Fashioning the Digital Self:

A Critical Examination of Identity and Sustainable User Practices within Digital Fashion Ecosystems

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ABSTRACT

‘Can digital self definition help save the planet?’ Belk’s (2013: 492) provocative question argued the need for further research on his concept of dematerialisation, already posing concern over the impact and value of digital goods. Despite existing digitally, with emergent technologies offering digital tools for unbound fashion expression, there is still little research or evidence that fully answers Belk’s question. To date, digital fashion, avatars, and the metaverse have generated significant publicity within the fashion media and are often marketed as tools for innovation and sustainability. The dematerialisation of fashion could offer a new way of dressing with the potential for environmental, psychological, social, and cultural impact. However, despite the rapid arrival of Web3 technologies, there is little understanding of digital fashion as an end product within the current Web 2.0 discourse. A holistic and mediated approach viewed through the lens of sustainable development is required for fashion and technology sectors to responsibly collaborate and innovate while considering the future of digital fashion with a key stakeholder in mind— the user.

Adopting the sustainable development goals as a framework for contextualisation, this research includes a critical review of existing literature on digital fashion, identity and sustainability, supplemented by established video game theory, and an account of the author’s own experience of being digitised. It further explores two novel studies focusing on prominent users of DF: fashion models *(Study One: Digital Bodies)* and fashion consumers *(Study Two: Digital Dressing)*. Within Study Two, participants were required to create and dress their digital selves during observational interviews. While grounded in the present, participants speculate on plausible, near-future scenarios where creating and dressing digital bodies becomes an essential extension of self, bringing both opportunity and risk.

Key findings suggest that digital fashion augments rather than replaces physical fashion, serving to foster authentic representation through bolder experimentation or enabling style expression via idealised versions of the ‘default’ self. A digital sustainability paradox is implied, whereby users of DF are torn between feeling inspired and inadequate, with the potential to affect offline consumer behaviours. The creation of digital bodies within the DF journey may make users susceptible to body dissonance, and there is a wider risk to digital well-being, which requires industry responsibility. Additionally, issues surrounding digital ethics and autonomy for future fashion stakeholders are highlighted as societal implications, based on participants’ moralistic views of the digital self.

Traversing both online and offline worlds, this research aims to reframe and remediate the relationship between fashion and identity for generations that will never know a world without technology. To stay on the path of sustainable development within a blurred digital/physical fashion landscape, this thesis provides practical tools for the fashion and technology sectors to embed responsible innovation practices, thereby contributing to the emerging field of DF and sustainable development.

DECLARATION

I, Jade McSorley, certify that this work is original and all sources, citations and uses of artificial intelligence (AI) have been properly acknowledged. AI has been used as a research tool on an ad hoc basis in the development of this thesis to support and complement manual data collection, but analysis and write-up of the resulting data/information has been completed by myself. All research has been conducted ethically and in compliance with the University for the Creative Arts' Ethics Code of Practice.

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NOTE TO READER

Think digital yet be critical.

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ABBREVIATIONS AND TERMINOLOGY

For the non-technical reader, non-gamer or pure novice to this research topic, definitions of relevant terms and phrases are defined below.

Term	Acronym	Definition
3-dimensional virtual and digital technologies	3DVD	Including 3D modelling, virtual and augmented reality (VR and AR), 2- and 3-dimensional (2D/3D) scanning, and digital twinning (DT). (Casciani et al., 2022)
Artificial Intelligence	AI	The simulation of human intelligence by computer systems, enabling them to perform tasks that typically require human cognitive abilities such as learning, problem-solving, and decision-making.
Generative AI		A subset of artificial intelligence that focuses on creating new content, such as text, images, audio, video, or even code, based on the patterns and data it has been trained on (as explained by ChatGPT-4, a generative AI system)
Augmented Reality	AR	Integrates digital information or virtual elements into the real-world environment, enhancing the user's perception and interaction with their surroundings.
Avatars		Online characters or icons representing a person within an online environment
Body Dissonance		A state of conflict or inconsistency between a participant’s physical body and their perception, experience or sense of identity whilst creating their digital version
Blockchain		A decentralised and distributed digital ledger technology that records transactions across multiple computers in a way that is secure, transparent, and resistant to tampering.

Custom Content	CC	Free in-game digital objects and clothing
Decentralised		Refers to a system or organisation where decision-making and control are distributed across multiple independent entities or nodes, rather than being concentrated in a single central authority or location.
Default		A player who has the standard virtual skin and has not been customised
Dematerialisation		Reducing or eliminating the need for physical objects or materials by replacing them with digital equivalents
Digitality		Technology is intertwined with ways of living (Negroponte, 2015)
Digital Fashion	DF	fashion you can wear with your digital identity
Digital Human Model	DHM	A 3D photorealistic capture of a human fashion model
Digital Human	DH	A 3D photorealistic capture of a human being
Digital Reality		Encompasses a spectrum of technologies, including virtual reality (VR), augmented reality (AR), and mixed reality (MR), which merge digital content with the physical world to create immersive and interactive experiences.
Digital Transformation	DT	The adoption and integration of digital technologies to fundamentally change how organisations operate and deliver value.
Digital Twin	DT	A virtual representation of an object or system designed to reflect a physical object accurately (IBM, 2024)
Digitisation		Transforming information from analogue to digital form
Digitalisation		The way many domains of social life are restructured around digital communication and media infrastructures (Brennen and Kreiss, 2016)
Extended Reality	XR	An umbrella term that encompasses virtual reality (VR), augmented reality (AR), and mixed reality (MR) to create immersive experiences
Fash-tech		Fashion and technology combining

Game Feel		Interactions and sensations within immersive virtual items generated by the real-life player by the physical response of game controls and feedback systems (Swink, 2017)
Gamification		The process of adding game-like elements to something to encourage participation
In Real-Life	IRL	Something which happened in physical reality
Internet of Things	IoT	Connects devices through sensors and software, enabling data collection, exchange, and automation across diverse applications.
Interoperability		The ability to transfer and render useful data and other information across systems, applications, or components (Gasser, 2015)
Mixed Reality	MR	Blends elements of both virtual reality (VR) and augmented reality (AR), allowing users to interact with digital content in real-time within their physical environment, creating a seamless and immersive experience.
Metaverse		A massively scaled and interoperable network of real-time rendered 3D virtual worlds (Ball, 2022)
Metavethics		This emerging field of ethics focuses on examining, evaluating, and protecting the ethical integrity and social impacts of the metaverse by its creators and users (Zallio and Clarkson, 2023)
Non-Fungible Tokens	NFT	A type of digital asset that represents ownership or proof of authenticity of a unique item or piece of content, often using blockchain technology.
Spatial presence		The psychology of immersion or presence within virtual worlds (Kozinets, 2009; Shubert, 2009; Mennecke et al., 2010; Madigan, 2016)
Stakeholders		Those that are connected in some way to the business or design process, including technicians, fashion houses and consumers.

Virtual Influencers	VI	Computer-generated characters that serve as influencers, offer novel and cost-effective advertising strategies (Byun and Ahn, 2023)
Virtual Reality	VR	Immerses users in a simulated environment through digital technologies, providing a realistic sensory experience that can be interacted with and explored.
Virtual Skins		Aesthetic items that can be won or purchased within certain video games to decorate and customise weapons
Users		Users are referred to as end users of DF and digital body creation. In the context of this research, there are two users explored: Fashion models and fashion consumers
Web 2.0		2nd generations of the internet are characterised by interactive, user-generated content.
Web3 (or Web 3, Web 3.0)		3rd generations of the internet that aim to decentralise to a user-driven ecosystem which has moved away from the centralised platforms of Web 2.0.

Image Credit: All avatar representations of the author have been created by creative technologist Callum Toy.


ect
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Edge
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Global

Chapter One

INTRODUCTION

1.1 BACKGROUND

The way we consume fashion has been called into question as a primary driver of the climate crisis. MacKinnon (2022) argues we should simply stop consuming, and Jackson (2021) envisions a post-growth society beyond the cages of capitalism where we tend to what we already own. The importance of sustainability within the fashion industry has shone a spotlight on how our habitual ways of consuming are straining resources beyond planetary boundaries. Yet, for the most part, society continues to habitually consume and industry continues to capitalise, escalated by the rise of fast fashion in the 1990s.

Before returning to education in 2018, I had been a fashion model for ten years and an ongoing consumer. My personal experience, alongside a deeper academic understanding of the importance of fashion, makes it difficult to see a future without it. For one, we need to dress ourselves, but the way we dress is also a visible reflection of who we are. We rely on fashion for so many of our social needs: to communicate where we want to belong, who we want to attract, and to express inner beliefs and feelings towards our external world. If we remove fashion, do we lose our sense of identity?

There is a case to be argued that a society immersing itself in digital spaces and experiments with online personas can be harnessed to create sustainable paths for fashion without the requirement of physical possessions (Vogue Polska and BCG, 2022). Around 2020, there was a flurry of industry excitement about the potential for digital fashion (DF) to replace our need for physical clothing: a new immaterial form of fashion that is computer-generated and only exists virtually (Blazquez; in Henninger et al., 2022). Within a ‘wear-it-once' culture exacerbated by social media, DF advocates started to ask the question: ‘If the images are digital, why do we need to buy fashion at all?’ (Roberts-Islam, 2021). Digital-first brands such as The Fabricant and DRESSX began to enter the fashion scene. DRESSX claim the production of a digital t-shirt was more sustainable than a physical one and that it offers ‘endless potential for democratising the fashion industry, making it more affordable and available for people of diverse backgrounds, creating new revenue streams for fashion creatives and opening up the opportunities for creative self-expression’ (The

Interline, 2023). As we progress further into the fourth industrial evolution (Industry 4.0) and witness the advancements of Web 2.0 and emerging Web3 technologies, the rise of the DF and the metaverse is offering a new reality and virtual economy that gives access to dematerialised forms of DF, identity and status— but only online. Does this mean we could have our consumer cake and eat it too within digital worlds?

However, the digital world, which we have already entered, is not governed in the same way as our physical one. This was true for me when, in the quest to digitise myself through 3D scanning, I realised I did not own my personal data that was being captured, which had further implications and will be explored within this paper. Furthermore, we need to address claims for sustainability with a critical eye when confronted with the benefits of technology. Somewhat ironically, my research takes me back to the modelling industry. The digitisation of models provides a magnified and important study of the issues and questions we need to consider before such technologies become mainstream and integral to the way we consume and shape our identities within fashion. What happens when we give the mainstream user the technology to become authors of their digital selves? For some, there is concern that the adoption of technologies will have a detrimental effect on fashion's transformation to more sustainable consumer cultures against overconsumption habits (Crewe, 2017; Wiedmann et al., 2020). As Goodwin (2018) states, we are on the edge of 'Digital Darwinism' given fashion has such cultural importance, we must understand fashion within the context of digitality and offer tools that foster sustainable development.

1.2 RESEARCH PROBLEM

Fashion's digital transformation (DT) refers to fashion's adaptation and response to an online culture. Alongside technological developments, the fashion industry must understand how their customers will adapt and respond to navigate the complexities of human behaviour within DF environments, such as the metaverse, and how it might contribute to the concept of fashion identity and sustainable practices. Despite sustainable messages within marketing communications, we do not fully understand the potential for DF to contribute to sustainable consumption, and a deeper exploration into the end user of DF is needed (Chan et al., 2023). It is not only consumers that play a role but all users that adopt DF technologies, including augmented reality (AR), virtual reality (VR), 3D digital scanning, computer-generated imagery (CGI), and artificial intelligence (AI), across e-commerce, social media, video game and metaverse platforms. The DF ecosystem is vast and the potential to craft digital identities through fashion offers a multiplicity of possibilities, yet there is little known about how DF will impact individuals offline, how they can shape our consumer behaviours, or what the user really desires from these experiences.

Adopting a holistic approach to DF from a user perspective, it is important to define who or what DF is 'dressing' and, consequentially, highlight a need to explore the role of the digital body. For every DF experience one uses, one must first choose an entity or an interface before dressing it, such as a photograph to be superimposed, an avatar or a 3D bodily scan (Chan et al., 2023). From a technical standpoint, this is predominately due to the lack of interoperability between platforms, which restricts users from easily traversing across multiple connected environments with the same digital form. From a philosophical and ethical standpoint, this raises questions as to how these interfaces may impact self-concept. Secondary research in fashion theory has historically linked identity and fashion consumption, and video game theorists argue avatars as representations of self. Therefore, this research assumes that, within a fashion context, how we create our digital body is just as important as how we dress it.

Furthermore, the research assumption is that fashion within digital worlds will have just as much importance to the user as the physical, as, inherently, fashion reflects the self no matter which context or reality it exists in. This may not come as a surprise to the reader. However, through disintermediatory effects as digital and physical realities collide (Crewe, 2013), the importance may stay the same, yet the concepts and values underpinning fashion may evolve. DF has often been seen by academics and industry to be associated with gamers, yet we cannot apply the same knowledge for users with a fashion-centric perspective. Importantly, DF cannot exist as a product alone and hinges upon the construction of the body and, therefore, may have wider implications. Using a theoretical framework, based upon a consolidation of video game, consumer behaviour and sustainability theories, the impact DF has on the fashion user's beliefs, attitudes and behaviours will be the focus of this research, to understand how users of DF technologies may change in response to new immaterial forms of fashion and identity. The UN's Sustainable Development Goals (2015) will be used as a contextual framework to understand if and how the creation of the digital self advances sustainable development. As time evolves and technology advances, more research, observations and phenomena will become known to understand this impact further. Just as DF and the metaverse are currently in their infancy stages, so are our identities being formed within the DF paradigm. This research will provide a snapshot of this impact that is emerging between 2022 and 2024 to offer industry and government a glimpse of future trajectory to better prepare and responsibly innovate through a user-centric approach.

1.3 AIMS, OBJECTIVES AND RESEARCH QUESTIONS

Aim

This research aims to explore the impact of fashion's dematerialisation across digital and physical realms, focusing on how individuals create and consume digital fashion for their digital selves. It investigates whether digital self creation offers a sustainable alternative to traditional dressing practices and contributes to sustainable development. The study also examines the role of the digital body in the digital fashion experience and its implications for users. Additionally, it will provide practical tools for industry stakeholders in fashion and technology to foster responsible innovation within digital fashion, which addresses challenges in sustainability, digital ethics and the evolving digital fashion landscape.

Objectives

1. To establish a comprehensive contextual understanding of digital fashion and its contribution to the ongoing digital transformation of the fashion industry.
2. Critically analyse existing theoretical relationships between digital fashion, identity and sustainability.
    a. Explore theoretical perspectives and concepts that underpin our understanding of digital fashion, identity and sustainability, and highlight gaps in research.
    b. Identify the mediums and tools in which Gen Z consumers explore identity and fashion within a digital world.
    c. Define the sustainable development goals relevant to the digitisation of fashion and identity to provide a framework for sustainable development.
3. Explore the existing and future scope of digital fashion from Gen Z user perspectives and qualitatively assess its potential impact on sustainable fashion consumption.
4. Investigate the value of digitalising humans within digital fashion and how it can be used to facilitate or exploit identity creation and self-expression while considering sustainable and ethical development.
5. Highlight key areas of consideration for academics, industry and/or policymakers across sustainability and ethics due to user adoption and the creation of the digital self.

Based on the aims and objectives, this research will answer the following questions:

Research Questions

RQ1. What are the motivations for users of fashion to invest in the creation of their digital selves, and is sustainability a driving motivation?

RQ2. How will the creation of digital bodies play a role in constructing fashion identity

across digital and physical worlds?

RQ3. Can dressing the digital self influence consumer behaviour offline, replacing the desire for physical fashion for the fashion consumer and thus contributing to sustainable fashion consumption?

RQ4. Using the sustainable development goals as a framework, what are the sustainable and ethical considerations of constructing digital identities within the digital fashion paradigm?

1.4 METHODOLOGY

Due to the nature of this research, which seeks to understand the connection between real-life participants and their digital selves, choosing the methodology has been somewhat of a challenge and required a novel approach to traditional ethnography and a bricolage of methods. There was much discussion and deliberation over the appropriate online methodology for Study Two, for example, which was ultimately informed by the work of Kozinets, who dissects the intricacies and possible applications for netnography. Established by Kozinets in the late 1990s, netnography is a portmanteau of "internet" and "ethnography" and is becoming an increasingly popular research method for the study of consumption in communities online. Furthermore, the importance of the body within the DF fashion experience required further investigation. The access to the modelling industry was advantageous as it offered exploration into a relevant participant pool that is currently experiencing the digitisation of bodies. Therefore, the outcome of this research becomes a tale of two studies, which inform one another and contribute to its originality:

Study One: Digital Bodies: An investigative and speculative study on the digitisation of fashion models and its wider impact on industry and consumers.

