions of our offline selves—depictions that often share our gender, appearance, and even personality but are otherwise shaped to be the version we would most want others to see (e.g., Ducheneaut et al., 2009; Messinger et al., 2008). Next, we describe prior work on user identities in virtual worlds and discuss how these findings can help delineate the role of identity in the Metaverse.

Projecting one's offline self onto the Metaverse

Much of the early work on avatars grew from studies of user behavior in virtual worlds such as *World of Warcraft* and *Second Life* (e.g., Bessière et al., 2007; Kozinets & Kedzior, 2014; Messinger et al., 2008). An initial conjecture was that because avatars provided users with a mask behind which they could safely explore different identities or personas, there might be notable differences between a user's offline and online identities, particularly in settings such as *Second Life*, where players could create multiple avatars (Gilbert et al., 2011; Meadows, 2007). Indeed, in his review of work in this area, Belk (2013)—citing earlier work by Biocca (1997) and Denegri-Knott and Molesworth (2010)—speculated that users might view their avatars as "a canvas on which we can 'try out' various alternative selves" (p. 482).

Extant empirical evidence, however, has provided mixed support for these ideas. It is, of course, plausible that the digital nature of virtual worlds tempts users to create avatar representations that stray far from their offline selves, much as one might choose a Halloween costume: users can make their avatar look decades older, be of a different ethnicity or gender, or even nonhuman (e.g., Meadows, 2007). However, such radical transformations are rare, and the physical appearance of avatars tends to approximate that of their creators: they almost always share the same gender, approximate age, ethnicity, and body shape (Bessière et al., 2007; Ducheneaut et al., 2009; Gilbert et al., 2011; Zimmermann et al., 2022). That said, when differences do arise, they often enable users to represent "idealized" versions of themselves through their avatars (Bessière et al., 2007). For example, younger users tend to create avatars that are somewhat older (Gilbert et al., 2011), those who are older create avatars that are somewhat younger (Messinger et al., 2008), those who are heavier create avatars who are slimmer (Gilbert et al., 2011; Messinger et al., 2008), and, for men, more muscular (Cacioli & Mussap, 2014).

However, the largest differences between users' avatars and offline representations are not in physicality or appearance but in users' personalities. Users tend to endow their avatars with personalities that are more confident and outgoing than their creators' (Bessière et al., 2007; Ducheneaut et al., 2009; Gilbert et al., 2011), and in various online contexts (e.g., dating, gaming), individuals imbue their avatars with more desirable personality characteristics (e.g., lower neuroticism; Zimmermann et al., 2022).

These findings beg the question: What psychological process underlies the creation of avatars? Although prior empirical work has not directly explored this question, the general assumption is that it is influenced by at least two factors—first, the highly social and immersive nature of virtual worlds, and second, the inherent desire to present the best version of oneself to others, or to self-enhance (Goffman, 1959). In particular, the highly immersive and social nature of the virtual world fosters a tendency for users to view their avatars not as "puppets" but as virtual manifestations of themselves, which in turn discourages the creation of representations that stray too far from their offline selves (Eladhari, 2007; Messinger et al., 2008). Consistent with this reasoning, Ducheneaut et al. (2009) observed that although the creators of *Second Life* allowed users to create "alts" or multiple versions of themselves, most users ultimately centered their play around a primary avatar, as it tended to be the one that best captured their offline characteristics. At the same time, as much as users strive to present the best version of themselves to others in the offline world, they are similarly driven to self-enhance when creating their avatar representation (Messinger et al., 2008). Here, the digitally mediated nature of virtual worlds allows

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users to self-enhance in ways that are impossible in the offline world by instantaneously losing weight, adding a bit to their height, or altering almost any aspect of their appearance.

When avatars influence offline selves

The manner in which users choose and create avatars stems from three defining characteristics of the Metaverse: its digitally mediated nature, which provides one with the technical means to reinvent themself; its shared property, which heightens one's sensitivity to how others perceive their avatar representation; and its immersive quality, which leads one to view their avatar as an extension of themselves (Belk, 2013). If people indeed view avatars as extensions of themselves, might their avatars, in turn, affect their offline identities?

There is growing evidence that the answer is yes—at least in some contexts. The basis of this idea is the *proteus effect* (Ratan et al., 2020; Yee & Bailenson, 2007), which is the tendency for people to mold behaviors and attitudes in the offline world to conform to the identities of their avatars. In some cases, these changes can be beneficial. For example, when people are encouraged to create avatars that represent ideal versions of themselves, they make healthier food choices not just for their avatars but for their offline selves as well (Sah et al., 2016). In addition, implicit racial bias among white people toward black people appears to be reduced by having white participants engage in a task as black avatars (Peck et al., 2013). Finally, during the peak of the COVID-19 pandemic, excessive fears of contracting the disease from other people were lowered when participants were able to interact with users in an online game through avatar representations that were immune to the disease (Paul et al., 2022).

However, the proteus effect can also exert negative effects in the offline world. Consider, for example, that some users make their avatars taller than their offline selves (Messinger et al., 2008). While this may seem like innocuous self-enhancement, it can have deleterious effects in the offline world. For example, when participants played the "dictator game" with a live counterpart using avatars, participants endowed with taller avatars made more selfish real money offers than participants endowed with shorter avatars (Yee & Bailenson, 2007). Likewise, when people's avatars are heavier than that of their opponents in Metaversal exercise games they tend to exert less physical effort (Peña et al., 2016). Finally, avatar designs might also work to reinforce stereotypes in and outside of the Metaverse. For example, in one experiment, when participants were randomly assigned either a male or female avatar and then played a math skills game against avatars of the opposite gender, their performance was best when their avatar was male, even when the participant was actually female (Peña et al., 2016).

The meaning of identity in the Metaverse

What implications do these prior findings hold for the role of identity in the Metaverse? One could argue that users will be exposed to *less* diversity of human appearances, personality types, and social structures than they would in the offline world, which could hold negative implications for one's identity in the Metaverse. For example, although most users with disabilities are willing to disclose some aspect of their disabilities through their avatars, these disclosures are often selective (Zhang et al., 2022). Likewise, such disclosures are often inhibited by the software's inability to represent certain disabilities in avatar design (Zhang et al., 2022). As such, to the degree that one's identity is enriched by the diversity that arises in the offline world, there may be fewer opportunities to experience this in the Metaverse. However, given that the number of possible identities one can take on in the Metaverse is virtually infinite (Meadows, 2007)—whether a taller version of oneself or a unicorn—it is possible that users will end up being exposed to even more diversity than in their offline networks. Relatedly, users have the potential to be exposed to more creative and unique identities than would otherwise be possible in offline settings, which may, in turn, further influence the identities they form both in the Metaverse and in offline settings.

Finally, there is also the possibility that some concepts of identity may lose their meaning in the Metaverse altogether. Consider the philosophical concept of authenticity: the belief that one behaves in a manner congruent with one's true self (e.g., Ferrara, 2009; Kierkegaard, 1962). Can an avatar be authentic? If avatars are idealized versions of users' offline selves, the arguable answer is "no"; the moment one steps into the Metaverse, they may, almost by definition, be forgoing their offline sense of authenticity. However, an existentialist view of authenticity suggests that self-expression and active creation are more central to the "true self" than what is innate and unaltered (Smith et al., 2021). Indeed, many users report that their avatars more accurately portray their true identities than their offline selves do (Freeman et al., 2020). For such users, the concept of "identity" does not lose meaning in the Metaverse; if anything, it may take on an entirely new one.

