CONSUMING DIGITAL FASHION IN ONLINE COMMUNITIES

A MIXED-METHODS RESEARCH ON CONSUMPTION MOTIVATIONS FOR DIGITAL FASHION END PRODUCTS

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Abstract

Contemporary fashion consumption is deeply intertwined with digital tools, spanning from pre-purchase browsing to post-purchase sharing on social media. This paper delves into the expanding realm of digital fashion, particularly focusing on the consumption motivations behind digital fashion end products. Despite their contrast with tangible clothing, digital fashion end products have garnered significant interest, especially during the COVID-19 pandemic. However, consumer adoption of digital fashion remains underexplored.

This study focuses on the consumption of digital fashion end products, such as NFT fashion, videogame skins, AR filters, and more, among its consumers and, through a mixed-methods approach including digital ethnography, an online survey, and qualitative interviews, it investigates the profile of the community and culture surrounding digital fashion consumption. The research findings indicate that digital fashion serves as a powerful medium for identity formation and self-expression, echoing the dynamics observed in material fashion but amplified in virtual environments. The avatar or virtual body becomes a sociocultural entity, offering consumers a perceived freedom of expression unconstrained by physical limitations. Furthermore, this study uncovers a hybrid phygital identity, where physical and digital identities co-construct each other, influencing consumption practices and brand affiliations across interconnected digital and phygital universes.

Keywords: Digital fashion; Online consumption; Virtual environment; Digital identity; Digital ethnography

INTRODUCTION: FASHION CONSUMPTION IN THE DIGITAL REALM

When we consider contemporary fashion consumption, what comes to mind is its high dependence on digital tools from pre- to post-purchase (Andò et al., 2019). From shopping on e-commerce websites (Crewe, 2013) to sharing on social media (Choufan, 2022) and personalising clothes online (Park & Chun, 2023), digital technologies take central place. There is no denying that fashion and technology have gone hand in hand for centuries, from the creation of garments to technology integration in ‘wearable technology’ (Toussaint, 2018). As such, “fashion itself can be considered a history of technology” (Quinn, 2002, p. 3). Each Industrial Revolution has driven fashion forward, and the current era, the ‘Fourth Industrial Revolution’, has given rise to ‘fashion 4.0’. This paradigm, as highlighted by Bertola and Teunissen (2018), prioritises sustainability goals and blurs the lines between physical and digital realms through the fusion of fashion with ‘smart’ technologies. The convergence of fashion and digital tools is particularly evident in the realm of digital fashion, a phenomenon that gained significant traction during the COVID-19 pandemic (Casini & Rocetti, 2020).

Digital fashion encompasses the creation, promotion, and sale of virtual clothing and accessories designed specifically for digital platforms and virtual environments (Giraldi, 2023; Särmäkari, 2023). These digital fashion
'end products' (Chan et al., 2023) can vary from NFTs (Non-Fungible Tokens) to videogame skins, influencer skins, superimposed images, AR (Augmented Reality) filters and digital twins. They are created digitally, using digital software such as CLO3D or Marvelous Designer, for consumption and use in digital or virtual space.

The internet has led to the democratisation of fashion, making it possible for anyone to become a designer or fashion influencer (Kawamura, 2023). Platforms like Instagram enable designers to directly reach a global audience, build their brands, and gain recognition without significant financial investment. Additionally, social media and fashion blogs empower consumers, giving them a voice in the industry. In such a process, the creation of fashion, as a system of signs, meanings and discourse (Barthes, 1967/1990), is now constructed offline and online, through online magazines and social media (Noia et al., 2023). In light of this dematerialisation of goods, contemporary fashion consumption needs to be studied again.

This paper investigates why digital fashion end products are consumed despite their seeming contrast to the material clothing we wear every day. Motivations for material fashion consumption range from protection to self-expression, cultural norms, and more (Kaiser, 1997). For digital fashion end products, some motivations seem inconsistent, while others may also exist. Consuming fashion goes beyond simply buying or wearing clothes; it is the subjective experience of incorporating fashion – from dress to culture, values and discourse – into one's existence. This study focuses on digital fashion end product consumption and aims to trace the community profile of its consumers. It does so by way of a mixed-methods approach including digital ethnography, an online survey and qualitative interviews.