Study Two: Digital Dressing: An exploration of Gen Z consumers fashioning their online identities and the relationship to the offline self.

It is important to note that Study One is a preliminary study, and some findings, whilst informative, were not pertinent. Less attention will be paid to Study One, highlighting key findings that support Study Two and the main aims and objectives of this study.

1.5 JUSTIFICATIONS FOR RESEARCH

A macro-overview of the history and current landscape of the industrial revolution situates

this PhD research within the centre of an evolving digital transformation. Just as Web 2.0 changed the way we communicate and share knowledge at the early start of the 2000s, we are already starting to witness the impact of advanced technologies on our economy, environment and society (Liu et al., 2019; Rinaldi, 2019; Mesjar et al., 2023). For fashion, Rocamora argues it is a paradigm of modernity and its changing temporality (2014). Simmel (in Clarke et al., 2001) calls fashion a belief that the phenomenon will vanish just as quickly as it came and that fashion is a 'concept of value'. Therefore, within a transient digital culture of digital-first generations, who come with their own beliefs and values, it is only fitting that fashion should also evolve alongside and continue to shape our identities within digital worlds. Digital natives (Prensky, 2001) join online communities, socialise, seek advice and construct identities within digital worlds, and for Freund (2024), it can be difficult to distinguish between our digital reality and our physical reality as they become one and the same. As lines between online versus offline become less defined, fashion, in particular, is exploring new dematerialised forms that change the way users (including consumers) experience fashion (Rinaldi, 2019; Alexander, 2024), contributing to sustainable development, as well as requiring new roles and stakeholders (Toffler, 1980; Ritzer and Jurgenson, 2010; Rinaldi, 2019; Wagner and Kabalska, 2022; Mesjar et al., 2023).

However, Hillis (2002) argues that there is a need to address the cultural and psychological impact of a digital transformation on consumers before we push beyond physicality to exist within a digital world that may lessen the connection to origins of identity. DF may be the new freedom for identity creation and expression unbound by physicality or an alternative form of consumption to amplify our incongruous behaviours and impact our sense of self. Within a climate crisis, further research into the impact of DF is essential to fully understand systemic implications. Technology is rapidly evolving, user adoption is rising, yet the reality of DF reducing our need to consume physical fashion is underexplored and, perhaps, idealistic (Belk, 2016).

Furthermore, we do not fully understand the implications of digitising the body for DF experiences. Fashion models and influencers have already begun a digital transformation where their two-dimensional image is arguably more important than the real-life (RL) person. Many e-commerce companies have taken a step further by digitising real-life models through 3D scanning technologies, allowing their digital version to exist without their human counterparts. Models have frequently been criticised as enablers for encouraging unrealistic body types for decades, yet we now live in a time where smartphone users have access to Photoshop-style apps, photogrammetry and volumetric capture, metaverse platforms, and open-source software that can produce life-like virtual avatars that present unattainable, unreal perfection. Like a video game, end-users will have the means to imagine and create new versions of self through digital forms. The rise of virtual try-on (VTO)

means more everyday consumers will be creating digital versions for retail purposes, which may come with sustainable benefits (Pantano et al., 2017). However, do consumers really want their real bodies digitised for retail purposes? Do we really want to face the reality of our bodies? Alongside personal data, what of ourselves are we giving away?

While studies have explored DF as a tool for sustainable development and the concept of digital identity has been extensively researched, particularly within video games focusing on avatar representation, the connection between digital bodies and DF and the reciprocal relationship between offline and online identity within a fashion context is a significant gap in knowledge. Therefore, this research is justified because its revelations and discoveries enrich our very understandings of the concept of fashion beyond materiality from a user perspective, contributing to research within digital anthropology, sociology, and, more specifically, consumer behaviour. Through a critical approach, it forces us to consider the significance and wider ethical implications of crafting the digital self through DF and digital bodies that may foster or hinder sustainable development. As this research has progressed, it has, in some respects, opened a Pandora's box of opportunity and risk and rattled the very ethical values in which we have constructed the concept of the self within the physical world. Through further exploration, more questions and areas for exploration arose, emphasising the urgency of this research not only for academic and industry purposes but also encouraging the government to act in the face of consumer-facing technologies. In response to emerging technologies, Hanson (2023: 1) argued: 'To be clear: this is probably the most potent example of technology outpacing regulations and expectations to have occurred in my lifetime.'

This research may never keep up with technology, as it will adapt and change constantly and rapidly. As we try to keep up with the pace of our digital evolution, it will be the same underlying anthropological questions about our human nature and its relationship with technology that will remain imperative, establishing the foundations and direction of this paper. Physical or digital reality, Belk argues (1988: 141), 'Given the difficulties in separating mind and body in philosophies and psychologies of the self... objects in all of these categories will be treated as... parts of the extended self.' Therefore, if humanity is to delve deeper into digital worlds for the sake of our physical environment, how may we all inhabit this space mindfully and responsibly? And, like our planetary boundaries, how far can we push beyond into virtual worlds beyond the zones of uncertainty before we put society at risk?

1.6 OUTLINE OF THESIS

To help guide the reader, this section will offer an overview of each of the key chapters.

1.6.1 Chapter Two: Context

The purpose of this chapter is to set the scene and to locate the reader between the years 2020 and 2024, on which this research is based. Given the broad nature of fashion's DT, it is important to define and identify specific areas that are in and out of scope of this research to understand where, why and how this research is valuable. This section will include my own personal experience at the intersection of fashion and technology, providing a first-person account that allows the author to engage in storytelling. My experience is crucial as it provides a position of positionality and invites readers—whether academics, industry professionals, participants, students or curious individuals—to engage in the discussion about fashioning the digital self. This will be followed by a brief journey and overview of fashion's digital transformation (DT), introducing key terms, technologies, and stakeholders and how it has evolved in response to industrial revolutions, globalisation and the climate crisis, which has been referred to more broadly as the Anthropocene (Brooks et al., 2017). Market research will be included as a tool to contextualise and define current states of technology at the beginning of Industry 4.0 as living generations, including myself, witness and engage in the socio-technical shift from Web 2.0 to Web3 technologies, transforming how people interact with technology and each other. Recent examples of how the fashion industry has embraced emerging technologies will be presented, introducing and differentiating terminology such as digitisation, digitalisation and dematerialisation, which contribute to the digital evolution of fashion.

1.6.2 Chapter Three: Literature Review

This chapter provides a comprehensive summary and critical analysis of the existing literature focused on and relating to fashioning the digital self, addressing objective one of this research. The introduction sets the scene and looks to establish a DF research geography against a backdrop of fashion's digital transformation, consumerism and sustainability challenges. Subsequent sections involve systematically searching, evaluating and contextualising the scholarly work focused on three key areas: DF, identity, and sustainability. Due to the nascency of DF and its connection to identity, video game theory will be utilised to help inform and understand relationships between users and consumers of DF as an end product (Chan et al., 2023) and its impact on offline behaviours. What becomes apparent throughout the secondary research is DF's requirement for the body as an interface, opening discussion on ethics, identity and body image within digital worlds. The digital world and the physical world are not to be understood by the reader as two

separate realities, but as fluid, hybrid and symbiotic, and literature dictates that real-world values and challenges are omnipresent as we increasingly live in a state of digitality (Negroponte, 2015). Gaps in knowledge will be identified to justify the rationale for its original contribution, which includes limited evidence on sustainable DF consumption from fashion consumer perspectives, as well as digital ethics and digital well-being.

1.6.3 Chapter Four: Methodology

After exploring the literature and discovering unanswered questions about the relationship between DF and identity across online and offline worlds and its potential link to sustainable practices, this chapter presents methods used to obtain reliable and valid findings that best answer the research questions and contribute to the overall aims and objectives of this PhD. This chapter will begin with an overview of the overall methodology and provide a rationale for the inclusion of two studies. This section will be followed by an in-depth explanation of the methods utilised for Study One (Digital Bodies) and Study Two (Digital Dressing). Netnography will be adopted as a supporting method to the overall methodology of Study Two, and the rationale and approach to this method will be discussed in detail. A comparative analysis of the two studies will ensue, followed by an analysis of the study's reliability and validity, ethics and limitations. Particularly due to the use of third-party online platforms, attention to participant ethics will be noted and solutions offered to retain participant anonymity. Both studies could exist and be published independently. However, it is the author's intention for the purpose of this PhD that both studies form part of a wider holistic view on the concept of the digital self, as proposed by the theoretical framework within the Literature Review conclusion.

1.6.4 Chapter Five: Findings and Analysis

This chapter will consist of two main sections: a thematic analysis of the findings from Study One and Study Two. The individual studies each explore different facets of fashioning the digital self, and, therefore, each study will tackle specific research questions, which will be outlined in the introduction of each section. Through triangulation, key findings from both studies will be comparatively compared at the end of this chapter to offer a holistic overview and inform the conclusions and practical applications of this research.

1.6.5 Chapter Six: Summary and Applications

This chapter presents a summary of key findings, including three applications which can be adopted as tools for both industry and further research and feed into subsequent and overall conclusions. The 'Fashioning the Digital Self' Ecosystem and Framework consolidates the most significant findings from the two studies to produce a comprehensive and relational understanding of the wider requirements and implications of DF. Its overall purpose is to enable adoption but, most importantly, foster responsible innovation which considers sustainable development and an ethics-first approach. This framework looks to inform and support academics, industry and government on the foundations of digital self creation within a fashion context and contribute to the emerging field of DF.

This chapter also includes a deeper discussion on the role of digital ethics within digital self creation, justifying the requirement for autonomy and governance and the ability to offer informed consent to users of digital fashion and digital body technologies. A practical tool for the modelling industry is presented, initiating a case study for policy development.

Finally, a speculative-thinking workshop template is explained which aims to foster responsible innovation and sustainable development for companies who are considering the adoption of digital self experiences for their consumers. It spotlights the many uncertainties that may evolve from the innovation of DF and digital body creation and, again, highlights the importance of digital ethics.

1.6.6 Chapter Seven: Conclusion and Contributions

The final chapter summarises how the research has contributed to the main aims, objectives and research questions established at the beginning, thus tying the golden thread of this research. It discusses how the research has contributed to furthering knowledge within the discourse of the digital self from a fashion-centric perspective. Suggestions for future research conclude this chapter where findings lacked specific detail or highlighted further gaps in knowledge, particularly regarding data ethics, which remained out of scope.

Chapter Two

CONTEXT

2.1 STATEMENT OF POSITIONALITY

2.1.1 Rationale for statement

The value and justification for sharing the author's own personal testimony offer the reader a first-hand account of an emerging technology being used within a real-life scenario. The author ('I') becomes a vehicle of research and details specific interactions with innovative technologies in fashion and how these experiences provide a practical context to the academic research. As argued by Richardson (2000), the writing process is a way of storytelling and discovering what the experience means. The predicament discussed in the next section became the catalyst for this PhD. It offers readers a glimpse into a human response to technology, providing insight into my intentions and reasons for pursuing further study.

2.1.2 Fashioning my Digital Self

'At the age of 20, I started my journey within the fashion industry as a fashion model. You probably wouldn't recognise me; I was not a supermodel or walking the catwalk or gracing the cover of Vogue (although I did get a very small mention in the street-style section). I was part of a larger group of working models who you may recognise from scrolling through an online fast fashion store. For ten years I worked across London, New York, Paris, Milan, Germany and Tokyo, working for brands and retailers to shoot their e-commerce or campaigns. I began modelling at a time when online shopping was novel. The thought of not going to a store and trying on items in a physical changing room was not a viable option for some, particularly not for my mother. Yet suddenly I was booking jobs, working 9 to 5 every day, shooting items upon items that would become available to buy purely online.

The ultimate role as a model is to sell products, and I started to feel complicit in the marketing push to increase overconsumption. During one job I was expected to shoot 75 items in one day, and it dawned on me that I was one model for one brand in one city. The number of models in the UK is currently unverified, but it was stated by the British Models Agent's Association (BFMA) that there were 3606 models in the UK in 2019 and 13,252

worldwide.[1] There has also been a significant rise in Virtual Influencers (VIs), which are described by Byun and Ahn (2023) as computer-generated characters that serve as influencers and are used by fashion brands in marketing campaigns. Shudu, for example, was the first avatar supermodel, created by Cameron-James Wilson in his bedroom in 2017, and has replaced human models within campaigns including Balmain and Ellesse (Semic, 2019). Just as I had started as e-commerce boomed, a new era of digital modelling was on the precipice, but I was uncertain about the future.

In 2019, I returned to academia, researching sustainability within the fashion industry, and subsequently employed by an innovation agency that is at the intersection of fashion and technology. Through my employment we experimented with emerging technologies in their preliminary stages of innovation to understand future applications for fashion, with the intention to foster and drive sustainable development. Each technology required a critical approach from a fashion perspective to discover the opportunities and barriers for adoption. What I did not expect to discover was how fashion modelling would become essential to understanding the implications of fashion's digitalisation.

During several projects I was scanned using photogrammetry and volumetric capture to create a 3D photorealistic image, including the personal biometric data. What struck me during my exploration of creating my own digital human was that fact that I did not, by default, own my digital human (Figure 2.1). In the same way a model does not own their own photograph, as the copyright lies with the photographer, the copyright of the digital creation lies with the technology provider or whoever foots the bill.

[1] This is an unverified and non-peer reviewed number emailed to me by the Director of the British Model Agent's Association in 2024. However, I wish to include it to give a sense of the scale of fashion currently working for brands within the UK and worldwide.



Figure 2.1: **My Digital Human, created by volumetric capture, set in virtual environment, courtesy of Fashion Innovation Agency, University of the Arts London, Dandelion and Burdock, and Volugrams (FIA, 2022)**

In truth, looking at myself in 3D, I felt uncomfortable. Despite seeing thousands of images of myself throughout my modelling career, I did not like seeing my body in 3D. It was as if that extra dimension had shone a spotlight on the reality of my body and how others see me.

Not only that, but the experience provoked questions surrounding ethics and legalities. Surely, I should own my own data? What are the implications if I do not own this data? I have always seen technology as a tool for humans to control, yet this experience showed potential for technology to create digital versions of humans for others to govern.

Within another project, I was able to control and embody an avatar set within a virtual environment through motion capture (Figures 2.2 and 2.3). This avatar-human connection is difficult to describe other than being an energetic feeling. I remember sometimes trying to move in the way I believed the avatar would move. Other times I would move naturally and see the avatar suddenly become an extension of me. I realised that for research to fully grasp this phenomenon, participants would need to experience it.