Social influence in the Metaverse

Given that Metaversal spaces are shared among multiple users, one's experiences inside the Metaverse are likely subject to social influence. Social influence (how others affect our emotions, opinions, or behaviors; Dahl, 2013) is arguably one of the most prominent determinants of consumer behavior (Burnkrant & Cousineau, 1975) and exerts considerable influence on how consumers feel, process information, and make decisions (Argo, 2020).

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Social influence manifests not only when consumers actively engage with others (e.g., "interactive social influence") but also in passive situations in which others are physically present but do not interact with the focal consumer (*mere presence* effects; Argo et al., 2005). Given that physical presence is typically considered a prerequisite for mere presence effects, such research has typically been confined to offline environments (e.g., store settings; Argo & Dahl, 2020). However, since the immersive quality of the Metaverse generates perceptions of social presence and the illusion of co-location with others, one might accordingly expect the mere presence of other participants' avatars to similarly exert an influence on consumer behavior. Consequently, social influence in the Metaverse is likely to operate differently from more traditional online settings (e.g., the social media platforms of Web 2.0). Next, we consider how existing theories of social influence apply in the Metaverse, while highlighting noteworthy areas of departure.

Proxemics and social density in the Metaverse

Consumer behavior research on proxemics (the study of interpersonal distance; Hall, 1963) has found that physical proximity can have both positive downstream consequences (e.g., shoppers often feel more affiliation toward salespeople who stand close by as opposed to far away, which translates into greater purchase intentions; Esmark & Noble, 2018), and negative outcomes (e.g., when consumers feel their personal space has been infringed upon, it lowers brand evaluations and can prompt premature store departure; Martin, 2012; Martin & Nuttall, 2017). Similarly, although crowdedness can serve as a positive signal of quality (i.e., the presence of more patrons in a store or service setting can serve as "social proof"; Cialdini, 1984), it can also reduce the pleasantness of an experience (Hui & Bateson, 1991) and negatively impact customer satisfaction (Eroglu & Machleit, 1990). Because Metaversal experiences transpire in digitally mediated spaces in which one's avatar is co-located with the avatars of other users, many of these effects may similarly manifest within the Metaverse. Indeed, users often apply offline norms regarding interpersonal space when interacting with other avatars in virtual environments (Nassiri et al., 2010; Yee et al., 2007) and often feel threatened by other avatars who infringe on their virtual space (Pedica & Vilhjálmsson, 2009).

Interestingly, however, the digitally mediated nature of the Metaverse introduces novel means of managing proxemics and social density. For example, in response to instances of "virtual groping," Meta recently added a "safe zone" feature to its virtual reality platform, allowing users to instantly create a personal forcefield that shields them from uncomfortable proximity or unwelcome advances (Basu, 2021). Further, through coding and infrastructural design decisions, Metaversal platforms can manage many of the negative sensory artifacts that characterize high social density (e.g., by putting a cap on the auditory cacophony cumulatively produced by other avatars) and can even manage crowding by limiting the number of users it visually renders in any given space (Hadad, 2022). Thus, although the spatial and immersive properties of the Metaverse can give rise to proxemics-related problems that plague social interactions in the offline world, architects of Metaversal experiences might optimize settings to fulfill sociality needs while safeguarding against (or at least minimizing) many of the less desirable consequences.

Impression management in the metaverse

Consumers behave differently in public (as opposed to private) settings (Argo, 2020), and such modifications are often motivated by impression management concerns (Schlenker, 1980). That is, individuals generally wish to convey a favorable image to others (e.g., affluence, popularity, status, social responsibility, etc.), and they often project this impression via the activities they partake in (e.g., Kristofferson et al., 2014) and the products they buy (e.g., Belk, 1988; Berger & Heath, 2007). Because co-location with other avatars makes social presence salient, and because avatars are often enduring and recognizable representations of one's offline and/or online persona, impression management concerns are likely to exert a considerable influence on consumption behavior in the Metaverse. This influence is particularly likely to operate in decisions involving the purchase of digital goods that only have value in the Metaverse (we discuss such digital possessions and their potential signaling power in the next section of this paper). Indeed, users not only see the physiological traits of each other's avatars but are also likely to notice what other avatars are wearing, driving, carrying, and using (Belk et al., 2022). Thus, the decision to purchase digital goods in the Metaverse may involve at least some consideration of what meaning those possessions convey to other users.

Importantly, although the possibilities just noted may be reasonable if and when users are identifiable by their avatars, this is not always the case. Because identity in the Metaverse is flexible, one may adopt multiple different avatars, including ones that are transient or relatively anonymous. Thus, whereas individuals outside the Metaverse often feel compelled to manage a consistent image of themselves (typically one that conforms to societal norms; Cialdini & Trost, 1998), these forces may be less relevant in certain Metaversal settings. This might mean that consumers' impression management concerns and signaling behaviors toggle on and off depending on the avatar (and hence, identity) they momentarily assume. Further, if consumers maintain a personal roster of different avatars and Metaversal personas, they might curate distinct collections of digital goods for each

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character. In sum, the juxtaposition of social presence and malleable identity may give rise to unique impression management strategies and signaling behaviors in the Metaverse.

Word of mouth dynamics in the Metaverse

We have discussed how the mere presence of other users (or their embodied representations) can influence consumers through proxemics and by activating impression management concerns. However, the effects of social influence are unsurprisingly more profound when consumers engage with one another (i.e., interactive social influence; Argo, 2020). In particular, a large body of work has investigated how consumers communicate and share information about products, brands, or services with each other, in a research domain known as word of mouth (WOM, see Berger, 2014, for a review).

Although the social and interactive nature of the Metaverse suggests that WOM will likely play a role in governing consumer behaviors, the dynamics might be markedly different from those in traditional online settings. For example, in many non-Metaversal online contexts, WOM operates in a one-to-many fashion (Moore & Lafreniere, 2020), often in the form of social media content (e.g., a Tweet, Facebook post, or YouTube video; Toubia & Stephen, 2013) or online reviews (e.g., Amazon, Yelp; Pentina et al., 2018). Further, most traditional social media platforms are network structures with social interaction typically transpiring via static pages and feeds (Peters et al., 2013). However, the spatial and synchronous characteristics of Metaversal experiences mean that a user's social exchanges at any given time are generally limited to individuals who are co-located in the same digitally mediated space at the same point in time.