LITERATURE REVIEW
DEFINING DIGITAL FASHION
The definition of digital fashion is as ambiguous as the merging of 'digital' and 'fashion', an oxymoron in its essence. It is thus necessary to establish what definition of digital fashion this study employs.

This paper considers two systematic literature reviews (SLRs): first, there is the SLR conducted in July 2019, covered in two separate articles (Nobile et al., 2021; Noris et al., 2020). In this SLR, digital fashion is defined as "all those processes that include (i) marketing and communicating tangible and intangible products; (ii) the development and implementation of processes that support the advancement of the industry; (iii) the effects of digital advances on society" (Nobile et al., 2021, p. 297).

This definition, as the second SLR (Chan et al., 2023) illustrates, is broad yet fails to include the industry perspective of digital fashion as an end product used in three-dimensional and/or virtual environments. The definition proposed by Chan et al. is the following:

Digital fashion refers to the overlap of 3D virtual technologies and fashion. The 3D CAD [Computer Aided Design] rendered garment [...] serves as a tool to elevate tangible product development, for example, in aspects of design and production (D&P), enabling retailers/manufacturers to preview designs virtually during the design and sampling stages. In terms of communication and marketing (C&M), it is a VTO [Virtual Try-On] tool that enables shoppers to preview the fit and style virtually before purchase. On the other hand, digital fashion can be sold as a tangible end product that only exists digitally. (Chan et al., 2023, p. 11)

This definition incorporates Nobile et al. 's whilst also including the 3D CAD-rendered garment that encompasses most digital fashion goods. Chan et al. identify six categories for digital fashion end products: digital skins for gamified environments, digital skins for virtual influencers, superimposed images, AR filters, fashion NFTs, and digital twins. For this research, digital fashion end products and their corresponding categories are adopted as the defining framework, with an acknowledgement of the potential existence of additional categories.

CONSUMPTION MOTIVATIONS BEHIND DIGITAL FASHION
What is currently underexplored, as both SLRs indicate (Chan et al. more explicitly), is consumer adoption of digital fashion. Understanding the consumption motivations behind digital fashion allows us to understand whether these forms of consumption align more with that of material fashion or with other digital products. Despite retailer interest, there is insufficient research in this area (Chan et al., 2023).

Two studies addressing consumer motivations for purchasing digital fashion were recently published (Sheng, 2023; Zhang et al., 2023). Although both examine digital fashion end products (albeit
without explicitly adopting this categorisation), their focal points diverge. Xu Sheng explores consumer motivations by focusing on NFT fashion consumers in China, while Zhang et al. investigate consumers’ perceptions and attitudes toward purchasing digital fashion from luxury brands. Sheng (2023) identifies nine key themes of consumer motivation: aesthetic, self-expression, novelty, self-satisfaction, social display, social interaction, attracting attention, visual authority and investment collection. The author acknowledges the findings as preliminary and refrains from delving into them extensively. The study’s scope is limited to a homogeneous audience, primarily targeting the Chinese market. However, digital fashion operates on a global scale through online platforms and social media channels. Sheng’s localised focus may not capture the full spectrum of consumer motivations and does not address potential barriers hindering consumers from engaging with or purchasing digital fashion products.

Zhang et al. (2023) suggest that various factors such as attitudes, perceived social value, and environmental involvement play significant roles in shaping consumers’ perceptions and intentions regarding digital fashion consumption, particularly in the luxury segment. However, this study faces several limitations. The respondent cohort consists solely of Americans, predominantly women (78.5%). While digital fashion consumer demographics lack definitive research, Vogue Business (McDowell, 2022) indicates that 61% of virtual goods or NFT purchasers in the US are male, although this may vary across platforms and digital fashion categories. Additionally, the respondents’ prior knowledge of digital fashion remains unclear, which could significantly influence their attitudes and purchase intentions.