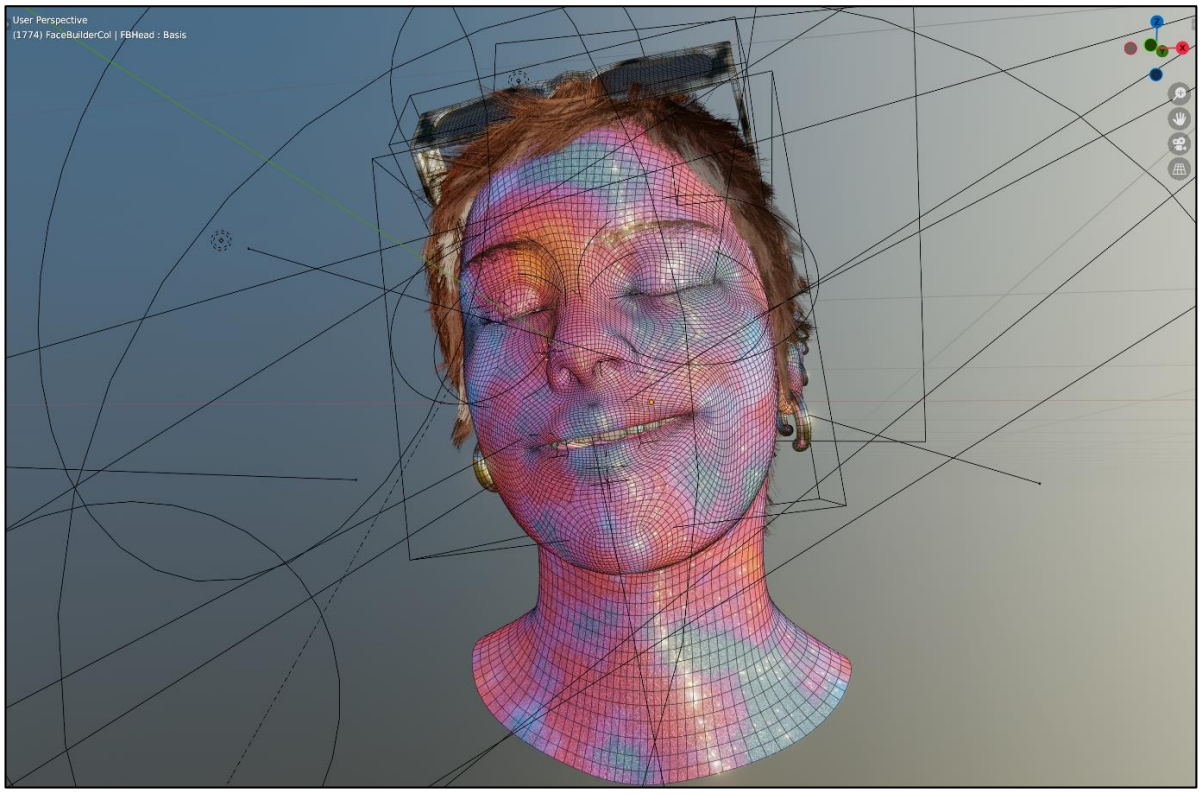
Figure 2.2 & 2.3: Realtime Fashion Project, courtesy of Fashion Innovation Agency, London College of Fashion, University of the Arts London x RYOT Studios (FIA, 2021)

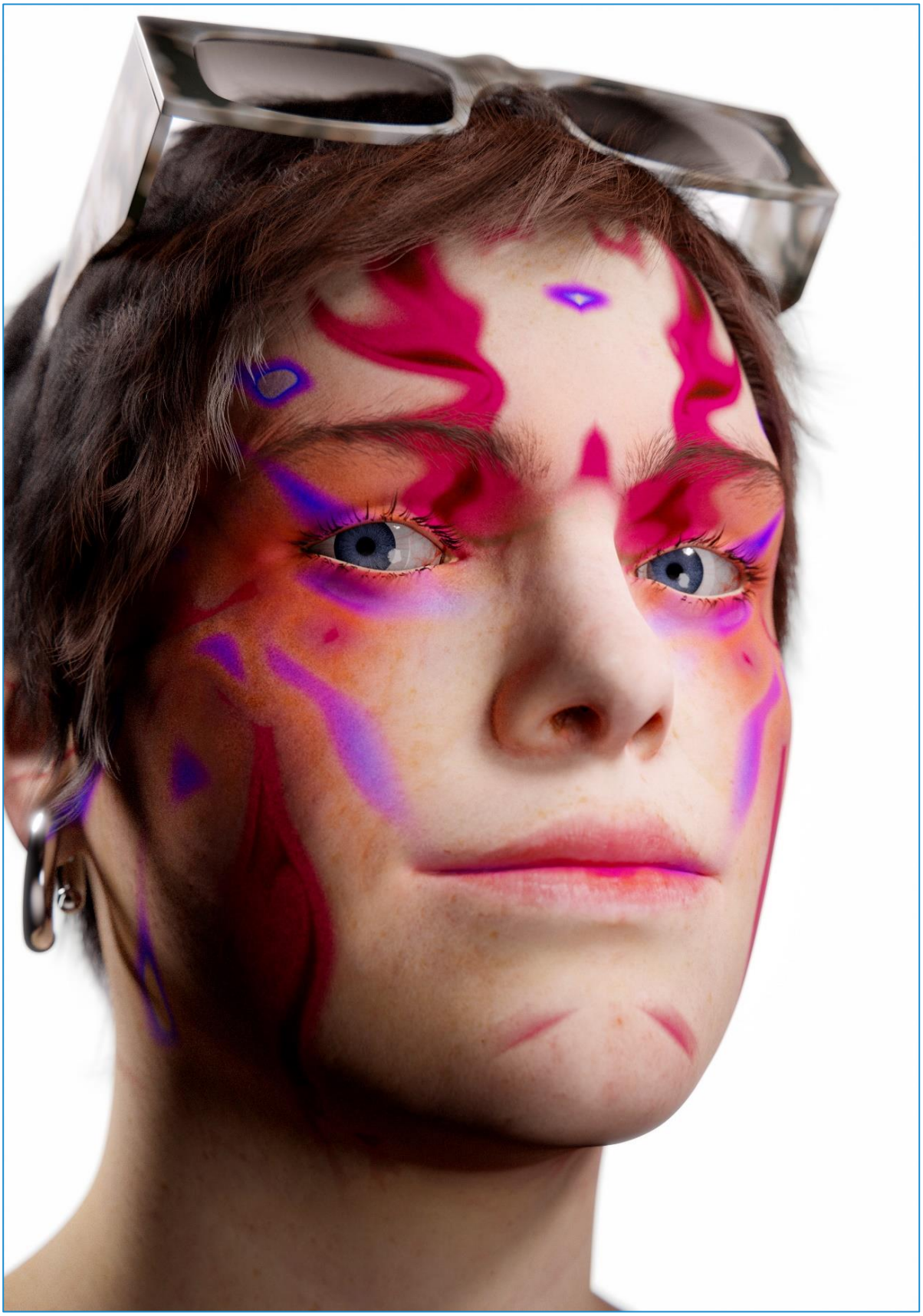
The same motion capture data was later used for multiple avatars within another project. I felt pulled apart, fragmented, my data categorising itself like metadata; it was 'of me' but existing without me in different forms. Perhaps coming from a model background, you view your body as a commodity, and my immediate reaction was to understand how I can benefit from my data being used in this way.

Suddenly I have a folder on my computer titled 'Jade's Digital Selves' where I have collected digital versions of myself throughout the years, showing ways in which I have imparted personal elements of myself within a digital form, such as my image, my movement, my biometrics, and my voice. Whilst I do not define myself as an artist, my practice has become a form of fashioning the digital self that has unknowingly been documented since my first day on set behind the camera.

My most recent experience combined 3D scanning and CGI (Computer Generated Imagery), collaborating with a creative technologist, Callum Toy, to create my avatar representation (Figures 2.4 and 2.5). What emerged as profoundly significant was not the final product but the journey of fashioning my avatar; it compelled me to explore deeper than the surface. This was an unexpected and ironic revelation, given the seemingly superficial nature of the subjects—a model and an avatar—two entities often perceived as mere visual representations.

Having never met me before, Toy wanted to understand who I was beyond the surface in order to create my avatar. It meant that I needed to understand myself, to think about how others see me and how I wish to see myself portrayed. Did I want to keep my imperfections? Other than my features, how can I impart part of my personality, my soul? The process was existential and therapeutic. I wished for my skin to be alive in its digital form, so Toy created new visions of beauty that seemed to come from within my avatar, inspired by my love of watching Bjork and David Bowie perform. My avatar suddenly became a canvas to express myself in ways I could only imagine in real life. At the same time, it was me but not me.





Figures 2.4 & 2.5: My Digital Avatar project by Callum Toy in collaboration with Jade McSorley. Shown at TEDx Teesside Event (2023)

So why do I share this experience with you within an academic paper? I share this story

with you as someone who has been digitised in various forms and conjures an honest account of my reactions and emotions. In years to come these versions may become a digital antique reflecting a moment in time as humans begin to further express and extend their bodies through digital forms. However, this is a reminder to the reader that this is my story, and others may tell it differently. This is where my story ends, and the research begins...'

2.2 FASHION'S DIGITAL TRANSFORMATION WITHIN INDUSTRY 4.0

Wood and Solomon (2009: 9) argued, 'Like it or not, our society is morphing into a digital platform.' As of April 2024, global internet users numbered 5.44 billion, constituting 67.1% of the world's population (Statista, 2024). We are currently living at the beginning of the fourth industrial revolution. Industry 4.0 is a term and concept that emerged from the German manufacturing strategy in circa 2011; it focuses on smart manufacturing, which is characterised by cyber-physical systems[2], the Internet of Things (IoT)[3] and automated manufacturing processes (Dima, 2024). Through the integration of advanced Web 2.0 and Web3 technologies such as artificial intelligence (AI), robotics and 3D printing, Industry 4.0 is transforming the manufacturing landscape. Not only will Industry 4.0 usher in a digital reality that may alter the rules of production, operations and workforce, but even society (Deloitte Insights, 2017). Brooks et al. (2017: 484) states that the Anthropocene epoch of which we live, denoting the global-scale environmental changes brought about by humans, 'challenges what type of world we want to live in and is moulding the production of new technological and social futures.'

Fashion has always played a significant role in the evolution of industrial revolutions and responded to technological innovation and globalisation (Kraus et al., 2021; Thomas, 2019). The industry has seen a significant digital transformation (DT), with the Covid-19 pandemic shortening consumers' and fashion businesses' adoption of digital technology by five years to a matter of months (Hecker and Rollwagen, 2021); In 2020, designer, Hanifa, showed her collection purely through DF, with bodyless 3D models walking the catwalk, revered by

[2] A cyber-physical system (CPS) is an integrated system where physical processes are monitored and controlled by computer-based algorithms. They enabling real-time interaction between the digital and physical worlds for more efficient and automated processes.

[3] The Internet of Things (IoT) refers to a network of interconnected physical devices embedded with sensors, software, and other technologies that enable them to collect and exchange data over the internet, allowing for automation and real-time monitoring.

British Vogue as an inclusive way for everyone to be seated front row on the runway (Cary, 2020); JW Anderson used holograms and augmented reality through smartphones throughout the pandemic to show his collection to potential buyers (FIA, 2021); In 2021, Balenciaga created a video game with 3D scanned models wearing the latest collection (Socha, 2021). Most recently, NFTs (non-fungible tokens) have emerged as a branch of DF and an example of Web3 technology, adopted by brands such as Burberry, Nike and, most notably, Dolce and Gabbana, who sold a virtual glass suit for one million dollars in 2021 from their Genesi NFT collection (Figure 2.6). An example of Web3, these digital assets are stored on blockchain technology and aim to return control to users, allowing them to own their data, identities and digital assets. Also known as Web 3.0, Web3 was coined by computer scientist Gavin Wood in 2014 as the third major evolution of the internet after Web 2.0. Whilst Web 2.0 has been characterised by user-generated content and social media, Damalas, Holmes & Kadio-Morokro (2022) describe Web3 as a semantic web where value creation, storage and exchange are decentralised across communities and technology infrastructure. In other words, Web3 is a vision for a new version of the internet that is not controlled by a few big companies (Meta, Google, for example) but rather by all the people who use it.



Figure 2.6: Dolce and Gabbana's virtual 'Glass Suit' that sold for over $1 million (Vogue, 2021)

If we, for a moment, slow things down and look back to the beginnings of the digital transformation of fashion consumerism, it was only just over 10 years ago that online shopping was a relatively new behaviour for consumers. It is staggering to think that it was only in 1998 that 9% of households in the UK had access to the internet (Statista, 2021), whereas today over 80% of UK consumers make their purchases online (Statista, 2023). Within retail, the rise of e-commerce platforms, such as ASOS, Shein, Boohoo.com and Pretty Little Thing, solely focusing on selling items online has transformed the traditional retail experience, contributing to one of the most rapid transformations in consumer behaviour and has resulted in a culture of fast fashion and overconsumption. The accessibility of these platforms, alongside the later emergence of social media in 2010, has

ultimately exacerbated the fast fashion model, which is dictated by speed, price, and a lowering of values of disposable, 'wear-it-once' garments (Rocamora, 2014; Press, 2017; Mair, 2018; Siegle, 2018) and is having a significant impact on our environmental resources (Fletcher, 2014).

By 2020, due to the impact of consumers spending more time online, living more of life virtually and the dematerialisation of fashion, discussion within the fashion industry had moved to immersive fashion experiences, 3D virtual technologies for refashioning or re-using materials or garments, gamification, omnichannel retailing (Mesjar et al., 2023; Alexander, 2024), and, most recently, Web3 co-creative communities such as Nike's Web3 marketplace *Swoosh.* The rise of DF, metaverses, non-fungible tokens (NFTs), 3D scanning, augmented, virtual and mixed reality, and AI are infiltrating traditional models across fashion products, commerce and consumption.

Furthermore, alongside the evolving digital landscape and urgent requirement for sustainable development, stakeholder roles and skills also alter and change. Across fashion's global value chain, brands, retailers, NGOs, manufacturers, data providers, innovators, intergovernmental organisations and policymakers have been highlighted as key stakeholders that are essential to sustainable development (Global Fashion Agenda and United Nations Environment Programme, 2022). Wagner and Kabalska (2022) argue that new technologies, especially the emergence of DF, are expected to alter existing value chains in the fashion industry and have the potential to address the sustainability needs of various stakeholders, such as consumers, in both real-world and virtual-reality settings. Whilst this section will not identify all the stakeholders currently existing within the DF ecosystem, it is important to highlight the dynamic interdependencies across sectors (including design, technology and government) and complexities of stakeholder engagement which are dependent on power, legitimacy and urgency (Mitchell et al., 1997). When fashioning the digital self, it may come to light through secondary and primary research that unexpected stakeholders become more urgent at certain stages of the process. Rinaldi (2019: 45), for example, argues that within a digitally transformed, consumer-centric fashion sector, it is better to describe consumers as 'users', 'consum-actors' or 'consum-authors' that play an active part in the complex consumer dynamics. Some users may not ultimately consume fashion within a digital realm and instead adopt technology for other means and customer experiences (Alexander, 2024), such as VTO and avatar creation. Therefore, we must reassess who will engage within fashion's DT, potentially requiring new motivations, roles, requirements and even new visions of identity.

In preparation for secondary and primary research, an overview of technologies and companies contributing to the DF landscape has been summarised within Appendix 1. The purpose of this task was to locate where this research holds most value within the broad

scope of fashion's DT. It does not go unnoticed that the context in which this research is placed is rapidly evolving even whilst I type these words. The table highlights that use cases for creating the digital self within a DF context are presently situated within Web 2.0. Access to Web 2.0 platforms are, also, the most accessible to participants for the purpose of this study. Web3 technologies are likely to become commonly embedded within industry and society, and it is essential to acknowledge the technological potential and implications of Web3; however, these technologies will not be the prime focus of this research. To offer the most value, technologies and DF companies which are widely known and presently used will be investigated, including social media and DF platforms accessed through laptop browsers and iPhones. By adopting a responsible innovation approach towards sustainable development and gaining a deeper understanding of current use cases, this research hopes to support future generations in light of emerging technologies within fashion.

2.3 SUSTAINABLE DEVELOPMENT

To address the growing concerns about the environmental degradation and social inequalities that accompanied economic growth on a global level (not just within the fashion industry), the Brundtland Commission coined the term 'sustainable development' in 1987 as, 'Development that meets the needs of the present without compromising the ability of future generations to meet their own needs'. This report led to the emergence of key policies and initiatives, including the creation of the 17 UN Sustainable Development Goals (SDG) in 2015 to be achieved by 2030 (Figure 2.7), which included 140 targets and indicators for sustainable development. Due to the commitment to sustainability, research and innovation have become significantly important across all sectors to address the global challenges we face on an environmental, social and economic scale.



Figure 2.7: United Nations Sustainable Development Goals (2015)

Many Sustainable Development Goals (SDGs) have significance to the fashion industry beyond responsible production and consumption (SDG 12). According to the European Parliament (2022), the global clothing industry consumes more than 80 billion cubic meters of water, emits over 1,715 million metric tonnes of CO_2 equivalent, and generates approximately 95 million metric tonnes of textile waste annually (Amicarella et al., 2022), which affects natural habitats. The current take-make-waste paradigm, or linear economy (Dahlbo et al., 2017; Islam and Huda, 2019), which is prevalent in textile production and consumption (Amicarella et al., 2022), is particularly detrimental and requires innovation in circular and regenerative practices (Ellen MacArthur Foundation, 2024). Furthermore, sustainable development requires the efforts and sustainment of equality and well-being, resonating with SDG 10 and implicating SDGs 1 and 3, concerning no poverty, good health, well-being, and reduced inequalities. Additionally, fostering economic growth, as articulated in SDG 8, underscores the multifaceted benefits of sustainable digital transformation within the fashion sector, including its stakeholders.