How might word of mouth exchanges in the Metaverse compare to those in the offline world? On one the hand, consumers tend to worry more about being misunderstood when interacting with voice technologies (vs. with other people), which leads them to give more forethought to how they want to phrase themselves before speaking out loud (Melumad, 2023). On the other hand, Metaversal exchanges may be more likely to mimic the dynamism and conversational rhythm of in-person interactions and dialogue due to the spatial and real-time nature of the platform. For example, the Metaverse allows for spontaneous encounters (e.g., "bump into" experiences; Purdy, 2022), and users are often encouraged to speak to each other in their own voices (Minotti, 2021). Moreover, because most Metaversal platforms are experiential in nature, they allow individuals to co-experience events (e.g., live concerts, streamed movies, and sporting events; Marr, 2022) and participate in various activities together (e.g., gaming; Sherr, 2022). Thus, whereas social media platforms are often lamented for being static, overly curated, and impersonal (Boyd & Ellison, 2007; Wilcox & Stephen, 2013), the Metaverse theoretically has the potential to offer greater dynamism, spontaneity, and possibly more personal connections. Further, although online social networks arguably encourage visual forms of self-presentation (and often implicitly emphasize personal appearance; Boursier et al., 2020; Boyd & Ellison, 2007), avatar usage in the Metaverse might level the visual playing field across users, enabling alternative sources of influence and clout to dominate. This is not to say that the visual appearance of one's avatar does not matter in Metaversal settings. Still, with the knowledge that such avatars are merely synthetic representations of users, consumers may arguably place heavier value on substance and content than they do in contexts that exhibit users' actual physical likenesses.

Social artificial intelligence in the Metaverse

Our discussion thus far has largely centered on social influence derived from the presence and actions of other human entities (in either literal form or as represented by avatars). However, consumers are also subject to social influence from nonhuman entities, namely in the form of artificial intelligence (AI) agents (Puntoni et al., 2021). For example, social bots (computer algorithms programmed to produce content and interact with other users) are increasingly rampant across several social media platforms (Appel et al., 2020). Although some AI agents deceptively pose as human actors and are considered malicious (e.g., by disrupting political discourse, spreading misinformation, and stealing personal information; Ferrara et al., 2016), some consumers knowingly and readily embrace social AI. For example, AI influencers (digitally created characters that employ software and algorithms to perform tasks like humans; Thomas & Fowler, 2020) are increasingly popular content creators on social media platforms, despite the fact that many are clearly not human actors (Sands et al., 2022). Thus, social AI (in both malignant and innocuous forms) may be equally pervasive in the Metaverse, if not more.

Although consumer interactions with AI agents are not unique to Metaversal environments, the influence these entities exert might differ in such settings. To begin with, embodiment in avatar form arguably places AI agents on perceptually equal footing as human users (at least visually), thus making them more integrated, less detectable, and potentially more persuasive. In fact, graphics companies are actively advancing hardware and software in hopes of creating lifelike avatars that mirror humans in their literal form (Shankland, 2022), arguably making visual recognition of social AI even more difficult. This suggests consumers might more readily employ auditory means of detecting AI (i.e., attempting to decipher whether a user's voice is human), particularly given the aforementioned prevalence of speech-based dialogue on Metaversal platforms.

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Regardless of the employed detection method, consumers will likely respond to known social AI in the Metaverse differently than they would in non-Metaversal settings. In particular, consumers might be more willing to engage with known AI agents in the Metaverse for at least two reasons. First, most social entities (human or not) in the Metaverse are represented by avatars, and users often identify strongly with these digitally rendered characters (e.g., Messinger et al., 2008). It is possible that seeing one's own persona (and other familiar personas) visually captured in such a synthetic manner might make consumers themselves feel more similar to AI agents. In other words, because the existential distinction between what is merely pixelated and what is genuinely human becomes blurred, users may feel more similar and connected to other synthetic renderings, regardless of whether humans or algorithms power them.

Another reason consumers might more readily engage with social AI in the Metaverse stems from the experiential nature of the platform. That is, whereas content on traditional social media platforms is often self-presentational and meant to document and reflect one's "real life" (often including even the most mundane details; Humphreys, 2018), users in the Metaverse are more likely looking to engage in real-time experiences (Han et al., 2022), with limited (if any) concern about how the settings may or may not reflect reality. In this experiential mindset, consumers may be more open to social interactions with nonhuman entities. This is particularly likely to be the case in highly fantastical digitally mediated environments, where consumers' disbelief has already been suspended. After all, if a consumer is swimming in rainbow rivers and riding on flying unicorns, it hardly seems strange to strike up a conversation with an AI-powered avatar.

In sum, while social influence in the Metaverse will continue to manifest in both passive and interactive forms, the platform's combined characteristics will arguably alter how we are influenced and whom we are influenced by.

Digital ownership in the Metaverse

Ownership is a foundational concept in consumer behavior literature. Indeed, particularly where material products are involved, it is difficult to imagine a scenario in which a purchase does not result in at least a temporary transfer of ownership to the buyer. Understandably, the bulk of extant ownership research has focused on tangible material possessions that exist in our physical world. However, contemporary researchers have increasingly turned their attention to "digital ownership" of nonmaterial goods (e.g., Atasoy & Morewedge, 2018; Belk, 2013; Lee & Suh, 2015). The immateriality of digital goods leads consumers to feel less psychological ownership than they would over tangible goods, and consumers accordingly value the former less than the latter (Atasoy & Morewedge, 2018; Leung et al., 2022).

In envisaging how ownership might manifest in the digitally mediated realm, or the Metaverse, one must consider how the platform's unique characteristics—along with the technologies enabling commerce on the platform—might alter the nature of digital ownership and its influence on consumer behavior. Although ownership is likely to remain a relevant and fundamental concept in the Metaverse, the concept of ownership in this context will change, as will its precursors and consequences. To explore these ideas, we first describe the mechanics through which ownership is assigned (i.e., how users acquire goods) in the Metaverse and then discuss the potential consequences of these unique mechanisms.

Establishing ownership in the Metaverse

Describing how ownership is assigned in the Metaverse necessitates a brief explanation of the relationship between cryptocurrency, blockchains, and nonfungible tokens. Cryptocurrency is a digital currency that, like money, can be exchanged for goods and services. Cryptocurrency transactions often take place in systems called *blockchains*, which can support both fungible tokens (often called "coins") and nonfungible tokens (NFTs). In this context, coins, like cash in the nondigital world, can store value and is fungible (e.g., 1 Bitcoin stores the value of 1 Bitcoin no matter where it is used). NFTs, in contrast, are unique tokens in the blockchain akin to product documentation or deeds. Specifically, an NFT stores unique information about any given product (e.g., the product's origin, manufacturer, brand, or other relevant product information) while also recording ownership of that product (Belk et al., 2022). Thus, technically, NFTs are not products but are certificates of product-specific data and ownership, which can be used to document purchases of both intangible and tangible products. However, in digital environments, the term NFT is typically used to refer to the intangible product it documents. Adopting this parlance, we can say that in the Metaverse, coins are the means for acquiring NFTs (i.e., digital goods), which asserts one's unique ownership of products. Having described these mechanics, we next explore how coin expenditure and NFTs might uniquely influence consumer behavior in Metaverse settings.

Coins as instruments for product acquisition

Consumers in the Metaverse use coins (fungible tokens) to engage in transactions and acquire goods. These coins are often specific to a platform (e.g., *MANA* for Decentraland), and to be used in other platforms, they must be exchanged for another currency (e.g., *MANA* has to be exchanged for *SAND* to be used on the Sandbox

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platform). In any case, coin-based transactions typically precede ownership in the Metaverse.