Both articles examine digital fashion as exclusively end products, through the lens of luxury fashion and NFTs, overlooking alternative manifestations like videogame skins. This narrow focus fails to capture the nature of digital fashion, limiting the understanding of its multifaceted dimensions. Consequently, prior research only addresses fragments of the phenomenon and its audience, neglecting the broader community of users.

**METHODOLOGY**

The literature review underscores a research gap in understanding consumers’ motivations to adopt digital fashion end products. To address this, we have conducted mixed-method research including digital ethnography (Boellstorff et al., 2012), an online survey and qualitative interviews. Our study specifically employs digital ethnographic techniques to investigate the cultural and community dynamics within the realm of digital fashion end products by immersing ourselves within their respective virtual ecosystems. The study presents a reflective auto-ethnography, using the researchers’ direct observations of the community as data. While this approach may introduce subjectivity, it provides a richer and more participatory perspective on the observed context and dynamics. This methodological endeavour also accommodates the digital essence intrinsic to both fashion items and their consumption practices, thereby constituting a foundational aspect of our research inquiry.

The survey was conducted in English using Qualtrics and was digitally distributed in November 2023. It encompassed a diverse range of question formats, including multiple-choice queries, open-ended responses, and sliders. This methodological diversity facilitated a multifaceted exploration of the consumption motivations among the surveyed audience, while concurrently serving to attenuate potential researcher biases that might arise from our specific positioning within the digital fashion domain. To this end, the inclusion of open-ended questions permitted respondents to articulate their perspectives, unveiling insights that may have otherwise been overlooked during the survey’s design.

The audience, digital fashion end product consumers, was reached through various channels: in the first stage, through Discord, which has become a staple platform for all sorts of online communities to gather, including digital fashion brand communities.1 As such, the survey was distributed through several Discord servers.2 Our initial goal was to expand the survey to include servers associated with communities of physical fashion brands present in the digital fashion field or collaborating with digital designers. These servers

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1 Discord is a popular online communication platform combining written text, image and video sharing, initially created as a social platform for gamers in 2015.

2 The Discord servers encompass digital-only fashion brands and platforms like DressX, virtual environments such as Meta’s Horizon Worlds, and gaming communities like Animal Crossing that feature fashion-related gameplay.
are tailored to meet the specific needs of their community and attract discerning consumers who engage with digital fashion, rather than serving the broader brand community.

Unfortunately, many of the Discord communities have imposed restrictions preventing regular users from sharing links, as we discuss in the results section. Despite our best efforts, access to specific demographic data regarding this population remained elusive, preventing us from gathering comprehensive insights about this group. Yet, existing marketing research by McKinsey & Company suggests that Discord communities around fashion brands are typically comprised of: a) experienced Discord users, including enthusiasts who also frequent the digital-only fashion Discord servers already included in our research; and b) Discord novices and early adopters who primarily use alternative social media platforms (Amed et al., 2023).

Hence, to deepen our understanding of and gather feedback from digital fashion end product consumers with varying levels of expertise, we broadened the questionnaire’s distribution beyond the borders of Discord. It was shared among our circles and on social media platforms such as Instagram and LinkedIn, with a message encouraging survey dissemination to generate a snowball effect. This expansion aimed to ensure a comprehensive representation of perspectives and insights across diverse consumer segments.

To broaden and validate the findings from the survey analysis, semi-structured follow-up interviews were undertaken with accessible survey respondents. This approach facilitated the adoption of a reflexive perspective (Bourdieu, 1992; Bovone, 2010) to investigate how external structures influence our relationship with social objects and help prevent interpretive distortions. Eight interviews, each lasting around 45 minutes, were conducted via video call between late January and early March. The data were analysed through thematic analysis, drawing on both deductive (codes developed a priori) and inductive (codes developed in accordance with the interviewees’ accounts) coding strategies. The variety of interviewees confirms that the different array of audiences we planned to get in contact with has been met. To delve deeper into the outcomes of the survey, and to probe unanswered queries that arose from the survey data, a comprehensive list of interview topics was formulated. Our focus was twofold: first, on emergent themes, and second, narrative constructions, recognising language as a fundamental element that facilitates the necessary objectification and gives order and meaning to existence (Berger & Luckmann, 1966).