As Mesjar et al. (2023) argues, alongside many other scholars who will be discussed within the literature review, current fashion consumption patterns are considered unsustainable and transparency about sustainability efforts are needed along the entire fashion supply chain to address the sustainability challenges within the industry. However, after the latest SDG Summit in New York on 18th-19th September 2023, the fashion industry had only

improved 15% of the 140 targets (Webb, 2023). While the industry has seen a rise in innovation across circular business models, regenerative design, material innovation and technical innovation, there requires a deeper embedding of the SDGs to accelerate progress, as well as collaborative action and a call for legislation. The Digital Product Passport (DPP), included within the European Commission's Ecodesign for Sustainable Products Regulation (ESPR), is an example of a significant step in legislation. The DPP is to be implemented by manufacturers and brands between 2026 and 2030 to enhance the traceability of products and their components through technology and data. According to TrusTrace (2024), DPPs will level the playing field by providing standard ways to measure and communicate sustainability efforts.

With pressing concerns and demands to meet the UN's Sustainable Development Goals, the fashion industry has adopted technologies, such as the DPP, to drive positive sustainable impact across the value chain (Rinaldi, 2019; Mesjar et al., 2023). Through a technocentric perspective, it is argued that fashion within an Industry 4.0 context has the potential to democratise technology, providing opportunity and growth on an individualistic level, as well as improving the sustainability impact (Rinaldi, 2019). However, the energy consumption needed to achieve efficiencies throughout the supply chain may negate the benefits (Davis et al., 2023). There is limited information about the levels of emissions involved, and this lack of transparency could undermine the sustainability gains. Furthermore, whilst there is much attention to the use of technologies by companies to solve some of the complexities of fashion's supply chain to catalyse sustainable transformation, a focus on the demand side of fashion and research involving active consumers and users within fashion's DT landscape is lacking. In response to emerging technologies, such as AI, Hanson (2023) argued: 'To be clear: this is probably the most potent example of technology outpacing regulations and expectations to have occurred in my lifetime.' Not only is there limited understanding of sustainability, but also its ethical impact on society regarding data protection. As Rinaldi (2019: 135-136) argues, 'Going "beyond sustainability" is a must. Sustainability, as a term, must be used if, and only if, companies are able to measure results on how transparency, traceability and circularity models have reshaped the processes along the activities of their value chains.'

Within the literature review, key theories applicable to sustainability and consumer behaviour in the context of digital fashion and digital self creation will be discussed. Charter et al. (2024) stated that the issue of sustainability within fashion is a wicked problem, and therefore, it is important to define what is in scope for this research and what is out of scope for this research, using the SDGs as a suitable framework to identify where potential impact lies.

2.4 DIFFERENTIATING DIGITAL TRANSFORMATION TERMINOLOGY

For the purpose of this research, it is important to differentiate 'digitisation' from 'digital transformation' (DT) and note that DT has been referred to as *digitalisation* in some research (Hagberg et al., 2016; Hess et al., 2016; Parviainen et al., 2017; cited by Kraus et al., 2021). So, what is the difference?

Kraus et al. (2021) present a literature review of the definitions of DT ranging from 2004 to 2018. Given current events and digital phenomena, Stolterman et al. (2004: 689) offer a relevant definition: 'Digital transformation comprises the changes associated with the application of digital technology in all aspects of human society.' In other words, DT is the evolutionary process which has far-reaching implications on society, whereas 'digitisation' refers to the material action of converting information into binary code.

What is significantly pertinent about Stolterman et al.'s definition is the attention to human society. Whilst digitisation can change information from analogue to digital form, DT is a strategic act that impacts the consumer, industry and society as a whole, overhauling the existing infrastructure of a community on a micro and macro level to embrace technology. Therefore, innovation in all its forms must understand future implications and innovate responsibly, contributing to a renewed value chain where, as Rinaldi argues (2019), traceability, transparency, circularity, and collaborative consumption are the main drivers of change.

'Digitalisation' lies between the definitions of digitisation and DT. Brennen and Kreiss (2016: 1) define digitalisation as 'the way many domains of social life are restructured around digital communication and media infrastructures', referring to interaction and enhancing experiences from emails and social media to, most recently, virtual reality (VR) and metaverses. Like digitisation, all concepts are closely related to the advancement of technology and contribute to a digital transformation, as summarised within Figure 2.8.

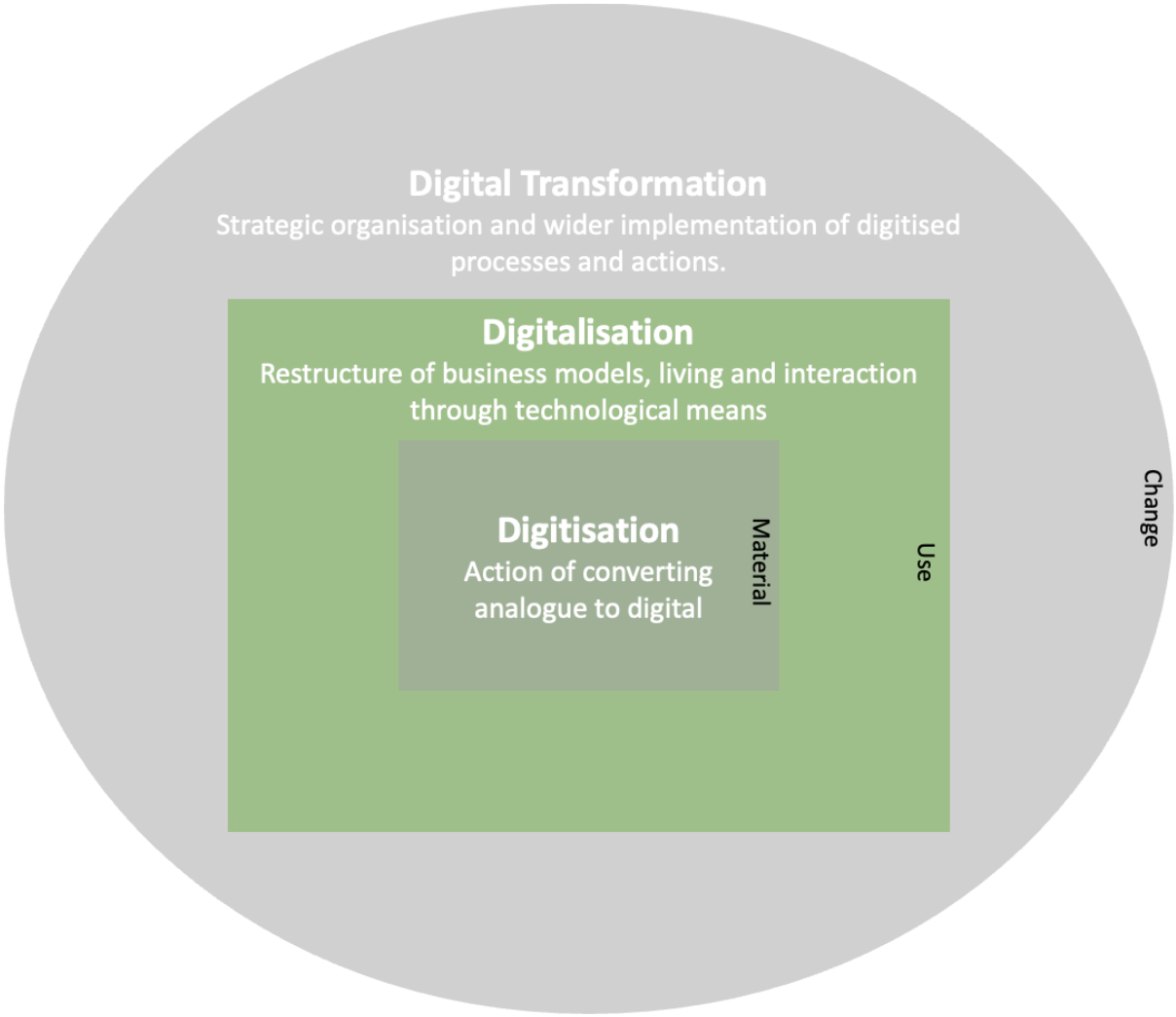
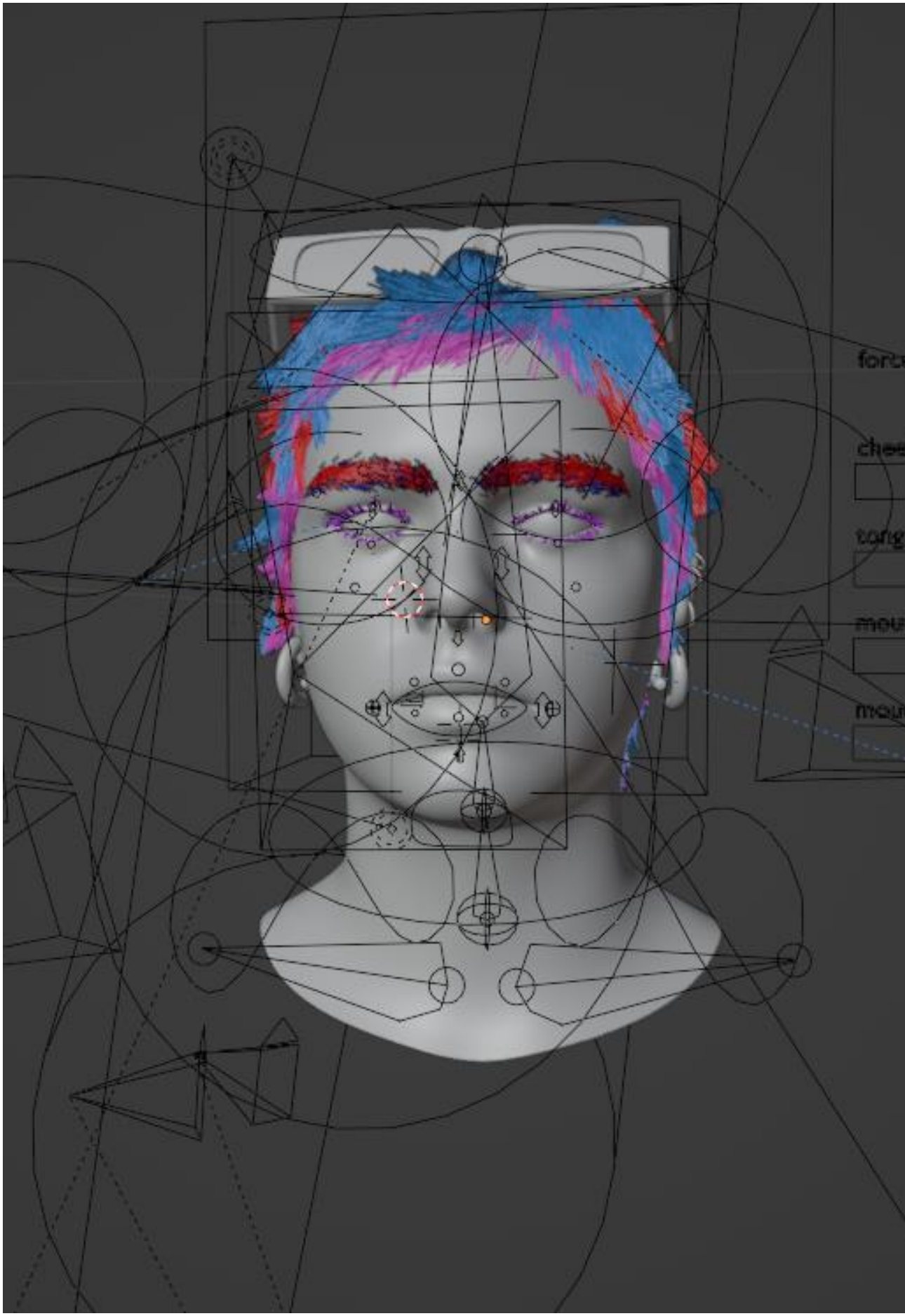


Figure 2.8: A summary of the definitions and connection between 'digitisation', 'digitalisation' and 'digital transformation' (Author's Own)

DF drives the DT of the fashion industry by integrating digitisation, digitalisation and dematerialisation. Digitisation involves converting physical garments into digital data, transforming them into code. Dematerialisation replaces physical materials with digital representations, eliminating the need for tangible items. Within a fashion context, 'dematerialisation' is often used to refer to DF, which offers consumers multiple new digital-only outfits for their digital channels (Mesjar, L et al. 2023). Digitalisation, in the context of DF, refers to the interactive processes with DF items or the creation and customisation of one's digital self, enhancing the experience of personal expression in virtual environments. Ultimately, by adopting DF, there is potential to transform the way we create, consume and dress. With long-term strategic planning, this could be fashion's most significant DT since the rise of e-commerce.



Chapter Three

LITERATURE REVIEW

3.1 INTRODUCTION: RESEARCH STRATEGY AND ESTABLISHING DIGITAL FASHION GEOGRAPHY

The connection between digital fashion (DF), identity, and sustainability are vital in understanding the consumer as they evolve into digital worlds within a climate crisis. Furthermore, it is crucial to comprehend consumers' motivations towards sustainable consumer behaviour in light of these external circumstances. Joy et al. (2022: 341) argue: 'For a new generation of consumers who see the online world as essential to their day-to-day lives, the distinction between "real" versus "virtual" may be considerably blurrier than older generations might have once anticipated.' On the other hand, Crewe (2013) argued fashion allows us to explore and understand these uncharted digital lands; DF and digital avatars become central tools in the bid for fashion businesses and consumers to explore digital worlds, such as the metaverse.

Within his significant scope of consumer culture, Belk already ushered a new perspective of the connection between the self and possessions within a digital world. In 1988, he presented his concept of the extended self, which refers to a consumer's attachment to their possessions which helps construct the sense of self: 'We are the sum of our possessions' (1988: 139). Twenty-five years later, Belk (2013: 477) offers a conceptual update on the extended self considering the impact of digitisation: 'It is evident that the current wave of digital technologies is fundamentally changing consumer behaviour in ways that have significant implications for the formulation of the extended self. It is time for an update.' Belk refers to 'avatars', specifically, as a form of self and possession, highlighting the philosophical and psychological connection between mind, body, and objects (material or immaterial) across online and offline worlds.

A decade later, it is time for a further update as we encounter increasingly advanced technologies that integrate physical and digital realities, creating new forms of products, experiences and communities. Casciani et al. (2022) categorised emerging technologies as 3-dimensional virtual and digital technologies (abbreviated to 3DVD), such as 3D modelling, virtual and augmented reality (VR and AR), 2- and 3-dimensional (2D/3D) scanning, and

digital twinning (DT). These 3DVD technologies contribute to the creation and distribution of DF.

As to whether the rise of DF and digital worlds, such as the metaverse, can influence more sustainable behaviours, this is still in dispute (Chan et al., 2023). Crewe (2017) expresses concern that 3DVD technologies may negatively impact the shift towards more sustainable consumer cultures by reinforcing overconsumption habits. Whilst Periyasamy and Periyasami (2023: 21) argue the benefits of the metaverse drive efficiency and productivity, they do acknowledge that 'the future state of the metaverse in the 2030s, specifically in terms of its contribution to environmental sustainability, remains uncertain'. Their research focuses on the consumption of resources from an industry perspective and lacks attention to the motivations of the consumer within digital worlds, particularly lacking attention to social and cultural sustainability. They propose that the UN's Sustainable Development Goals, created in 2015, be used as a valuable framework for the analysis and development of the metaverse for future research.

To explore the interplay of DF, identity, and sustainability, an initial search was conducted via interdisciplinary databases, including Taylor & Francis, Wiley, SAGE Journals (Social Sciences and Humanities), JSTOR (culture) and ScienceDirect (science and technology), using these themes as key terms. Some grey literature was used for market research, such as WGSN, McKinsey, and Business of Fashion, as well as non-peer-reviewed sources such as Vogue and Dazed, as said publications were useful in capturing the cultural phenomena.

"DF" was initially searched to get a sense of the scope of literature and how academics define DF. Due to the nascent emergence of DF, academic research is lacking in comparison to more established fields of fashion. Three systematic literature reviews published within the period of this research, from 2020 to 2024, provide understanding of the multidimensionality of DF, including Noris et al. (2020), Beak et al. (2022) and Chan et al. (2023) (Appendix 2).