Considerable research in psychology and behavioral economics has demonstrated that although money is fungible, judgments and decision-making are often influenced by the method through which consumers acquire products. For example, consumers often feel less "pain of payment" when buying things via alternative payment methods (e.g., credit card or mobile payments) as opposed to cash, as the former modalities of payment decrease the transparency of cash usage (Liu et al., 2021; Prelec & Loewenstein, 1998; Soman, 2001, 2003). Thus, in some ways, coin expenditure in the Metaverse might seem more akin to credit card spending because the currency is intangible and, therefore, less transparent in its use. However, the term *coins* and many of the platform-specific labels for coins might evoke connotations of non-digital currency expenditure (e.g., "Robux" coins are a portmanteau of Roblox and the word "bucks"). Further, one's account balance of coins is often more salient in Metaversal environments than it is in typical offline or eCommerce contexts (i.e., in the latter contexts, consumers rarely view information about the account from which funds are being drawn on the same platform they are using to purchase goods). Thus, because currency nomenclature and display settings vary across Metaverse platforms, there may be systematic ways in which the pain of payment is either exaggerated or attenuated. In fact, some industry players allow users to spend coins via credit lines in what might be seen as an effort to mitigate the immediate pain of payment (Rooney, 2022).

Consumers also tend to mentally account for their money, creating categorical buckets designated for particular uses (Thaler, 1985, 1999). For example, when consumers receive a branded gift card (e.g., a gift card for Levi's), even if the funds are highly fungible, they often reserve the funds for expenditures consistent with the brand's association (e.g., purchasing jeans vs. t-shirts; Reinholtz et al., 2015). Such mental accounting might similarly apply to coin expenditure in the Metaverse. For example, Decentraland is most well-known for selling digital land. Thus, it might be that *MANA* coin users have a higher propensity to purchase land than other offerings (e.g., clothing) that Decentraland offers. In other words, purchases within Metaversal platforms may result in users acquiring and owning products that are implicitly inspired by the platform. Further, because users have the option to adopt multiple avatars (and presumably, multiple identities, as mentioned earlier), it is useful to consider how users might, consciously or unconsciously, create mental accounting buckets for the different characters they assume.

Finally, coins are often considered investment vehicles due to their high volatility (Lee et al., 2017). This suggests that an intertemporal component might exist when using coins in the Metaverse—the value of a coin today may be vastly different tomorrow, and consumers accordingly have to make intertemporal tradeoffs. This dynamic is particularly interesting given the uncertainty as to whether the nominal value of the coins will increase or decrease. Previous literature on intertemporal choice suggests that concreteness of the future is one of the determinants in consumers' decisions to expedite or delay rewards (for review, see Urminsky & Zauberman, 2014). Thus, the bidirectional volatility of coins (i.e., "will this be worth more or less tomorrow?") may deter transactions and acquisition of goods in the Metaverse more than we see in non-Metaversal settings.

NFTs as possessions

As mentioned, NFTs are used to certify ownership of digital goods in the Metaverse. By officially documenting ownership, NFTs may thus make consumers feel more confident in purchasing such goods, which might help relieve the inherent lack of psychological ownership digital goods have been thought to command (e.g., Atasoy & Morewedge, 2018). However, moving beyond this functional advantage of NFTs, what goods might consumers wish to own in the Metaverse, and why?

To begin, the digitally mediated nature of the Metaverse suggests that even though many products in the Metaverse are visual replicas of material products, many functions we expect of those products in the physical world are irrelevant in the Metaverse. For instance, whereas the roof of a building or a jacket in the physical world might protect us from exposure to the elements, such functions do not apply in digital environments (at least not literally). There are, of course, instances in which products interact with a platform's mechanics and thus carry similar functions in an alternative or imaginary sense (e.g., wearing a digital jacket might help one advance in gameplay or provide other experiential benefits in a virtual environment; Belk, 2013). Nevertheless, consumers are not motivated to own products for their literal material functions in such settings.

However, as discussed in the social influence section, the immersive and shared nature of the Metaverse evokes a critical alternative motivation for owning goods: impression management concerns. Undoubtedly, the desire to outwardly manage one's image and signal one's identity is a powerful motivation for owning (and not owning) products (Belk, 1988, 2013; Berger & Heath, 2007; Weiss & Johar, 2013, 2016). In particular, conspicuous consumption is often used to signal one's status (Bellezza & Berger, 2020; Berger & Ward, 2010; Han et al., 2010; Wang & Griskevicius, 2014) and as a cue to judge the status of someone else (Bellezza et al., 2014). Although impression management, identity signaling, and conspicuous consumption are relevant in non-Metaversal settings, the diminished role of material functionality may make these concerns more dominant motives for ownership in the Metaverse.

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This suggests that brand and product associations will likely remain important drivers of consumer purchases in the Metaverse. Industry leaders seem to understand this intuitively, and thus unsurprisingly, many of the first movers in the NFT space are purveyors offering luxury (i.e., status-signaling) products (TFL, 2022). The ability to signal status via luxury good ownership might be further heightened in the Metaverse (as compared with non-Metaversal settings) because NFTs publicly certify ownership and authenticity in a manner nondigital goods often struggle to do, given the prevalence of gray markets and counterfeit goods in the physical world (Park et al., 2022).

Another unique facet of NFTs is that they can hold any information the creator chooses to include. Thus, an NFT may contain information about its provenance (e.g., the creator's name), previous owners, and the prices paid to acquire it at various times. Some of this information (e.g., whether a celebrity previously owned the product) may also motivate one's desire to own a particular product (Newman et al., 2011). Consistent with this, in the current NFT marketplace, network factors seem to already affect the product's ultimate value (Nadini et al., 2021). In contrast, the fact that NFTs hold so much information permanently could mean that impression management concerns might deter users from purchasing certain goods (e.g., given that people can see the list of previous owners; Schlenker, 1980). For example, users might be hesitant to purchase an embarrassing (or socially undesirable) product tied to an NFT or may be reluctant to make NFT-linked purchases in general due to a concern for privacy and any unforeseen consequences of permanent documentation.

Importantly, just as Metaversal spaces and people (i.e., avatars) are not bound by the laws of our natural world, neither are Metaversal products. Although the immaterial nature of NFTs limits tangible benefits, it allows for limitless possibilities of what can be owned. In fact, a consumer can potentially own anything rendered in the Metaverse, whether it be a t-shirt, a moment in time (e.g., NBA Top Shop), or a community (e.g., community governance token). This will undoubtedly introduce new consumption practices and accordingly inspire new marketing strategies, but it may also prove daunting for some users. Namely, not only do users in the Metaverse have the option to purchase an astronomical number of goods (e.g., some NFT art collections have nearly 10,000 products that consumers can choose from; Suchow & Ashrafimoghari, 2022), but the atypicality of some product categories (e.g., purchasing a Lebron James slam dunk) might generate substantial disfluency and cognitively paralyze some consumers. This suggests choice overload (Iyengar & Lepper, 2000) and its negative downstream consequences (e.g., lower satisfaction and post-decision regret; Botti & Iyengar, 2004; Inbar et al., 2011) may be particularly pertinent concerns in Metaversal environments. This might be further compounded by the cognitive demands of being immersed in a virtual environment and the simultaneous existential toll of adopting a new identity. Thus, one might expect that users in the Metaverse may often engage in peripheral processing (Petty & Cacioppo, 1986) and rely heavily on heuristics when making purchasing decisions.