RESULTS

The survey collected a total of 56 responses, of which the majority answered within the first two weeks the survey was distributed. After the initial two weeks, the survey was further distributed through other channels besides Discord, as mentioned before. Six responses contained no answers to the questions, thus 50 useful responses remained.

Currently, no study gives insight into the size of the digital fashion end product community. Nevertheless, we presume the size to be significantly larger than the number of respondents. Acquiring more respondents was hindered by general distrust towards and restriction of sharing hyperlinks in Discord channels. This has to do with fears of being deceived into providing sensitive online information. Some community members directly voiced their worries, stating that they would not click on the survey link unless shared by Discord moderators. This issue of legitimation in Discord etiquette made it difficult to find respondents. Despite efforts to contact Discord moderators, they were unwilling to share the survey link.

Nonetheless, given the inherent difficulties of audience outreach, the number of respondents reached within the limited timeframe in which the survey was accessible is commendable.

Examination of both the survey data and the interview transcripts reveals a heterogeneous spectrum of expertise among the participants, including cryptocurrency experts, avid gamers, and

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technology enthusiasts, as well as fashion lovers and amateur consumers.

When it comes to how the respondents found the survey, 30.77% indicated receiving it from someone else (i.e., family, friend or colleague), whereas 50% indicated Discord and 19.23% indicated receiving it directly from the surveyors. This shows that the snowballing effect was successful. Having contributed to over a third of the survey results. 

Figure 01 provides a demographic overview of the respondents, predominantly Gen-Z and millennials, known for their activity in virtual environments (McDowell, 2022). The study also highlights diverse gender expressions and sexual orientations, challenging heteronormativity and cisgenderism, and intersecting with issues of identity and self-expression. While direct communication reached fewer respondents than Discord, there is no clear reason for 80% being from Europe. Most respondents work part-time, reflecting the age groups, with over half being students. This pool is more diverse than in previous studies, with all respondents being familiar with digital fashion end products

In response to the definition of digital fashion end products outlined by Chan et al. (2023), 90% of respondents expressed agreement, indicating widespread acceptance of this definition among consumers of digital fashion end products. Because language gives meaning and structure to existence, it follows that the definition of digital fashion end products shows its practicality for current and future research within digital fashion communities’ endeavours.

In terms of consumption prevention, price and utility stood out from the responses. One respondent wrote: “Usually items I like are way over my budget. Also, I think it’s still not up to its potential, technically. AR fashion still looks very glitchy.” Another noted that they are wary of spending money on videogame skins, due to the possibility of them not playing the game in the future and no possible transferability between videogames. Utility, in this context, includes interoperability between virtual environments. These preventions do not halt all consumption practices, as several respondents have indicated using items provided for free, won in-game, or gifted by brands.

Figure 02 illustrates that while traits commonly associated with digital fashion end products, such as sustainability, affordability, and accessibility, are highly valued by consumers, diversity in clothing styles and personalisation are also important. This confirms self-expression as a major driver of both digital and physical fashion consumption, arising the idea that consumption patterns in digital realms mimic those of physical environments. The interviews further explored the topic of self-expression; all interviewees frequently mentioned motivations related to self-expression, elaborating on realistic to idealised or alternative representations of the self, as we will discuss in the next section. All in all, both the survey and the interviews show that consumers use digital fashion end products to express an identity through which they want to represent themselves in digital space.