Through further investigation, there is some disparity between the terminology used for DF, with some academics using the term 'virtual fashion' from the gaming terminology 'virtual skins'. However, DF was primarily used due to the term being more commonly used within contemporary fashion culture and the fact that DF does not only exist within the virtual; it is also used within Web 2.0 technologies and platforms such as social media and e-commerce, as mentioned within the Context (chapter 2).

A more targeted search was followed which linked "DF" and "identity", "DF" and "sustainability", "sustainability" and "identity", and finally "DF", "identity" and "sustainability". Searches revealed limited research connecting all three areas within a fashion context.

Taylor & Francis proved to be the most valuable resource for producing searches based on a variation of key terms. ScienceDirect was useful but needed to be filtered in terms of focus on social sciences, psychology, arts and humanities and environmental science (computer science and engineering, for example, was out of scope within this qualitative research). A comprehensive outline of search strategies and the number of journals discovered through searches can be found within Appendices 3a and 3b. What was clear from the initial academic inquiry was the heavy focus on the application of DF from an industry perspective and a need for a holistic understanding of DF via a consumer's lens. Furthermore, in some cases, a refinement and iteration of the term 'sustainability' was also needed to focus on 'sustainable consumption' to obtain fewer practical papers that focused on industry implications but offered some insight into the potential impact on consumer behaviour.

Upon further multidisciplinary exploration, it was found that established research exists on DF and identity within the video game field. What is now referred to as DF is more commonly referred to as 'virtual skins' within gaming terminology or just referred to as 'fashion'. Inputting the search terms "fashion", "identity" and "video games" produced 1,113 articles on Wiley. However, whilst there is literature which looks at how video games can be used to promote sustainability, the purchasing of virtual skins has not been linked to fostering more sustainable consumption behaviours. Despite similarities between virtual skins and DF as a product, DF is being presented within the media as a solution to the fashion industry's negative environmental impact (EAC, 2019). Therefore, further understanding of their differences needs to be explored to support or challenge DF claims for sustainability.

The link between fashion and gaming has also gained momentum in mainstream media as industries collaborate to create, sell, and show fashion within digital realms. Joy et al. (2022) suggest that the shifting of dimensions and need for transformative technologies has been spurred by a worldwide increase in isolation by a global pandemic. For academia, this signals a need to cross boundaries of existing fashion theory to video game theory, comparing and drawing knowledge from other fields that explore the concepts of fashion, identity and motivating sustainable consumption. Therefore, this research draws knowledge from other fields that explore the concepts of fashion and identity, including consumer behaviour, virtual social identity, human geography, digital anthropology, posthumanism, postmodernism and postmaterialism, and contributes to the DF field.

Established research on virtual or digital identity within the video game sector will be discussed within section 3.3.3 of this chapter, arguing a connection between the physical and digital self through a gamer's perspective. Wood and Solomon's (2009) exploration of virtual social identity theories offers rich insight into the construction of identity within digital worlds. Concepts discussed within this chapter will be informed most significantly by Belk's extended self, as well as re-embodiment (Kozinets and Kedzior, 2009; Belk, 2013),

fragmentation (El Kamel, 2008; Hillis, 1999; Belk, 2013), and the Proteus effect, a phenomenon researched by Yee and Bailenson (2007) in which the behaviour of an individual, within virtual worlds, is changed by the characteristics of their avatar. These theories may help us to understand the fashion consumer within similar digital and virtual cultures and communities.

Also important to this research is Crewe's work, which employs a geographical perspective to frame fashion and conceptualise its meaning. She focuses on the emergent forms of digitally mediated fashion, which refers to fashion that is influenced, produced, or disseminated through digital technologies and platforms. Crewe (2013: 761) contests that fashion can be understood beyond physical fibres, but in terms of relationality to space and time:

> *'When biology and technology kiss, the results can be unpredictable, exciting, transformative. The Internet is far more than a technology: it transforms the way we connect to the world and understand it. Together, the collision between virtual and material fashion spaces requires a fundamental re-theorisation.'*

Prior to the emergence of DF, Crewe discussed examples of digitally mediated fashion, such as fashion magazines, photographers, and blogs. Similar to Belk (2013) and Rocamora's (2016) mediatization, referring to the transformative powers of media, Crewe uses instances of 'dematerialisation'. She uses the example of the digitisation of a CD collection to illustrate her points, drawing from their own experiences which reflect the evolving landscape of the times. Despite their different terminologies, commonalities toward DF emerges in their arguments. They contend that emergent digital technologies are 'remediating' and 'refashioning' (Crewe) or 'rematerialising' (Belk) the fashion industry. This evolution devolves authority from traditional brands to individual creators through Crewe's concept of 'disintermediation' and transforms the way fashion is consumed.

Furthermore, Crewe (2013: 760) argued the Internet is already 'generating new ways of being in space where the absence of physical presence becomes second nature'. In the same year, Belk (2013: 478) argued that the key 'the relationship between online and offline personas becomes key to defining the self in a digital age'. When we consider DF and identity, we must explore relationality between hybrid realities, where time and space are not fixed but omnipresent and ever-evolving. Due to the recent advancement and democratisation of technology, including volumetric scanning, open-source game engines, and artificial intelligence (AI), it is now becoming possible to blend our physical and digital lives as we continue to digitally transform not only society but our physicality. What felt typical of science fiction novels and movies, a new entity of 'being digital' presents exciting opportunities for reinvention, autonomy and unbound expression within fashion. This will

affect the way we dress but also the way we represent ourselves digitally (Baek et al., 2022; Institute of DF, 2023), which will be explored through the next sections traversing across DF, identity and sustainability (Figure 3.1).

This literature review seeks to identify gaps and areas to investigate within this research, contributing to better understanding the evolving concept of fashion within the digital era. Grey literature up until October 2023 will be used to present the current state of DF through emerging technologies, with mention of artificial intelligence (AI), augmented reality (AR), virtual reality (VR) experiences, digital avatars and digital humans, the metaverse and social media. Whereby 'DF geography' is not a widely recognised or established subfield of research, examining these three related themes (DF, identity, and sustainability) across these spatial aspects will help to examine DF influences on fashion's consumer culture and sustainable practices, presenting new perspectives, requirements, and considerations for responsible innovation. One may argue that we do not need a new 'digital' fashion geography, yet due to the synthetic nature of the digital, humans are becoming active creators of digital geographies beyond planetary boundaries. Therefore, the concept of 'fashion' exists across spatial dimensions, online and offline, and requires increased understanding and retheorisation. Due to DF's nascent and evolving nature, this literature review captures the current phenomenon within a moment in time, extended from Crewe, Belk and Rocamora's perspectives, and may require further research in this field as DF undoubtedly evolves.

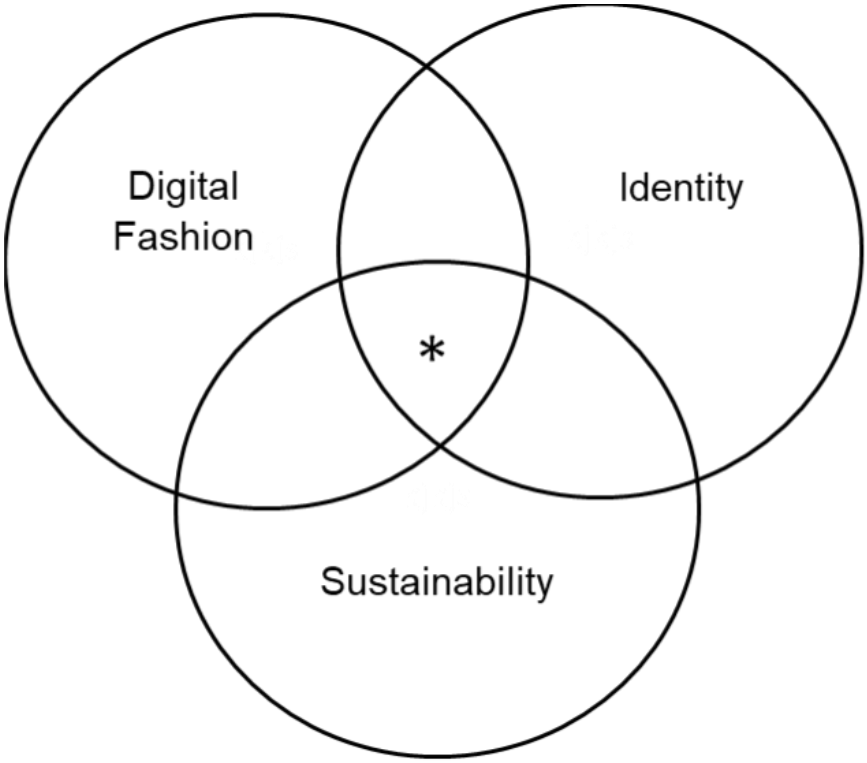


Figure 3.1: Digital Fashion Geography – The study of the digital transformation of fashion within digital worlds, specifically DF and digital human creation, and how it may influence aspects of consumer culture, identity, and sustainable development (Author's own)

3.2 DIGITAL FASHION

3.2.1 Defining Digital Fashion

DF is classified as a new form of fashion and is becoming increasingly significant to address economic, environmental, social, and even philosophical aspects. In 2013, Crewe (761) predicted that the absence of fashion's physical presence would become second nature and that 'the virtual, material, embodied, and performative dimensions of the fashion sector would become more significant than its empirical size or weight as digital technologies enable new possibilities for producers and consumers to see, explore, perform, and practise fashion'. For Rocamora (2014), everything is digitised and mediatised within the world of fashion, from the production of fashion shows and garments, the retailing of clothes, and the fashioning of the self. Beyond fashion as a product, designers are, in fact, designing with social media in mind, rather than how they feel when worn (Kawamura, 2020). Blasquez (2024) suggests that DF as a tool could be a substitute for physical fashion samples, reducing material waste, overproduction, and transportation of items. Its

reasoning also lies in the fact that we are faced with a generation of consumers who require constant newness for their digital personas (ibid.). However, despite the growing popularity of DF, it has received little academic attention (Baek et al., 2022; Chan et al., 2023). Whether DF is classified as a tool or a performative and embodied practice, the definitions of DF need to be clarified, which is the purpose of this section.

3.2.1.1 The Business Case

There is much conversation about DF within publications from Vogue Business to Business of Fashion, and it has become a popular topic within contemporary culture. Interest within the fashion industry has particularly grown throughout the pandemic due to the need for fashion brands to showcase their collections digitally (Chan, 2020; Joy et al., 2022) and in response to the fashion industry's negative environmental impact and social pressure to only be seen in an outfit once on social media (EAC, 2019). However, DF is not a new concept, and it is important to note that DF has existed prior to fashion's recent attention. In video games, gamers refer to DF as 'virtual skins', and there is much research on the role of virtual skins for gamers, their gameplay, and how it contributes to the interdisciplinary study of DF.

Within a fashion context, ID magazine describes DF as garments you cannot physically wear but can be e-fitted and worn exclusively in photos or videos online via social media (Hall, 2018). This can be achieved through superimposed photographs or worn by your avatar within virtual worlds through 2D and 3D platforms. Amber Jae Slooten of DF house, The Fabricant, describes DF as 'anything that has to do with fashion beyond the physical realm – fashion you can wear with your digital identity' (The Fabricant, 2019). DF companies such as RTKFT, The Fabricant, Auroborus, DRESSX, and Tribute Brand are selling DF that can be used and commercially traded within digital realities, including social media and virtual commerce, such as the metaverse, and currently own the narrative of what DF is and can be.

The first piece of digital couture, ‘Iridescence’ (Figure 3.2), was produced by The Fabricant in collaboration with Dapper Labs and artist Johanna Jaskowska. Bought by an investor for his wife, Mary, during Blockchain Week in NYC in May 2019 for $9,500; she will never get to wear this piece in real life. Yet, after digital tailors use a mixture of 2D garment patternmaking, 3D designs and rendering software, she will own a one-of-a-kind piece that requires imagination from the wearer but also seeks ‘connection in technology’, as argued by Slooten (The Fabricant, 2019). Whilst Mary (2019) does not speak of a connection, she does mention the requirement of imagination:

'I had to imagine what it would look like to wear the dress. There was a huge element of surprise that you wouldn't get with physical garments.'



Figure 3.2: Owner, Mary, wearing *Iridescence* (The Fabricant, 2019)

Despite growing adoption of DF within fashion, it is only until recently have studies emerged focusing on the DF economy within the supply chain and the creation of new business models (Casciani et al., 2022), its influence on sustainability (Periyasamy and Periyasami, 2023; Davis et al., 2023; Göncü-Berk and Rosa-Shahaj, 2023), and from a marketing and communication perspective (Noris et al., 2020; Rodriguez and Garcia-Baell, 2022). As shown in Figure 3.3, Sayem (2022) presents four major themes of DF innovation that cross design and prototyping, new digital businesses and marketing channels, digitally infused clothing, and digital humans and worlds such as the metaverse. Sayem's perspective provides a variety of opportunities for industry to adopt DF and associated technologies across these areas.

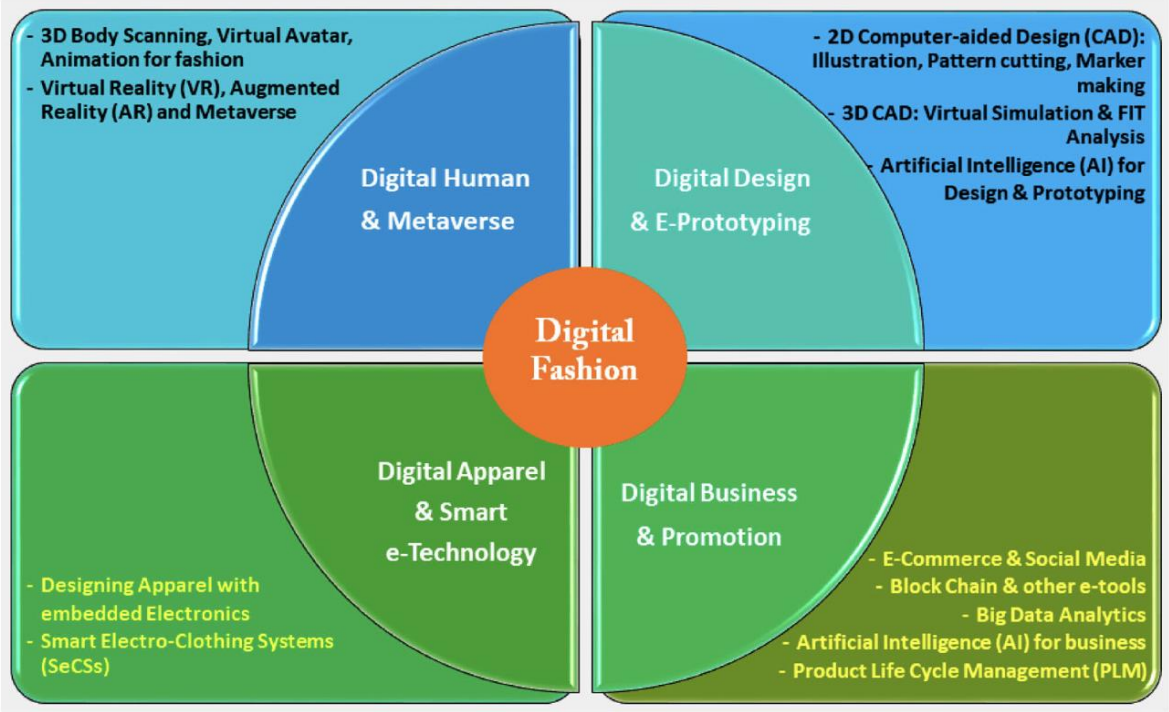


Figure 3.3: Major themes in DF innovation (Sayem, 2022)

As an example of the 'Digital Business and Promotion' segment, leading DF platform DRESSX allows you to create your meta-closet with a huge supply of DF products. Items can be found on a traditional-style e-commerce site, accessed through Web 2.0, which are then superimposed on your image and are worn for social media. DRESSX has collaborated with creators and brands, such as Adidas, Tommy Hilfiger and Coca-Cola, to produce digital twins of existing items or purely digital-only items. Prices range from $5 to $1500 and, in some respects, compete with physical item prices dependent on brand, design and technical quality. Aesthetically, items vary, with some replicating physical items as 'digital twins', whilst others push the boundaries of what is physically possible, such as levitating accessories or a dress made of balloons (Figure 3.4).