As this section exemplifies, while many existing academic theories and findings are likely to hold in the Metaverse, it still represents a novel context that is likely to challenge the traditional understanding of consumer behavior in several ways. We paid particular attention to how consumer identity, social influence, and ownership might operate distinctly in the Metaverse, but this was just a starting point. Next, we assemble a series of potential future research directions to help broaden our understanding of the Metaversal marketplace and its impact on consumer behavior.

THE CONSUMER JOURNEY THROUGH THE METAVERSE: A GUIDE FOR FUTURE RESEARCH

We have argued that the Metaverse will require researchers to rethink many of the fundamental ideas that have long guided our understanding of consumers in the physical world: how consumers form their identity, what drives social influence, and what governs a sense of ownership. We have been silent, however, on the pragmatics of how daily consumer life will unfold in the Metaverse. For example, how and why might consumers decide to engage in the Metaverse? How will consumer decisions be made in the Metaverse? Will marketing to consumers in the Metaverse look different? Finally, and perhaps most importantly, what are the potential benefits and risks posed by this emerging platform? In the next sections, we explore these issues and propose research directions associated with each (a summary of these directions is presented in the Table 1).

What motivates consumers to enter the Metaverse?

Why might consumers engage in Metaversal experiences to begin with? Though little prior work has explored this question directly, the factors known to motivate consumer engagement in other online experiences, such as social media and immersive online games, may be instructive. These include sociality (i.e., the desire to connect with other people and, in some cases, to alleviate loneliness; Hilvert-Bruce et al., 2018; Valkenburg & Peter, 2009), escapism (i.e., indulging in virtual environments to avoid real-world problems; Kaczmarek, & Drązkowski, D., 2014), and pure entertainment. But, as we have noted, the Metaverse offers a far richer, multipurpose environment than most traditional forms of

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TABLE 1 Future research directions.

Broad theme	Sample questions
What Motivates Consumers to Enter the Metaverse?	• How are consumer motivations to engage in Metaversal experiences similar or different from those that drive engagement in other online contexts (e.g., social media and online gaming)? • How do different consumer segments vary in their motivation to engage in Metaversal experience? • How do generational divides (and other demographic factors) influence consumers' tendency (and/or ability) to access the Metaverse?
Will the Metaverse Change How We Think?	*Consumer Memory and Learning* • Do consumers experience source confusion when retrieving memories from the Metaverse? If so, how can this be remedied? • Under what conditions do Metaversal experiences improve consumer learning and memory of content? *Information Processing and Consumer Mindsets* • Do Metaversal environments systematically facilitate particular information-processing styles? • How does the immersive nature of the Metaverse affect consumer attention and involvement? • How does the nature of the Metaversal environment (e.g., familiar vs. fantastical) influence the cognitive demands of Metaversal experiences? • How do consumers' adopted identities (e.g., convergent or divergent) influence the cognitive demands of Metaversal experiences? • Do fantastical Metaversal environments prime specific consumer thinking styles (e.g., experiential or magical thinking) and/or mindsets (e.g., growth mindsets)?
Will the Metaverse Change How We Shop?	*Omnichannel Experience* • Do consumers strive for consistency across their physical and digital purchases? • How do a consumer's Metaversal purchases influence their offline purchases, and vice versa? • Do consumers use digital products in the Metaverse to test-drive products before purchasing the physical versions? • Do consumers use conspicuous virtual purchases to compensate for what they cannot afford in the physical world? *Marketing Communication and Branding* • How do consumers respond to real-time, personalized marketing communications in the Metaverse? • How do consumers respond to brand-sponsored avatars in the Metaverse? • How does the self-guided nature of the Metaverse pose challenges to attracting and/or guiding consumer attention? • Does immersion in a Metaversal experience impair consumers' persuasion knowledge? • How do consumers respond to advertising in rich new media formats (e.g., AR and VR) in the Metaverse? • How does shared immersion with brand avatars in Metaversal spaces influence consumer-brand relationships?
Will the Metaverse Change How We Interact with One Another?	• Do consumers feel a heightened sense of anonymity when using avatars? • Do Metaversal environments mitigate or exacerbate toxic inhibition? • Does the Metaverse intensify echo chambers and exacerbate polarization of ideas across user segments? • Can real-time speech translators help foster intercultural social cohesion?
Will the Metaverse Improve or Harm Consumer Well-Being?	*Social Health and Loneliness* • Will Metaversal experiences alleviate, perpetuate, or exacerbate consumers' feelings of loneliness? • What individual-level and contextual factors determine feelings of loneliness in the Metaverse, and how can such loneliness be remedied? *Self-Esteem* • Does wide-scale avatar usage exacerbate "perfection fatigue" experienced by users? • How does the ability to customize one's avatar affect one's self-image? • Can avatar representations provide unique identity-affirming experiences for some users in the Metaverse? *Escapism and Addiction* • What individual-level differences affect one's desire to escape into the Metaverse? • If Metaverse addiction is possible, which consumers are most susceptible? • Can Metaversal escapes promote mental hygiene via stress-relief? *Privacy* • How uneasy or relaxed do consumers feel about data privacy in Metaversal environments? What individual-level differences affect such sentiments? • Does avatar representation and pseudo-anonymity make data collection in the Metaverse feel less invasive?
How will the Metaverse Impact Equity and Inclusion?	• Will the Metaverse increase stereotyping and discrimination based on vocal cues? • How do avatar customization options influence various users' feelings of inclusion? • Does exposure to avatar diversity in the Metaverse promote stereotype reduction non-Metaversal contexts? • What unique challenges does the Metaverse pose for differently abled individuals? • Can certain Metaversal features provide opportunities and/or benefits for differently abled individuals? • Will the Metaverse reduce or broaden socioeconomic disparities?

online engagement, suggesting that motivations to engage in (or avoid) Metaversal experiences may differ from those that drive (or detract from) other engagement in online contexts. For example, many consumers use traditional social media as a form of supplemental entertainment while concurrently partaking in other activities

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(e.g., scrolling through a feed on one's mobile phone while watching television; Fossen & Schweidel, 2016). However, the immersive nature of the Metaverse may prohibit such casual engagement. Indeed, Metaversal consumers may be generally less distracted and in a less cognitively depleted state than social media users.

Of course, as in almost any consumer behavior context, individual differences likely come into play. In particular, it will be important to better understand how different categories of consumers might differ in their overall motivation to engage in Metaversal experiences. For example, the sociality motivation suggests that those who lack and seek out companionship (i.e., those who are temporarily or chronically lonely) may show an increased tendency to enter the Metaverse. Likewise, demographic factors will likely contribute to user motivations. For example, although gaming in the Metaverse is currently dominated by a younger age bracket (e.g., Gen Z; Adams, 2022), many seniors (particularly those with reduced mobility due to physical limitations) are attracted to the immersive—and often transportive—qualities of Metaversal experiences (Rand, 2022). Future research can explore and empirically document how generational divides influence not only the tendency to access the Metaverse but also how consumers engage with the platform.