**EFFECTS OF CONSUMING DIGITAL FASHION END PRODUCTS ON**

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4 In the survey, these categories were defined as follows: sustainability refers to simultaneously less material waste in the production, design and consumption of fashion goods, as well as more sustainable awareness through the consumption of fashion; affordability refers to an affordable cost of price for the consumer; accessibility refers to the being allowed to purchase fashion items; diversity in clothing styles refers to a variety in styles presented to consumers with which they may or may not identify with; and finally, personalisation refers to the degree to customizability of fashion goods to make them more personalised and unique to the consumer.
IDENTITY AND SELF-EXPRESSION

We have identified five main effects of digital fashion end product consumption on identity and self-expression among its consumers, which we will discuss in conjunction with the survey and interview data. First, like material fashion, digital fashion end products are drivers of identity formation and self-expression. If the ready-to-wear designer is an interpreter of street and youth culture (Mackinney-Valentin, 2017), then direct-to-avatar (D2A) designers do exactly that for virtual space, in which fashion trends are now created (Giraldi, 2023). The difference, however, is that digital fashion end products are not physically restricted and thus provide alternative forms of fashion design.

Consumers can be active players in the process of self-expression. For example, interviewee 1 explained how in Animal Crossing, she creates clothing that fits her style. “The clothes you can buy are lovely,” she says, “but sometimes I want a certain thing the game does not provide, something unique to my style.” Similarly, interviewee 3 makes use of aesthetic mods (modifications) in videogames like The Sims to make the gameplay more personalised. Consumers directly participate in the production of personalised garments (Varini, 2023), and are actively ‘fashioning’ their identity by going beyond the clothing that the virtual environment supplies (Giraldi, 2023; Mackinney-Valentin, 2017).

Second, the avatar body becomes a sociocultural, ‘fashioned’ body. The avatar is not simply a virtual person, it is the digital manifestation of our extended self (Belk, 2013; Giraldi, 2023). “There is always a piece of me in the avatar,” interviewee 3 says. Notably, Joanne Entwistle (2015) argues that the material presence of our bodies is culturally interpreted. So too is our immaterial presence, our ‘habitus’ (Kawamura, 2023). The body as a socially constructed object thus translates to virtual space. Several respondents stated that feeling more comfortable expressing their sexual orientation and gender expression through clothes in virtual space. One respondent said: “I created a Sims character that looked like me, but a more openly queer version of me. Sometimes I make a male version of me.” Consumers perceive a bigger freedom of expression in virtual space. Interviewee 2 says: “The nice thing about digital fashion is that it has no physical limitations, and this gives me the freedom to create any identity I want.” Dressing one’s avatar means dressing oneself beyond their physical constraints, whilst remaining socially constructed.

Third, despite a seeming separation of physical and digital, this dualism does not suffice. Rather, we consider a hybrid phygital (physical and digital). We point to Haraway’s (1991) formulation of
the cyborg, a cybernetic organism that brings forth a leaky distinction between animal-human (organism) and machine, but also blurs the boundaries between physical and non-physical. Deborah Lupton (2019) argues that the nature of contemporary, digital technologies has changed the cyborg body into a digital body that goes beyond the datafication of our bodies. Connected to this, interviewee 4 stated that while her dressing behaviour online differs from offline, “[e]verything still comes from the same person. It’s a matter of switching masks.” Interviewees 2 and 5 both mentioned that this hybridity is already the case on social media; “It is the consumer’s choice of how much they want to invest in their virtual presence” says interviewee 5. According to interviewee 2, it is impossible to divide the two: “It’s not like you can say that you’re only a physical being and that whatever you do online does not impact your life. It is a part of who you are. The way you wear clothes online says something about you, even offline.”

The fourth effect concerns the collective identity shared between brands and consumers. We consider Russell Belk’s application of the extended self in digital space:

 “[The self] is now co-constructed with much more instantaneous feedback that can help affirm or modify our sense of self. [It] can no longer be conceived from only a personal perspective and is not only jointly constructed but shared, that is, a joint possession with others. (Belk, 2013, p. 490) This joint possession with others translates to brand communities, as emphasis is put on collective community identity over individual identity. Similarly, to achieve personal gratification in the consumer society, one must please others, and as such individuals are encouraged to seek validation elsewhere (Baudrillard, 1970/1998). Survey respondents have indicated purchasing items from fashion brands or virtual environments with the intention of “being part of” a group. This suggests that social belonging and collective identity formation play significant roles in their purchasing decisions. Interviewee 6 mentioned being part of The Fabricant’s community, and stated the importance of owning the brand’s items but also engaging with this item by showing it off on social media. This ownership of and engagement with items – for example through blockchain – is what distinguishes community members from mere ‘observers’ (Belk, 2013). Finally, considering all effects, virtual environments are not simply adjunctive spaces of identity expression, but an ensemble of interconnected digital universes where identities co-exist and interchange with the physical realm. In other words, when we navigate between virtual and physical realms, using different avatars for each virtual environment, we’re showcasing various facets of ourselves. This multiple identity expression mirrors our behaviour in the physical world where in our daily interactions, we assume different personas and clothing, and by controlling how we are perceived, we attempt to influence others’ perceptions of ourselves (Kaiser, 1997). All interviewees hinted towards this interchanging as something they already always do, both online and offline. Interviewee 2 specifically comments on this when it comes to joining a new virtual environment: “I wouldn’t know what is seen as cool in that specific world, or how I should dress. […] You don't know what is normal in a specific digital world.” Each environment has its own social rules. Interviewee 8 perceives these to be similar to the social rules we have already established in the physical world: “Every virtual space has its own norms and expectations that you need to understand and follow, but they are all based on real-world experiences.” Consumers are required to switch and adapt between virtual environments, just as swiftly as between physical contexts such as work and home.

**CONCLUSION**

This study focused on the consumption patterns behind digital fashion end products, unveiling the intricate dynamics of the community and culture surrounding their adoption. Our findings underscore a profound parallel between digital fashion and its material counterpart in shaping identity and self-expression. However, within virtual environments, these effects are intensified due to the absence of physical constraints and a perceived expansion of freedom of expression. Digital fashion emerges as a potent catalyst for

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5 The Fabricant is an Amsterdam-based digital-only fashion couture house with an active community that operates mainly on Discord.
identity formation, wherein the avatar or virtual body evolves into a sociocultural entity, actively fashioned by consumers. Rather than adhering to a rigid physical-digital dichotomy, our research illuminates a novel hybrid ‘phygital’ identity paradigm, where physical and digital identities and realms coalesce to co-construct each other. This interplay extends to brand communities, where consumers collectively shape and possess brand identities through their engagement with digital fashion end products.

The research presented, even if not free from limitations, represents a step forward in current research on digital fashion and offers new lines of thought. First, the broad definition of digital fashion end product poses two opposite risks: focusing excessively on a specific niche of consumers (Sheng, 2023; Zhang et al., 2023) or depicting a too general representation of the community. As our interviews show, further research aimed at clustering consumers of digital fashion end products is needed. To do so, we plan to analyse other motivations – such as utility, sustainability, accessibility or affordability – that come forward in our data in future research. To stay within the scope of this article, we have restricted our analysis to identity and self-expression.

Finally, the paper represents a pioneering mixed-methods research on digital fashion communities, but it has also shown that, due to internal restrictions set on Discord, reaching a broader audience proved to be more difficult than anticipated. Future research endeavours should explore alternative entry points and incorporate multilingual approaches to foster inclusivity and broaden the scope of inquiry.

To Baudrillard, the place of consumption is in everyday life (Baudrillard, 1970/1998), yet a widespread adoption of digital fashion end products by society has not yet taken place. Digital fashion end products remain niche commodities primarily embraced by younger generations. Integration into mainstream fashion consumption is anticipated as digital technologies become more pervasive and younger demographics’ purchasing power increases. Digital fashion is poised to transition from a specialised niche to an integral component of everyday fashion consumption, reshaping the landscape of the fashion industry in the process.

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CAPTIONS
[Fig. 01] Demographic summary of the survey respondents/digital fashion end product consumers.
[Fig. 02] Consumption motivation types and their value appreciation in mean percentage, based on survey responses

REFERENCES