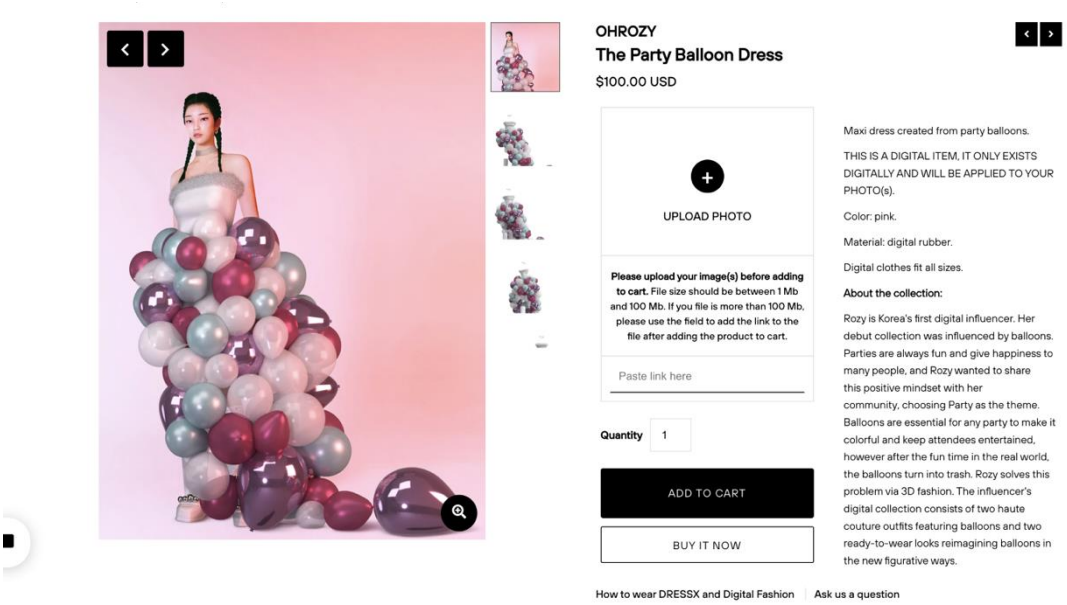


Figure 3.4: *The Party Balloon Dress* from DF Designer, OHROZY, available for $100 on DRESSX (dressx.com, 2024)

From a business model perspective, DF could be considered a tool which is dependent on several factors, including production, distribution and consumer use. DF can be purely a digital asset, purchased much like a traditional item from an e-commerce platform (such as DRESSX) or used for VTO; it could also be bought and traded as NFTs (non-fungible tokens); it could be used on social media or in the metaverse. DF in the form of utility-driven NFTs 'provides consumers with privileges and rewards, making them more than just unique digital collectibles' (Zhang, 2022; cited by Yilmaz et al., 2023), as well as creating a sense of community and loyalty (French, 2022; cited by ibid). However, before delving further into the meaning of DF for consumers, we must first establish an objective definition of DF, which will be explored within the next section.

3.2.1.2 The Academic Definition

Chan et al. (2023) suggest that the definition of DF varies between industry and academic literature due to the rapid advancement of 3D virtual technology. In its basic form, Blazquez (2022: 163) summarises DF as new term that it used to 'describe garments and accessories which are computer-generated and therefore are only virtual.' Some academics refer to DF as 'virtual fashion', such as Davis et al. (2023) and Göncü-Berk and Rosa-Shahaj (2023). Beyond terminology, academics explore various qualities which make up the concept and purpose of DF, which adds to the complexity of defining it. Through three systematic literature reviews (SLR) published within the period of this research, from 2020 to 2024, an understanding of the multidimensionality of DF thus far will be explored.

Noris et al. (2020: 34) provide one of the earliest SLRs of DF, defining DF from a marketing and communication perspective. Whilst not offering a definition per se, an analysis of 419 papers established a layered taxonomy of DF, which acts as the first step towards classifying 'the DF domain, laying the foundations for the possible development of an ontological framework of the field'. Three main categories were presented, including communication and marketing (C&M), design and production (D&P), and culture and society (C&S). Within the range of data collection (from 1998 to 2019), the majority analysed were conference papers, with only 85 being academic journals, showing the nascent nature of this field within an academic space. Furthermore, the analysis was taken from 'DF-related' studies which, therefore, present a more generalised view on DF across several areas, including digital transformation, marketing, product development and corporate social responsibility.

Within this review, Noris et al. (2020: 38) highlight a vast stream of research within marketing and communication (C&M) strategies for industry to better adopt and utilise such technologies due to their 'potential in building relationships with consumers through communication and influence strategies'. For example, concepts such as Rocamora's mediatization are introduced to analyse the relation between digital media and fashion (2017). This industry focus is useful but with a heavy focus on how brands communicate, how brands engage and how brands can adopt DF, resulting in the consumer being passive rather than an active stakeholder engaging with DF. The section on C&S is relatively small and Noris et al. (2020: 41) note that the subcategory *C&M: Societal Implications* is still under-researched and needs further investigation: 'This subcategory is expected to expand due to the increasing interaction of fashion with digital media to shape society, individuals' identity and human behaviours.'

Whilst there are few papers regarding the societal implications of DF from a communication and marketing perspective, Noris et al. do try to identify the importance that the DF environment can have on an individual level. They refer to Neri's research examples (2019), which argue that through interaction with communication technologies, fashion can play a key role in understanding and shaping society and individuals' identity and behaviours. This systematic review also highlights important key terms and questions regarding the impact of new forms of fashion on ethics, as discussed by Neri (2019), and trust, as explored by Riesgo (2019), particularly in relation to sustainability.

In their 2022 systematic review, Baek et al. highlight a notable surge in cultural awareness of DF post-Q1 2021, suggesting that DF has carved out a robust presence within modern society. This development is critical, as it underscores an urgent need for scholarly engagement with this burgeoning domain. The rising prominence of DF not only catalyses a shift in fashion consumption but also aligns with the sustainability and digital identity

themes identified as research gaps.

Baek et al. (2022) offer a definition of DF based on a systematic review of 116 articles, searching for the hashtag #digitalfashion on the social media platform Twitter. They cite journalist Zwieglinska (2021) and discuss the evolution of DF from something the industry referred to as e-commerce business to wearable technology products to something much more complex as DF enters the metaverse and begins to experiment with NFTs, gaming, AI, and AR. Through an inductive approach to generalise key DF terms, Baek et al. (2022: 1) highlight six key themes that relate to DF, including design, consumer, virtual, body, printing, and supply. Subsequently, they define DF as: 'The virtual creation, production, and representation of one's identity via computer-generated design'. What is interesting about this definition is that the researchers have firmly established the connection between DF and identity, a significant step after Noris et al.'s previous belief. Within contemporary culture, DF has not only become an important marketing tool to foster interest in the brand's merchandise (Noris et al., 2020; Periyasamy and Periyasami, 2023), but it also offers a new form of immaterial fashion and expression to be considered by consumers.

Chan et al. (2023) note that Baek et al.'s definition is more specific than earlier attempts at defining DF, therefore contributing to the knowledge in the field. However, they argue that both Baek et al.'s and Noris et al.'s systematic literature reviews are aligned closely with industry, defining DF as a tool and not as an end product. Blazquez (2024: 309) classifies DF as an end product to include 'digital skin for gamified environments, digital skin for virtual influencers, superimposed images, AR filters, NFTs and digital twins'. Adopting the 6Ws (Callahan, 2014; Xie et al., 2017) and TCCM (Theory, Context, Characteristics and Methods) frameworks (Paul & Rosado-Serrano, 2019), Chan et al. methodically refined their SLR to 30 matches which focus on DF as an end product. Interestingly, Chan et al. (2023) decide not to include papers on DF within other industries, such as gaming avatar skins. Their rationale was based upon Jung and Pawlowski's (2014) argument that the purchase intentions of virtual goods are associated with activities and values in specific virtual environments. For instance, the value of virtual goods within video games could enhance and contribute to gameplay, which differs from the DF as an end product for the fashion consumer. However, one could argue that due to limited research within a fashion context, much can be learnt from existing theory that intersects video game and consumer culture, particularly with fashion and gaming becoming increasingly intertwined, the rise of fashion-focused metaverses and the importance of digital identity creation within Gen Z.

Chan et al.'s (2023) SLR reveals current literature has not kept up with the advancing concept of DF, and they highlight eight gaps in knowledge related to DF, identity and sustainability, which have been identified and organised in Appendix 5 along with suggestions for future research focus. Instead, earlier literature, from 2018, remains

focused on management and marketing (McQuillan, 2020; Papahristou & Bilalis, 2017; Park & DeLong, 2009; Hwang Shin & Lee, 2020) and heavily focuses on DF as a tool for VTO (Baytar & Ashdown, 2015; Beck & Crié, 2018; Cho & Schwarz, 2012; Kim & Forsythe, 2008; Merle et al., 2012; Noris et al., 2020; Pantano et al., 2017; Plotkina & Saurel, 2019). Gaps highlighted cover topics of consumer perception and acceptance of DF, impact on sustainable practices and the requirement of qualitative research methods. Notably, further research is needed in the areas of consumer acceptance of DF as end products, particularly referring to the impact of varying levels of body satisfaction, consumer perceptions towards DF as an end product (highlighting that research must be specific to the type of DF end product), and sustainability and consumer behaviour. Chan et al. (2023: 170) also highlight that most research is quantitative, requiring further qualitative research that explores DF as an end product from the perspective of consumers, industry and designers: 'To the authors' knowledge, no research explores DF solely as a virtual end-product, except Särmäkari's (2021) study that describes it as both a tool and a digital end-product.'

Chan et al. conclude by defining the multidimensionality of DF as the overlap of 3D virtual technologies and fashion, which consists of DF as a tool and an end product, categorising six types of DF end products that require different types of interfaces, such as Avatar or Human: Digital skins for gamified environments (avatar body), digital skins for virtual influencers (VIs) (avatar body), superimposed image-based (human photographed body), AR filter-based (human photographed body), fashion NFTs (avatar/human photographed body) and digital twins (avatar). The framework below (Figure 3.5) is proposed as a tool for future researchers to understand where their research sits within the diverse range of DF as an end product.

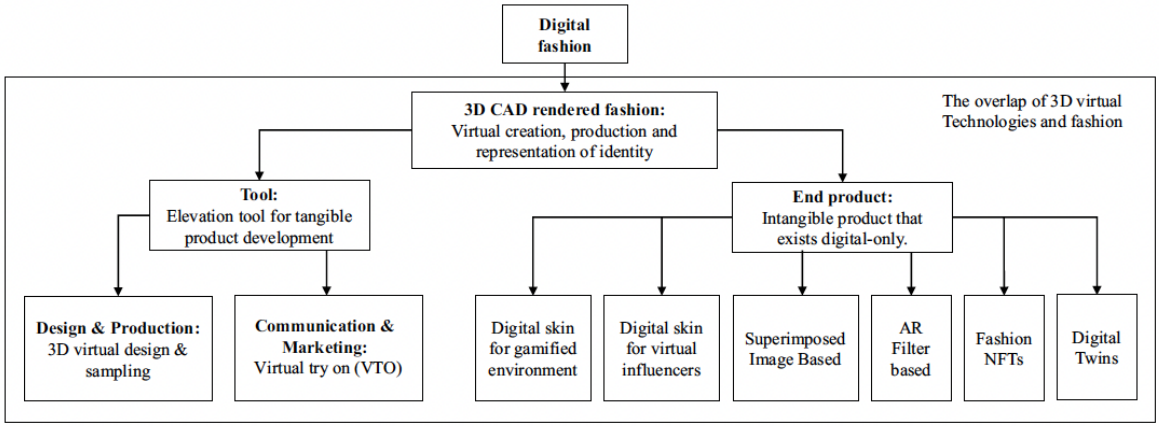


Figure 3.5: Definition of digital fashion in the 3D virtual technologies field (Chan et al., 2023: 165)

3.2.2 Dematerialised: Pleasure, Perspective and Possession

Belk (1988: 141) argues that ‘knowingly or unknowingly, intentionally or unintentionally, we regard our possessions as parts of ourselves’. However, given that DF cannot be physically worn, it prompts us to consider these new forms of clothing through the lens of ‘fashion’, understanding their personal and symbolic significance as well as their utilitarian and hedonistic qualities. As Jackson (2005: 7) states, ‘consumption is also implicated in processes of identity formation, social distinction, and identification, meaning creation and hedonic "dreaming”.’

Hirschman and Holbrook characterised hedonic consumption as consisting of ‘those facets of consumer behaviour that relate to the multisensory, fantasy and emotive aspects of one's experience with products’ ([1982] in Alba and Williams, 2012: 3). Hedonic consumption emphasises consumer motivations driven by the desire for experiences and enjoyment, going beyond physiological needs such as food, shelter, and clothing as described by Maslow's 'Hierarchy of Needs' (1943). Academics state that it is important for researchers to understand whether the consumer is pursuing utilitarian or hedonic objectives, as they both contain different value to consumers (Alba and Williams, 2012; Batra and Ahtola, 1991; Pham, 1998). Blazquez (2014) noted that physical fashion is highly hedonic, requiring the need to be touched and physically worn, yet, whilst DF is understood as a tool (Chan et al., 2023), understanding of its hedonic qualities is not fully explored. To understand a contemporary consumer, the drivers and motivations for consumption must be challenged through a posthuman perspective, whereby the ‘wearer’ of consumed goods is blended across physical and digital realities. Does the consumer experience pleasure in the same way if items are not physical?

Gamers provide us with a deeper understanding of Gen Z consumers within online spaces and their attachment to virtual goods. A gaming insights company, Newzoo (2022), conducted a study that focused on the future of gaming within Gen Alpha and Gen Z. It included a representative sample of the online population, including 75,930 respondents across 36 markets captured between February 2022 and April 2022. The study found that 91% of surveyed Gen Z gamer-consumers have spent money on in-game purchases in that year, with 25% spent on playable avatars and 26% spent on dressing them. This report is supported by academic research, such as MacCallum-Stewart and Parsler (2008), who argue players find virtual skins in role-playing contexts useful for establishing a character’s identity, and Belk (2013), who proposes digital possessions play a role in the contemporary extended self. Adolescents, particularly, often turn to online gaming platforms and social networking sites as an outlet to express themselves and explore their identity (Steinfield et al., 2008). Self-expression is the new social currency for gamers and has the valuable advantage of capturing Gen Z consumers at a critical stage in their development.

For example, as of June 2024, YouTube Gamer and vlogger Lilsimsie has over 2 million subscribers and is comparable to Fashion Vlogger Zoella and her popular Primark hauls. Lilsimsie specialises in creating "CC Shopping Hauls" featuring free custom content (CC) for online games. Her videos display her acquisition of over three hundred new clothing items for characters in The Sims, all of which exist solely within the virtual realm. Despite these items not being physically owned, Lilsimsie's enthusiasm during these virtual shopping experiences underscores a novel form of consumer engagement. This convergence of fashion and gaming exemplifies hedonic consumption in the contemporary digital era. Quoting anthropologist Miller (1995), Jackson reminds us that consumption represents the 'vanguard of history' (2005), and Lilsimsie's form of consumption arguably represents societal transformations and new forms of self-expression.

However, Belk notes that attachment to virtual possessions is not quite the same as our attachment to physical possessions and presents two lines of opposing academic thought arguing that, on one hand, 'digital goods are very real to their owners and that on the Internet it is material goods that are not real.' (2013: 479). On the other hand, Denegri-Knott and Molesworth's (2010) research argues that virtual consumption differs from material consumption, as the object lacks material substance and occupies a liminal category between the material and virtual worlds.

Furthermore, time is also a major theme that emerges from literature that switches the focus away from monetary value. Lehdonvirta (2009) posits that part of virtual goods attachment is simply due to the amount of work involved in acquiring them through long hours spent in-world. The fact that most goods must be obtained through virtual labour leads to a "time aristocracy" rather than a "money aristocracy'", suggesting a social hierarchy where individuals are privileged based on the amount of time they can dedicate to virtual labour, as opposed to a 'money aristocracy,' where privilege and status are determined by wealth and financial resources (Belk, 2013).