Will the Metaverse change how we think?

The sustained use of certain technologies can have both temporary and long-lasting effects on consumer cognition (Sparrow et al., 2011). It is thus worthwhile to consider how engagement with the Metaverse might influence consumer cognition, including the potential consequences for consumer memory, learning, information processing, and mindset adoption.

Consumer memory and learning

Reliance on search engines (e.g., Google) can lead people to mistake the Internet's knowledge for their own (Sparrow et al., 2011; Ward, 2021), and it is plausible that Metaversal experiences will similarly modify or distort consumer memory. In particular, because the Metaverse immerses consumers in realistic sensory-rich environments, consumers may experience source confusion when retrieving some memories (i.e., forgetting whether what they saw or heard occurred in the Metaverse or the physical world). This might be particularly pertinent in augmented reality applications because digitally mediated experiences transpire in one's actual physical space, potentially increasing the probability of temporary reality distortion and inaccurate memory retrieval. Future research can work to systematically document the antecedents and consequences of potential source confusion and false memories in Metaversal environments and explore how these might be remedied.

Although the Metaverse may harm consumer memory by producing source confusion, there may be instances in which the Metaverse's immersive nature improves consumer memory of the content itself. For example, research on perspective-taking suggests that adopting a first-person point of view can enhance learning and memory (e.g., Bagri & Jones, 2018). Further, such benefits might be even more exaggerated when consumers engage in physical gesturing due to muscle memory effects (e.g., Ittyerah & Marks, 2007). Future research can explore the conditions under which memory and learning are enhanced and how to accordingly design optimal Metaversal contexts for such purposes.

Information processing and consumer mindsets

Consumers process information differently when navigating online (vs. offline) environments (Hoffman & Novak, 1996). Yet, in the specific context of virtual worlds, some neuroscientific evidence suggests that the brain often fails to differentiate between "real" and virtual experiences (Blascovich & Bailenson, 2011). Whereas future researchers may wish to consider how consumers' information processing in the Metaverse might compare or contrast with other online contexts, it could also be compelling to explore how specific Metaversal environments and situations might systematically induce particular information-processing styles. For example, earlier we alluded to the notion that immersion in the Metaverse might foster high levels of attention and involvement, as consumers are less likely to be concurrently distracted by external content. However, the cognitive demands of being in the Metaverse might depend on whether consumers are immersed in a familiar or fantastical environment and whether they adopt a persona that is similar or dissimilar to their offline identity. Understanding such cognitive tolls is valuable, given the documented effects of cognitive depletion on consumer decision-making styles (Johnson, 2008) and self-regulation (Vohs & Heatherton, 2016).

It may also be worthwhile to explore how fantastical Metaversal environments might prime unique thinking styles, including experiential thinking (Epstein et al., 1996) or magical thinking (James et al., 2011), and how this might methodically influence downstream consumer behaviors (e.g., variety-seeking behavior, Mcalister & Pessemier, 1982). Future research might also examine how such environments foster particular consumer mindsets. For example, the unbounded opportunity for creative expression in the Metaverse may lead consumers to foster a growth mindset (Murphy & Dweck, 2016), leading them to pursue self-development goals more readily and to learn new things.

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Will the Metaverse change how we shop?

Not only does the Metaverse offer a new potential environment for social interaction and entertainment, but it also serves as a virtual online marketplace where consumers can use their avatars to browse virtual stores, purchase virtual products, and spend virtual currencies (e.g., Hofstetter et al., 2022). What might marketing look like in this "new world"? Though the Metaversal marketplace is still developing and is unpredictable in some ways, we believe it is nonetheless useful to speculate about the various marketing implications it holds for firms. These include potential research opportunities in the domains of omnichannel experience, marketing communications, and branding.

Omnichannel experience

Scholars have long argued that retail is moving toward seamless omnichannel experiences in which consumers continuously toggle between online and offline channels (Brynjolfsson et al., 2013). As such, much like having a web presence has become an essential part of the omnichannel strategies of firms today, it is possible that having a presence in the Metaverse will be essential for firms' omnichannel strategies going forward (e.g., Cottrell, 2022; Dwivedi, Hughes, Baabdullah, et al., 2022; Dwivedi, Hughes, Wang, et al., 2022). Thus, it is interesting to consider how the Metaverse might function as part of a greater omnichannel experience.

One conjecture is that the Metaverse could evolve into a virtual marketplace that is decoupled from the economy of the physical world, where consumers buy and sell nontangible assets (e.g., NFTs) that have no direct mapping onto tangible products in the physical world (Hofstetter et al., 2022). However, another possible outcome is that the Metaverse will be composed of a constellation of immersive *extensions* of firms' current online marketing efforts in which consumers shop and browse digital analogs of stores but with the goal of buying physical products (Cottrell, 2022). For example, some luxury retailers have created digital twins of their physical stores inside the Metaverse (Hirschmiller, 2022a, 2022b), where consumers can purchase both physical and digital goods. In the meantime, some non-Metaversal retail outlets have paired physical purchases (e.g., Nike dotSwoosh sneakers) with NFT-based virtual twins so that consumers can simultaneously acquire matching goods for their physical self and their avatar (Sundararajan, 2022; Wilson, 2022). Further, in an effort to make digital touchpoints more meaningful, some offline service providers have integrated Metaversal rewards (e.g., exclusive NFTs and/or experiences) as part of their customer loyalty programs (e.g., Starbucks Odyssey; Starbucks, 2022). These approaches raise questions about how and whether consumers might strive for consistency across their physical and digital purchases and whether one's Metaversal purchases might influence their offline purchases or vice versa. To illustrate, buying a digital good in the Metaverse might represent a way to "test drive" a product before committing to purchasing the physical version. Of course, it is possible that consumer purchases in the Metaverse and physical world will be quite dissimilar. Some scholars suggest that consumers might use conspicuous virtual purchases to compensate for what they cannot afford in the physical world (Belk, 2013). In any case, consumer researchers may benefit by developing a better understanding of the various ways in which consumer experiences in Metaversal and non-Metaversal channels coexist and potentially interact.

Marketing communications and branding

Just as the rise of traditional social media ushered in a wave of new marketing communications formats (e.g., influencer marketing, programmatic advertising), we expect the Metaverse will also offer firms unique and novel ways of communicating to potential and existing customers. In particular, it is likely that paid advertising will still arise in the Metaverse but will look different from what we have seen in previous platforms (Dwivedi, Hughes, Baabdullah, et al., 2022). For example, developers of virtual reality experiences could sell product placements and advertising space just as they might in physical environments, but there would be a major difference: here, the digital nature of the Metaverse opens up possibilities such as creating "digital billboards" whose content uniquely adapts to the characteristics of the user and/or their avatar, as well as personalized selling by other avatars representing a brand or firm (Dwivedi, Hughes, Baabdullah, et al., 2022).