Beyond gaming, should we consider fashion consumers differently, given that their motivation for purchasing DF may not be related to gameplay? Or, as LilSimsie shows, are motivations for DF less about gameplay but a symbolic and hedonic experience for both gamers and fashion-centric users? As Baek et al. (2022: 9) argue, 'As fashion is innately connected with identity, DF will be a key driver in how consumers shape virtual identities.' Wang et al. (2008: 110) propose that 'digital association constitutes a new form of symbolic possession that does not rely upon actual ownership'. Furthermore, Smitheram (2015: 242) also argues that the dematerialisation of fashion requires a reimagining of the fashion item other than a consumable object, but something metaphorical, philosophical: 'opening up a fluid enquiry in which matter unbound can become transformed, ephemeral, dematerialised'.

On the other hand, there is disparity about the value of DF for consumers between industry experts. Sustainability and conscious fashion consultant Makulova regards DF as 'balanced fashion', which can be 'emotionally almost as satisfying as physical garments'. (Medium, 2019). Conversely, fashion futurist Karinna Grant stated in Vogue Business that it is difficult for consumers to achieve an emotional connection with digital garments unless they are posted on social media for validation and likes: 'You still get an endorphin hit,' says Grant, 'But your CO_2 emissions will be smaller' (McDowell, 2019). One would argue that, within 2019, this is a belief rather than reality due to the lack of supporting data. Despite the opposing views, the use of words such as 'satisfying', 'endorphin' and 'validation' suggests that DF could offer some emotional value to the consumer, as well as contributing to sustainability as a byproduct. If we use the 'Iridescence' digital couture dress as an example (Figure 3.2), it required further imagination and visual presentation to bring the garment to life for Mary. Whilst the use is limited for Mary at present, she also, like Grant, sees the potential for digital clothing to provide cheaper, sustainable alternatives to physical items.

In conclusion, dematerialised fashion (virtual skins and DF) could offer the same vehicle self-expression and hedonic experience. It is also clear that consumption cannot be separated from identity. Applying theories and nomenclature already established throughout video game research to a fashion context is valuable due to the blurred boundaries between fashion and gaming, such as the understanding of gamers' attitudes towards virtual items as monetary assets. A deeper exploration into identity within virtual worlds, to apprehend the relationship between gamers and avatars, will also be explored within subsequent sections. However, it is also important not to presume users of DF are akin across gaming and fashion-centric contexts. Whilst sectors may merge, users of DF are disparate, and understandings should not be generalised. Within Alba and Williams' (2013: 4) review of research on hedonic consumption, they argue: 'We can speculate that pleasure is evolutionarily developed, genetically coded, and chemically implemented, but this insight does little to advance the cause of traditional consumer psychology.' Within a fashion context, the dematerialisation of fashion is disrupting the traditional way we understand consumer needs and motivations. Yet, it is still unclear what the main motivations are for fashion-centric consumers to adopt DF and which form of DF resonates most, offering the greatest utility and value.

3.2.3 Metaverses for Digital Fashion

> ***'So, Hiro's not actually here at all. He's in a computer-generated universe that his computer is drawing onto his goggles and pumping into his earphones. In***

***the lingo, this imaginary place is known as the metaverse. Hiro spends a lot of time in the metaverse**.'*

- *Snow Crash*, Neal Stephenson (1992)

Within an article for McKinsey, Richards (2008) predicted that 'Virtual worlds…will become an indispensable business tool and vital to the strategy of any company intent on reaching out to the video-game generation' (in Solomon and Wood, 2009: 8). The advent of virtual environments, particularly the metaverse, signifies an important shift in our societal dynamics, according to Pellegrino et al. (2023). For fashion, the metaverse is a strategy that forms part of the industry's wider digital transformation and is expected to have a significant impact on marketing, omnichannel retailing and consumer experience (Alexander and Blazquez Cano, 2020; Blazquez, 2024) and has become a notable environment for DF to exist. The awareness and adoption of the metaverse in fashion were driven by necessity created by the pandemic around 2020, due to the fact the items could not be created or shown physically. Periyasamy and Periyasami (2023) argue that the metaverse is expected to be utilised in fashion e-commerce and retailing to enhance consumer decision-making processes.

The term 'metaverse' was first introduced by Neal Stephenson, a science-fiction writer renowned for his novel *Snow Crash*, in 1992. Stephenson envisioned a virtual reality world whereby people explore via their digital avatars, often as a way of escaping a dystopian reality. Almost three decades later, Mark Zuckerberg rebranded Facebook to Meta in October 2021. One could argue that Zuckerberg, on the surface, is driving the narrative on the concept of the metaverse and what it could be. He argues, just like Stephenson, that the metaverse is 'the successor of the mobile internet' and his vision is to create a world whereby your digital and physical lives are blended: 'Where we'll be able to feel present – like we're right there with people no matter how far apart we actually are' (Milmo, 2021).

Strategist and metaverse expert Matthew Ball (2022) defines the metaverse as:

> *'A massively scaled and interoperable network of real-time rendered 3D virtual worlds that 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.'*
>
> *(in Heath, 2022: 98)*

What is interesting about this definition is the importance of an interoperable network, which, as it stands, is a wicked problem or a broad problem domain, as argued by Payette et al. (1999). Interoperability is defined by Gasser (2015: 1) in the context of the digital ecosystem, as 'the ability to transfer and render useful data and other information across systems, applications, or components.' Without the issues of interoperability being addressed and standardised across the industry, the vision of the metaverse will remain fragmented, resulting in a metaverse race between Meta and other competitors that have the capabilities and resources to dominate this new digital space. As a result of this, Ball (in Heath, 2022) highlights concerns that could be seen as ethical challenges, such as the ownership of digital assets within virtual worlds.

Joy et al. (2022) argue that the definition of the 'metaverse' is still unclear. Yet, whilst definitions lack commonality, perhaps due to the lack of interoperability, they (2022: 341) contend the current meaning of the metaverse is clear:

> *'A place where predominantly young consumers develop online lives, with avatars who can move, speak, and be customised to look in whatever way their creators wish. They can own property, wear clothes, and engage in animated actions.'*

Joy et al.'s meaning embraces the concepts and connections of fashion, identity, and consumerism within digital spaces, positioning the metaverse as a principal environment for DF to flourish. Metaverses present intriguing opportunities for fashion brands and consumers, as they are not primarily designed for gaming. From a marketing standpoint, Pellegrino et al. (2023) and Blazquez (2024) argue that virtual environments offer a unique chance for fashion companies to engage their target audience in more immersive, social and realistic settings. Rodriguez and Garcia-Badell (2022) also argue that DF within the metaverse is an opportunity for designers and users to explore new creative frontiers. Games such as Roblox no longer require users to engage in gameplay and instead allow users to design outfits, interact with the community, and even attend music concerts. For example, Travis Scott's virtual performance within Fortnite saw twelve million players logging in to watch (Tidy, 2020). Metaverse worlds, such as Decentraland and Spatial.io, could very well be the new playground for fashion consumerism, a branch of 'virtual consumerism' defined by Rathore in 2017. These platforms have become gateways for gamers to express themselves and display their latest skins, akin to a fashion runway. Consequently, the metaverse is arguably a more suitable context for fashion consumers who are seeking new ways to engage an online generation of consumers.

However, as we experienced with the dot-com boom, the industry must avoid succumbing to FOMO (fear of missing out) when adopting metaverse strategies. As argued by Hwang and Stewart (2006), the dot-com bubble burst because the boom was based on the false

premise that new technology would eliminate the need for brick-and-mortar stores. Despite increased online activity within contemporary culture, accelerated by the pandemic, we cannot expect the metaverse to be an exception. Also, despite the metaverse hype, there is a notable sense of wariness within industry sentiment towards the adoption of the metaverse and DF. The Business of Fashion (2022), for example, suggests there needs to be a 'reality check' when it comes to cementing sustainable revenue streams beyond their marketing value. Subsequently, within the writing of this research, the excitement around metaverses has somewhat quietened.

Furthermore, as expressed within Periyasamy and Periyasami's (2023) and Pellegrino et al.'s (2023) conclusions, most reviewed papers are focused on the business case of the metaverse and less focused on the environmental and social sustainability implications from a consumer perspective, hence highlighting a gap in literature. Whilst the metaverse is poised to exert much opportunity for the fashion business, there are many ethical and sustainable implications, as well as technical considerations that industry and government must consider. Highlighted by Rathore (2017), Heath (2022), Hackl (2022) and Pellegrino et al. (2023), these include energy usage by the metaverse, inclusivity and the digital divide, mental health, and personal data security and ownership. Pellegrino et al. suggest that future research should explore the Metaverse's potential to promote sustainable consumption and examine the legal implications of virtual goods and experiences replacing physical products.

Research by Blazquez (in Henninger et al., 2022; Blazquez, 2024) defines the concept of digital sustainability and argues that metaverses are a digital channel or touchpoint journey which has potential for effective sustainability communication. Digital sustainability will be further discussed within section 3.4.2 as a relatively new term that bridges our understanding of sustainability with technology. Blazquez (2024) argues the potential for sustainability communication through metaverse dimensions (immersiveness, sociability and environmental fidelity), metaverse technologies and metaverse spaces but highlights the need for further research, advanced technology and a deeper understanding of consumer response to sustainability messages within these virtual contexts. An interesting observation by Blazquez (2024: 312) notes that 'because the metaverse allows users to create their digital self, these avatars could be associated with a more sustainable identity through the use of digital/sustainable garments'. However, further research is needed to understand the relationship between digital self creation within metaverse spaces and the relationship between sustainable identity and sustainable practices.

3.3 IDENTITY

3.3.1 Identity, Fashion and Consumption

'I shop, therefore I am.'

- Barbara Kruger (1990)

In today's world, the concept of 'identity' is complicated and provides social, political and academic debate; 'In political theory, questions of "identity" mark numerous arguments on gender, sexuality, nationality, ethnicity, and culture in relation to liberalism and its alternatives' (Young 1990; Connolly 1991; Kymlicka 1995; Miller 1995; Taylor 1989; in Fearon, 1999: 1). Fearon (ibid) summarises identity in these terms:

> *'(a) A social category, defined by membership rules and (alleged) characteristic attributes or expected behaviours, or (b) socially distinguishing features that a person takes a special pride in or views as unchangeable but socially consequential (or (a) and (b) at once).' (ibid; abstract)*

In 1987, philosopher René Girard and neuropsychiatrist Jean-Michael Oughourlian argue identity is less about the qualities of the self but is formed in relation to others driven by the idea of mimetic desire, an abstract concept that encapsulates how we desire what others desire because we imitate others. Otto von Busch (2020: 81) refers to the 'abstract concept of "identity" not as a mere semiotic expression but an inner as well as socially embodied reality, torn between self and peer rivals'. Identity, therefore, is socially constructed by external drivers, which contribute to an internal battle with one's sense of self.

These opposing forces driving and iteratively constructing identity are made visible through our consumer behaviour. In 1990, conceptual artist Barbara Kruger critiqued consumer culture in her provocative work, 'I shop, therefore I am'. Written upon a paper bag, this quote, is a play on French philosopher Descartes's quote: 'I think, therefore I am.' Much like Belk (1988; 2013), Kruger's work suggests that one's existence is defined by what an individual owns rather than what he/she/they think.

Fashion, in particular, plays a key role in the construction and communication of social identities (Appleford, 2020) and serves as a visible form of consumption[4]. Theorists have agreed that fashion and the way we dress are fundamental to our self-expression, individualism and

[4] 'The UK fashion and textile industry directly supported a £62 billion contribution to UK GDP' (UKFT, 2023)

enhancement of self-concept (Mair, 2018; Lynch and Strauss, 2007; Rocamora, 2002). Entwistle (2015) suggests that dress should be studied as a 'situated bodily practice', combining both dress and body within her social analysis. The intersection of the body and how one dresses is, as Entwistle (2015) argues, an important determinant for fashion, as it translates everyday dress into the embodiment of fashion, showing how it can shape our perceptions. Within fashion, the scrutiny of the 'body', particularly for women, has never been so visible and valuable to consumerism, demanding body confidence (Gill and Orgad, 2021) and, in some cases, such as modelling, using the body as commodification (Wissinger, 2009).

Classical theorists have argued that consumer behaviour is driven by class emulation and social validation (Veblen, 1899; Simmel, 1957). Whilst there is relevance to these arguments within contemporary consumption, there are notable and nuanced comparisons that can be made and have been used and developed by more recent academics (Campbell, 1993; Schor, 1999; Jackson, 2015; Crane, 2020; Appleford, 2020; Von Bush, 2020), which will be discussed within this chapter. What distinguishes contemporary theorists from those of the 19th and early 20th centuries is the influence of industrial and technological advancements, environmental imperatives and evolving societal structures, all of which significantly reshape the conventional associations between fashion goods and identity.

Social analyst Thorstein Veblen was one of the first classical theorists to explore the class relevance of fashion within a societal context. In 1899, Veblen coined the term 'Conspicuous Consumption' in the *Theory of the Leisure Class*, which describes the visible motivation for consuming for the sake of consuming, with fashion becoming visible evidence of social status and wealth (Solomon and Rabolt, 2004; Appleford, 2020). As discussed by Appleford (2020:46), 'Wearing fashionable items and buying consumer goods was a way of gaining status and upward social mobility, and as a result, 'nearly everyone was prepared to spend a large part of [their income] "keeping up with the Joneses" (Perkins, 1968: 96–97).'

Georg Simmel (1957) builds upon the idea of fashion as class emulation. However, he refers to a psychological dualism driven by a desire for social mobility and class distinction (Appleford, 2020). Simmel (ibid: 541) argues that the 'elite initiates fashion' while the 'mass imitates it in an effort to obliterate the external distinctions of class.' There is an effort or desire made by classes to equal or surpass one another, which can be achieved through the emulation of fashion. Simmel is also suggesting here that, ultimately, humans compete to differentiate themselves from one another yet succeed only in becoming more alike (Frisby and Featherstone [eds], 1997), which has later influenced Girard's mimetic theory.

However, Campbell (1993) suggests that classical theorists rely too heavily on classical theory to understand individual consumption. Considering mass industrialisation, globalisation, and the democratisation of fashion production and consumption, the distinction between classes has narrowed (Appleford, 2020). Appleford argues that today's production and consumption of fashion is far too complex to denote and simplify to social emulation and class distinction. She, like Campbell, questions the relevance of class distinctions, stating that fashion takes note from a 'multiplicity of sources' (Crane, 2000: 135), including cultural practices, social experiences and political events, which have been amplified by the existence of the internet: 'The fashion industry has changed and developed, resulting in a much more pluralistic, polycentric, democratised fashion system in the new digital age' (2020: 44).

However, while Appleford (2020: 43) argued classical theorists are too simplified for today's reality, she notes that Veblen and Simmel's ideas of imitation and emulation still have relevance today and are evident within fashion press, news articles, make-over shows, celebrity commentaries, and academic literature. Von Busch (2020: 81) encapsulates these theories, that still apply today, by referring to us as *inter-dividuals* rather than individuals: 'we exist as relational beings, caught in a net of imitations, comparisons and rivalries.' In the context of fashion, he, like Simmel, argues that dressing the individual is impossible when caught in a web of mimetic desire, contributing to an interpersonal struggle between individuality and imitation.

Building upon Veblen's ideas, as well as those of Duesenberry (1949), Hirsh (1976) and Frank (1999), Schor (1999) presents the concept of 'Competitive Consumption', which refers to the idea that spending is driven by a comparative or competitive process in which individuals try to keep up with the norms of the social group with which they identify. Schor refers to this as a "reference group" and argues that today's comparisons are less likely to take place among households of similar means within homogenised neighbourhoods, such as those found in Veblen and Simmel's time, as social emulation has become much more widespread due to the exposure to economically diverse groups of people; these could exist in both physical and digital settings. Schor's view could also be applied to the concept of hedonic consumption (Hirschman and Holbrook, 1982), which, motivated by experiences and enjoyment, consumers are seeking and emulating luxury and lifestyles.