It is also valuable to consider how the Metaverse might challenge our fundamental understanding of communicative concepts such as attention and persuasion. For example, in most digital media formats, a consumer's visual field is relatively limited (e.g., confined to the borders of a television, computer, or mobile screen), and advertisers have sensibly focused on presenting content within that limited viewing space. However, users in the Metaverse can largely navigate and explore spaces freely and at their own pace, potentially posing new challenges to attracting and/or guiding consumer attention. It is also constructive to consider how this self-guided format might limit consumers' persuasion knowledge (Campbell & Kirmani, 2000; Friestad & Wright, 1994), particularly in situations where advertising content is well-integrated into a particular Metaversal space or experience without explicit disclosure.

In addition, the deployment of avatars and the utilization of rich new media formats (e.g., AR and VR) summon investigations into how these might be leveraged by brands to communicate with consumers. For example, although some research has begun to examine the use of AR and VR in standalone advertising contexts (Fritz et al., 2023a; Kristofferson et al., 2022), consumer

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responses may differ when such content is integrated within a broader Metaversal experience. Researchers may explore these potential avenues to help develop a nuanced understanding of how consumers respond to new communication formats in the Metaverse.

Further, while recent research has examined consumer responses to social AI (e.g., in the form of customer service chatbots, Crolic et al., 2022), it is compelling to consider how brands might utilize interactive, AI-powered avatars to engage with consumers. Such deployment might facilitate brand anthropomorphism and could also represent a novel route for developing consumer-brand relationships. Future research might explore these possibilities, along with any other consequences of shared immersion with brand avatars in Metaversal spaces.

Will the Metaverse change how we interact with one another?

Scholars might also consider how the Metaverse can alter the nature of interpersonal communication. Although the breadth of one's social network (e.g., the number of friends or followers a user has) is of great relevance in traditional social media platform, we have argued that, in the Metaverse, social presence might be more consequential than network breadth. The emphasis on social presence suggests that interpersonal communication in the Metaverse may rely heavily on subtle cues (e.g., voice intonation, body language). This could potentially disable the "toxic inhibition" that characterizes many traditional web environments; specifically, scholars have argued that a lack of face-to-face contact and feelings of anonymity can lead to escalated levels of bullying and harassment (Belk, 2013; Suler, 2004). However, acting through avatars—particularly through those that do not resemble their owners—might lead individuals to feel even more anonymous than they would in other online contexts (e.g., when posting content on a feed or page linked to one's identity), which could arguably fuel toxic inhibition.

In a similar vein, it is worth contemplating how Metaversal interactions might promote or impair social cohesion. For example, traditional online environments are often said to foster "echo chambers," wherein hypertargeting and customized content results in users being exposed only to the ideas of like-minded people (Appel et al., 2020; Bakshy et al., 2015). Although it is not immediately clear how real-time targeting and content customization might work in the Metaverse, the spatial and immersive properties suggest that users might literally live in different worlds (albeit virtual ones), which might lead to even greater polarization of ideas between user segments. However, some emerging applications in the Metaverse paint a different picture. For example, Meta recently revealed a universal speech translator that can provide Metaverse users with instant, AI-powered translation of widely spoken languages (Malyukov, 2022). By lowering language barriers in communication, such applications might potentially foster social cohesion across cultures. Future research can further explore such propositions.

Will the Metaverse improve or harm consumer well-being?

Thus far, we have argued that the Metaverse represents a novel phenomenon that may influence who we are, how we think, how we interact with others, and what we own. It is accordingly paramount to broadly consider what downstream consequences the Metaverse might have on various facets of consumer well-being, including social health, self-esteem, addiction, and privacy.

Social health and loneliness

We have suggested that the need for sociality may be a driver of consumer participation in the Metaverse, and lonely consumers might thus be more motivated to engage in Metaversal experiences compared with less lonely consumers. Yet, it is unclear whether Metaversal experiences will help alleviate, perpetuate, or even exacerbate consumers' feelings of loneliness. For example, many pioneers in the Metaversal space have argued that the Metaverse can help bring people closer together and build community, with arguments reminiscent of early social media proclamations (e.g., Facebook; McNamee, 2019). However, given that heavy social media use has since been linked to greater feelings of social isolation and loneliness (Kross et al., 2013; Primack et al., 2017; Shrum et al., 2022; Steers et al., 2014), some question whether high levels of Metaversal engagement might similarly generate negative outcomes. Arguably, Metaversal properties could support predictions in both directions: generated feelings of social presence might (at least temporarily) produce socially satisfying experiences, but the immersive qualities might drive consumers to spend unhealthy amounts of time in the digitally mediated space, potentially detracting from any time spent fostering in-person relationships. It would be valuable to examine the individual-level and contextual factors that ultimately determine how feelings of loneliness are remedied and/or worsened both during and after Metaversal experiences.

Self-esteem

Another consideration is how Metaversal engagement might influence users' self-esteem. Social media platforms have recently come under fire for contributing to body-image issues and related mental health

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issues, particularly in teen girls (Wells et al., 2021). Because these issues stem from the self-presentational nature of such networks (Boursier et al., 2020; Boyd & Ellison, 2007; Wells et al., 2021), they might be less relevant in the Metaverse, where users are all visually reduced to avatar form. Conversely, avatar usage might exacerbate the "perfection fatigue" (Meta Foresight, 2022b) experienced by young people using social media because these pixelated representations tend to be aesthetically pleasing and rarely showcase visual "flaws" or imperfections (e.g., acne, scars, cellulite).

Further, the ability to modify one's avatar and project a visually inaccurate version of oneself can be harmful for adolescents (Huddleston Jr, 2022), perhaps mirroring the adverse effects of using airbrushing and photo-editing applications on traditional social media platforms (e.g., selfie filters; Wakeman, 2018). Yet it is also plausible that the very ability to customize one's avatar might be liberating for individuals who feel uncomfortable with or confined by their bodily and/or genetically determined characteristics. For example, role-playing games with customizable characters can function as a valuable outlet for those who cope with gender dysphoria (a condition where an individual does not identify with the sex they were assigned at birth) because they are able to adopt a bodily representation that is gender-affirming (Reyes & Fisher, 2022). There is much to learn about how avatar adoption in the Metaverse might similarly provide identity-affirming experiences to some of its users and how this might ultimately affect mental health.

Escapism and addiction

Importantly, any positive effects of Metaversal engagement might be negated (and any negative effects exacerbated) if consumers spend excessive time on the platform. Although what constitutes "excessive" usage is likely subjective, the immersive nature of the Metaverse may make it particularly addictive for some consumers, especially those who wish to escape the realities of their physical world. Yet, while escapism and cyberspace addiction can lead to serious mental health issues (Jeong et al., 2015), it is also possible that the Metaverse can serve as a beneficial reprieve from the stresses of our (often hectic) lives in the physical world (Jouhki et al., 2022), a notion supported by the therapeutic and stress-relieving benefits of some virtual reality applications (Gerber et al., 2017; Jerdan et al., 2018; Maples-Keller et al., 2017; White et al., 2018). Thus, using the Metaverse as an escape may, in certain contexts and doses, have positive effects on consumers' mental health. Hence, understanding how and when Metaversal escapes advance or detract from users' mental health is a ripe and consequential domain for future researchers to explore.

Privacy

The digitally mediated nature of the Metaverse enables a bidirectional flow of information. Just as consumers might have access to rich information while navigating the Metaverse, consumer data are concurrently being captured, encoded and stored. Though "big data" collection is hardly a new phenomenon, the technologies supporting Metaversal experiences might lead to a particularly abundant and elaborate accumulation of structured and unstructured data. As mentioned earlier, for example, NFT-supported purchases result in a trail of particularly detailed transaction-level data. Meanwhile, VR headsets and wearables enable the collection of biometric data (including eye tracking and gesturing information), and by accessing users' cameras, AR applications can capture details of one's personal space. As in many non-Metaversal contexts, such detailed data collection can be harnessed to tailor content to user preferences and improve users' Metaversal experiences. However, such data richness also carries inherent privacy risks, as the question of who will own, and can potentially exploit, these data is one that has yet to be fully resolved (Kramer, 2022; Rosenberg, 2022). Indeed, the Metaverse currently lacks a centralized governing force to establish privacy rights for users. Future research might explore how uneasy versus relaxed consumers feel about their privacy in Metaversal environments. Do consumers find data collection in the Metaverse more acceptable because it often involves the behavior of a visualizable surrogate (i.e., one's avatar)?

How will the Metaverse impact equity and inclusion?

It is essential to consider how the Metaverse might aggravate or mitigate societal challenges related to inequity, exclusion, and discrimination, particularly for consumers who have typically been marginalized due to their gender, race, ethnicity, sexual orientation, disability, or other factors. For example, even though the use of avatars gives users the ability to mask certain demographic markers if they wish to, usage of users' real voices means they can still be discriminated against based on the traits their vocal qualities exhibit (e.g., their age, regional accent, gender, etc.).

It is also the case that on many platforms, the range of avatar options does not offer a wide range of representation (e.g., over 60% of female gamers do not feel represented by available video game characters; Unilever, 2022). However, some platforms are addressing this inclusion gap by offering an increasing number of customizable avatar attributes. For example, Meta currently allows users to change attributes ranging from skin tones and hair textures to body shapes and assistive devices (e.g., hearing aids and wheelchairs), resulting in

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over one quintillion potential avatar attribute combinations (Meta Foresight, 2022a). It may be useful to not only consider how this range of customization options influences users' feelings of inclusion, but also to explore how the prevalence of avatar diversity might affect other users in the Metaverse. For example, the intergroup contact hypothesis (the premise that intergroup contact leads to more positive attitudes and stereotype reduction; Allport et al., 1954; Mulak & Winiewski, 2021) applies in virtual settings (Mulak & Winiewski, 2021), and it would be valuable to investigate how and when this applies to Metaversal contexts.

It is also prudent to consider how the Metaversal context plays out for differently abled individuals. For example, it is possible that the sensorially rich nature of the Metaverse might be overwhelming for individuals who are susceptible to sensory overload. Yet, at the same time, real-time tools that recognize and label other users' emotional expressions can be leveraged in the Metaverse to assist those who tend to struggle with interpreting such social cues (e.g., individuals with certain autism spectrum disorders; Hite et al., 2019; Hutson, 2022). Further, extant research has explored the concept of virtual mobility (how the internet can provide accessible alternatives to activities and opportunities that typically require physical mobility; Kenyon et al., 2002), and it is worth examining related possibilities in Metaversal contexts. In exploring such avenues, future research could address calls to focus on how emerging technologies provide opportunities and/or benefits for differently abled individuals (Boyle, 2021).

Finally, it is worth noting that many technologies supporting Metaversal engagement can be quite expensive, which might lead to disparities in access based on users' socioeconomic circumstances (reflective of a broader dilemma often referred to as the "digital divide;" Sharma, 2022). Thus, scholars may choose to examine how the platform might broaden or, conversely, bridge such disparities (Sharma, 2022).

CONCLUDING THOUGHTS

When consumers first engaged with the World Wide Web in 1989, its functionality was limited to that of a passive information server—an interface that allowed one to retrieve and consume information, without the ability to interact. Since then, online platforms have continuously evolved, eventually transforming the web into what it is today: a digital environment that billions of users rely on to communicate, collaborate, and create (Choudhury, 2014). In this paper, we offered a prospectus for what might be seen as the logical culmination of this budding evolution: the Metaverse, a sprawling network of immersive online spaces with their own currencies, products, and consumers. Our goal in this work was to define the Metaverse, to describe its foundational components, and, most importantly, to elucidate its implications for consumer behavior.

The challenge is that much like Web 1.0 offered only glimpses of what Web 2.0 would entail, the current technological landscape offers only a glimpse of what the Metaverse will be like as it continues to materialize. Recent economic turmoil and investor disillusionment in the Metaverse marketplace (fueled in part by Meta's disappointing financial performance and the cryptocurrency market crash; Gura, 2022; Rapoza, 2022) evokes parallels to the dot-com boom and bust (Tejani, 2022). It is similarly still unclear which Metaversal platforms and business models will remain standing or emerge from this tumultuous period. Thus, what the Metaverse of tomorrow will look like remains uncertain. One possibility is that the Metaverse will evolve into a digital doppelgänger of our offline worlds—an immersive online environment with the same temporal and spatial dynamism as offline marketplaces. But another possibility, which we believe is more likely, is that the boundaryless and data-rich affordances of the Metaverse will make it a unique environment despite its parallels to the physical world. Researchers may, therefore, need to rethink the applicability of many time-trusted concepts and constructs that guide our current understanding of consumer behavior.

This leads us to consider one final question: Will the Metaverse be beneficial for society overall? We explored many of the Metaverse's exciting possibilities, including new ways to extend individual identities, new avenues for expanding commerce, and new opportunities for human interaction that transcend social and physical boundaries. However, like all online innovations, there are likely to be offsetting, unforeseen consequences that are currently hard to predict. One need not look far to find past examples: social media sites such as Facebook were first developed in the hope that they would universally benefit everyone in society by offering new ways to socially connect—a view that now seems naïve in hindsight. While this optimistic vision has been realized in some ways, it also has gone terribly wrong in others: for example, social media has been linked to the spread of hate speech, amplified political polarization, and a range of problematic individual behaviors (Appel et al., 2020; McNamee, 2019). Perhaps the most well-known of these has been the negative impacts on teenage users, where it has been associated with rising rates of depression and reductions in self-esteem (e.g., Bányai et al., 2019). With this in mind, a pessimistic view is that the Metaverse will serve to exacerbate such problems.

An alternative possibility that we hope for, however, is that the Metaverse will not rapidly descend into a new Wild West but rather will develop gradually and deliberately into a new frontier where exploration is limitless, but safety among users is a focal priority. To illustrate, one of the benefits of the comparatively slow advancement and adoption of virtual reality devices and

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applications is that the field has developed a reasonably sizeable literature on their potential health effects on users, particularly vulnerable populations such as children. This work suggests that although it can have benefits, usage of such technology should be restricted both in terms of age and duration (e.g., Kaimara et al., 2022). Thus, the fact that the Metaverse has yet to be fully concretized presents an opportunity to collectively decide what an ideal version of this digital world would look like, and to in turn develop an architecture that achieves this vision. We believe the consumer research community can play a seminal role in shaping this conversation, and accordingly hope our paper inspires new ideas, rich discussions, and prolific investigations in this new digital frontier.

CONFLICT OF INTEREST

There are no conflicts of interest to disclose.

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