Not unlike Veblen, Hammond et al. (2019: 541) define conspicuous consumption as 'the social comparison process which imprisons individuals in a constant and excessive cycle of conspicuous consumption, pursued in efforts to raise their position in society relative to others, seeking to rise to the level of higher-standard groups.' However, exploring the synergies and contradictions between conspicuous consumption and sustainability, Hammond et al. (2019) present the 'positional treadmill' concept, which encapsulates the

connection between the increased demand for newer modes. Where purchase decisions were based on quality of goods and an emblem of class within Veblen's time (Appleford, 2020), the quantity of goods and social media status are now key indicators of those higher-standard groups within contemporary society. The manufacturing model of fast fashion, which took root within the bedrock of consumer culture in the 1990s, has shifted social expectations and relevance of class. From a psychological perspective, the lowering of price provides individuals constant gratification through addictive and compulsive consumer behaviour, meaning value has been displaced from quality to quantity (Solomon and Rabolt, 2004). This democratisation of fashion means the masses can also challenge the elite regarding visual material possessions. Subsequently, the rise in fast fashion has harnessed the psychological elements of fashion and adopted it for modern capitalist profits. This model is dictated by speed, price, and a lowering of values of disposable, 'wear-it-once' garments (Rocamora, 2014; Press, 2017; Mair, 2018; Siegle, 2018) and is also having a significant impact on our environmental resources (Fletcher, 2014). Consequently, this has resulted in our current problematic situation, where we struggle to remove consumers from the positional treadmill of convenient, cheap and satisfying fast fashion purchases.

In the face of an ecological crisis, Jackon (2005) also debates the existing body of intellectual work on identity and consumerism. However, Jackson does highlight that past literature not only shows us what material commodities can do but also what they signify to us. Whilst humans seek the concept of individuality, ultimately, they form part of a mass consumer culture seeking growth, gratification, and validation. It could be argued that theorists dating back to the 1900s proclaimed the power of fashion, almost as a forewarning of its potential to be used as an economic and social weapon, which still resonates today. Subsequently, the rise of fast fashion in the 1990s has harnessed the psychological elements of fashion and adopted them for modern capitalist profits.

It is important to note that established theories in fashion and identity discussed within this section are predominantly situated within a time when materiality is king, predating evolutionary advancements in technology and generational culture. If Entwistle (2015) argues the importance of the body and embodiment of fashion, what happens when fashion evolves beyond physical materialism and cannot be worn on the body in a physical sense? Within the metaverse, fashion can no longer be material, and therefore, as Crewe (2013: 777) suggests, we must rework our understandings of embodiment through 'the collapse of distinction between body, commodity and technology'. Within digital and virtual worlds, the notion of materiality and identity is redefined with the potential to revolutionise consumerism. In Jackson's ideological vision of 'post-growth', a life without capitalism whereby relationships and meaning take precedence over profits and power, he suggests

our identities could rely less on what we own, but by consuming less, we may 'become more human in the process' (2005: 33). Within a postgrowth, postmodern, posthuman society, a dematerialised form of fashion, such as DF, may help us to construct identity beyond physical realms.

3.3.2 Digital Natives

> ***'I don't want to be flesh... I'm going to escape this thing and become digital... Where I'm going there's no life or death, there's only data. I will be data.'***
>
> - **Bethany, Years and Years (BBC, 2019)**

Negroponte (2015: 6) argues that 'computing is not about computers anymore. It is about living.' This concept of 'digitality' presented by Negroponte is supported by consumer behaviour and marketing expert Solomon, who argued some fifteen years ago that society, like it or not, is morphing into a digital platform (2009). In 2023, generations are born into technological worlds, and therefore, we will never know or understand a time without technology.

According to Prensky (2001), 'digital natives', which include Generation Z (Gen Z) and subsequent Generation Alpha, are native speakers of the digital language of computers, video games and the internet. McKenna and Vodanovich (2016) argue that digital natives are pivotal in the progress and maturity of fashion's digital transformation. Democratised fashion and democratic communication, established through accessible prices and social networks, allow much of the global population to openly speak through digital platforms and engage with fashion in new forms (Neri, 2019). The identity of Generation Z, those born between 1996 and 2010, is, as Katz et al. (2021) and McKinsey & Co. (2023) argue, shaped by the digital age, climate anxiety, shifting economic landscapes and COVID-19. Such unique generations experiencing difficult and unprecedented times have become pivotal for the industry to understand, with an array of grey literature, industry reports and academic research on a global scale trying to understand the complexities of Gen Z consumer culture.

Research shows that Gen Z can be paradoxical, complex, fluid in their identities and conflicted in their consumption behaviours, especially when it comes to sustainability. For example, The Cone Study (2019) identified that Gen Z are increasingly concerned for the planet, with 94% believing that action is needed. Periyasamy and Periyasami (2023) also contend that for digital natives, prioritisation of sustainability comes hand in hand with a digital-first approach. However, studies by Calver et al. (2022) and Djafarova and Foots (2022), as well as VMLY&R's marketing report: *The Gen Z Paradox: Conscience vs*

Commerce (2021), show us that there is an attitude-behaviour gap between Gen Z's intentions versus their consumer behaviours (Loi and Hassan, 2016). Using Ajzen's theory of planned behaviour (1985), Djafarova and Foots (2022: 413) argue that whilst showing a strong awareness and desire towards ethical and environmental issues, 'the frugality of their generation limits them to purchase truly ethically in their current life stage.'

Whilst their consumer behaviour can be contradictory, it is apparent that Gen Z are collectively an online generation. According to a report by McKinsey & Co. (2020), before COVID-19, one third of Gen Z surveyed stayed connected by spending six or more hours a day on their phones, and 36% said they 'carefully curate' their online presence, meaning the money and time spent online is gaining as much importance as their physical presence offline. *The Era of Monomas* (2020) report stated 21% of Gen Z participants prefer their life online to IRL (in-real-life). It is also stated that Gen Z are the most representative of potential DF consumers, according to a report by virtual gaming platform Roblox in 2023 (Vogue Business, 2023). This is also supported by Cushing, who reported with their study in 2012 that older consumers between 58 and 67 years old were less likely than younger consumers to see digital possessions as part of their extended selves (Belk, 2013).

The 2019 BBC series *'Years and Years'* captured Gen Z's desires to leave the physical world as we know it, due to societal pressures, and digitally transform into data by becoming a category of feminist transhumanism (Figure 3.6). For a new generation of consumers who see the online world as essential to their day-to-day lives, Joy et al. (2022) argue that the distinction between "real" versus "virtual" may be considerably blurrier than older generations might have once anticipated, spurred by a worldwide increase in isolation brought about by a global pandemic.



Figure 3.6: I'm transhuman. I'm going to become digital—Years *and Years* (BBC, 2019)

Buckingham (2008: 4) explores the debate surrounding digital natives, or 'digital kids' as he refers to them: 'While some see "digital kids" as our best hopes for the future, others worry that new media are part of a generational rift and a dangerous turn away from existing standards of knowledge.' From a media and communication perspective, Neri (2019) questions whether new forms of access to fashion will favour generations or whether fashion communication, without the mediation of professionals, will result in a rise to radical individualism and a form of narcissism (2019). Given the nature of Web3 and hopes of a decentralised metaverse, Neri suggests the need for a new ethics paradigm.

Yet Buckingham (2008: 13) counter-argues, 'Far from corrupting the young, technology is seen to be creating a generation that is more open, more democratic, more creative, and more innovative than their parent's generation.' Yee (2014) states that many researchers have emphasised the hopeful promises of freedom and empowerment in virtual worlds, which seems fitting to a generation born into an online world. Fashion has long served as a primary avenue for self-expression, creativity, and innovation across generations. Therefore, it seems natural for fashion to integrate with new technologies to align with the preferences and habits of digital natives. As Turkle (2005: 132) noted in her book, *The Second Self: Computers and the Human Spirit,* adolescents use certain types of materials to construct their sense of identity, using fashion as an example as well as the internet and computers: 'They integrate their computer experience into their developing identities in ways that have nothing to do with becoming computer experts.' Even in 2005, Turkle (2005: 15) states that the internet has become familiar, and 'what was once exotic begins to seem

'natural." Our technological society has come a long way since then, and digital natives do not know a world without technology. Today, we are on the brink of Industry 4.0, the emergence of Web3 technologies, which makes the internet within Turkle's time of writing look rapidly antiquated. Despite technological advancements, Turkle's (2005: 3) argument holds true, and we must view technology not merely as a tool that serves us but also consider its impact on us as individuals. Therefore, as argued by Hammond et al. (2019), we must approach a digital future with a postmodernist mindset when preparing new realities for the next generation to understand the impact on the environment and society.

3.3.3 Virtual Social Identity

> ***'Though both are bound in the spiral dance, I would rather be a cyborg than a goddess.'***
>
> \- **Donna J. Haraway (1985)**

Within a digital age, dressing your digital identity has emerged, created through a fusion of fashion and technology, particularly 3DVD technologies. Like the concept of DF, the concept of identity within a fashion context has also transformed. DF, digital avatars and digital humans empower us to explore identity untied to our physical bodies across multiple digital environments and, as Peachey and Child (2011) argue, present an opportunity for reinvention. However, it can also lead to multiphrenic (Kozinets and Kedzior, 2009), fragmentation and chosen schizophrenia (El Kamel, 2008).

The concept of identity has often been tied to our physicality and behaviours. Yet, what does our sense of self grasp on to if our human form is no longer physical? This has often been explored in posthumanism posthuman metaphor of the cyborg in her famous 1985 essay, *A Cyborg Manifesto,* rejects the boundaries of human and machine and blurs the lines of physicality, specifically referring to gender.

Pepperell (1995: 4) argues that we can no longer think about what it is to be human in the same way given that we are entering a 'post-human' era where the 'convergence of organisms and technology... becomes indistinguishable'. Ten years later, Turkle (2005: 263) encourages us 'to think of ourselves as fluid, emergent, decentralised, multiplicities, flexible and ever in progress'.

Today, DF company, Institute of DF (IoDF), is the posthuman vanguard within the fashion-tech space. Their work exploring fashion and identity exploration within digital form seeks to empower a democratic, sustainable and inclusive future. Within a 2021 industry white paper, Elliot-Young (2021: 6), co-founder of the Institute of Digital Fashion, stated:

'As we step into the metaverse, with the blur between online and offline feeling even more abstract, IoDF are considering where the digital sphere is taking us. Part of their mission is to push forward new wave of virtual and physical representation that is beyond the traditions that we know.'

Part of their mission was visualised through the first-ever non-binary avatar of co-founder Catty Tay in 2022 (Figure 3.7). Drawing upon Goffman's (1971) theoretical framework of self-presentation and Butler's (1999) gender performance, Kondakciu et al. (2021: 80) argue that there is a 'pervading discourse of authenticity within the Millennial social media users to craft and perform a perceived "authentic self" online', which, like Haraway, is often navigated and negotiated through gender fluidity.



Figure 3.7: Institute of DF Non-Binary Avatar (McDowell, 2021)

There has been extensive research on the aspects of identity presentation within virtual worlds through avatars, as well as exploring the connection between offline and online presence. From an anthropologist's perspective, Nardi (in Yee, 2014: 4) wrote that online games, as examples of virtual worlds, allow 'a release of creativity and a sense of empowerment in conditions of autonomy, sociality and positive reward.' The sense of empowerment is an occurring theme shared by many theorists. Turkle (2005) and Crewe (2013) support Holt's (2002: 87) notion that embodying oneself within digital worlds can

offer users empowerment and increased autonomy through disintermediated geographies, becoming ‘authors of their own lives’. This relates to Rinaldi’s (2019) suggestion that consumers of digital items should be referred to as ‘users’ rather than ‘consumers’ or ‘wearers’ of the garment. Some users may not be consuming digital items but using these new vehicles for freedom to experiment. Others have referred to the term ‘prosumers’ (Toffler, 1980) or ‘prosumption’, whereby technological factors have increased consumer agency across production and consumption processes (Ritz and Jurgenson, 2010). Ironically, as pointed out by Kelly (2004), the code created to allow this empowerment and creation of virtual identities is owned by the game company, and therefore, one must consider empowerment with limitations.

Within a gamer’s world, avatars become the creations of the players and a personal extension of their second self. The term ‘avatar’ was derived from the Sanskrit *avatârah* meaning “the crossing down” and traditionally refers to the incarnation of a deity within the physical world. Combining both virtual worlds and avatar form is ‘thus a literacy form of crossing from the real into the digital’, as Peachey and Childs (2011: 1) put forth as the backbone of their theoretical perspectives on immersive experiences.

MacCallum-Stewart and Parsler (2008: 230) argue that ‘avatar appearance is one of the only ways that a player can lastingly affect their environment and is an obvious representation of self in the game.’ Kozinets and Kedzior (2009: 22), alongside Belk, refer to the adoption of an avatar as ‘re-embodiment’ of the consumer, whereby one of the key characteristics of a virtual world is the requirement of the consumer to choose a new bodily form to represent him or herself: ‘[F]reedom of transformation opens up an internal mirror through which we can gaze and interpret with self-realisation.’

The concept of re-embodiment understands the need to conceptualise the self and our relationship to possessions, considering digital technologies and capabilities for digitisation. Belk (2013: 481) argues that due to the visual environment of the internet, ‘we are disembodied and reembodied as avatars, photos, and videos.’ In 2013, Belk reviewed his original concept of the extended self from 1988, offering five changes emerging from our current digital age, which are presented in Figure 3.8: (1) Dematerialisation, (2) Re-embodiment, (3) Sharing, (4) Co-construction of Self and (5) Distributed Memory.

SUMMARY OF DIGITAL MODIFICATIONS OF THE EXTENDED SELF

Digital dimension	Self	Possessions
Dematerialization		Attachment to and singularization of virtual possessions; almost, but not quite the same
Reembodiment	Avatars affect offline self; multiplicity of selves	Attachment to avatars
Sharing	Self revelation; loss of control	Aggregate possessions; sense of shared place online
Co-construction of self	Affirmation of self; building aggregate extended self; "Attachment to Virtual Possessions in Videogames"	
Distributed memory	Narratives of self	Digital clutter; digital cues to sense of past

Figure 3.8: Summary of Digital Modifications of the Extended Self (Belk, 2013: 478)

Whilst Belk (1988: 141) concludes that the concept of the extended self remains the same as 'given the difficulties in separating mind and body in philosophies and psychologies of the self... objects in all of these categories will be treated as... parts of the extended self', it calls for certain reformulations due to the inclusion of the avatar. He summarises the digital modifications of the extended self via a simplified summary showing the impact of these changes and our relationship between self and immaterial possessions.

What virtual worlds allow, specifically due to the lack of interoperability across metaverses, is the number of selves one can create. Kozinets and Kedzior (2009: 7) present the concept of expressing oneself in multiple ways as 'multiphrenic nature': 'a tangible sense of self through the multiple personalities explored by postmodern writers, from Gergen (1991) to Firat and Venkatesh (1995).' Literature informs us that this fragmentation may lead to a divided self, or 'multiplicity', as termed by Belk (2013), from Hillis' (1999) argument that this is a Western perspective and desire to escape the body to El Kamel's (2008) view of chosen 'schizophrenia' for a purely hedonistic purpose.

These insights highlight an important debate to consider, as, whilst there is an opportunity for freedom of expression, there is also an opportunity to hide behind the mask of one's avatar or escape one's reality. Many theorists, including Bartle (2004), Kozinets and Kedzior (2009), Yee (2014), Solomon and Wood (2009), and Bryant and Akerman (2008), agree online gaming avatars are vehicles of safe space for identity exploration, yet without the serious risk of repercussions. Belk refers to the avatar as an expression of the 'alter ego' or having a 'soul-like inner state' as defined by Schwartz (1999), which supports and preserves the main ego. This form of escapism, while a restorative and inclusive concept, can also be a problem if one is to achieve full immersion within virtual environments. MacCallum-Stewart and Parsler (2008) argue that immersion can involve a loss of self by the player, who then "becomes" their character. Whereas Bartle (2004: 161) argues: 'Virtual worlds let you find out who you are by letting you be who you want to be.'

Yee (2014: 5) advises that ‘we need to be vigilant about whether these new environments are fulfilling their promises of freedom and reinvention, and if they’re not, we need to find a way to change them’. Also, Buckingham et al. (2012) claim there is much concern that we already heavily invest too much time and energy into our online persona. In prospect of the fragmentation, we must consider the origin of identity with precautionary measures and create an anchor for multiple extensional identities within virtual worlds.

Hillis (1999: 106) provides a useful diagram to show the aspects of identity in virtual space and the holistic connection between the physical and virtual. This is linked by the ‘coaxial cable’, which acts as a flexible sight line connecting the grounded subject to its embodied reality (see Figure 3.9): ‘Identity begins to exist and situate within a schizophrenic dialectic operating, as it were, unto itself, ironic and incoherent as this might first appear.’

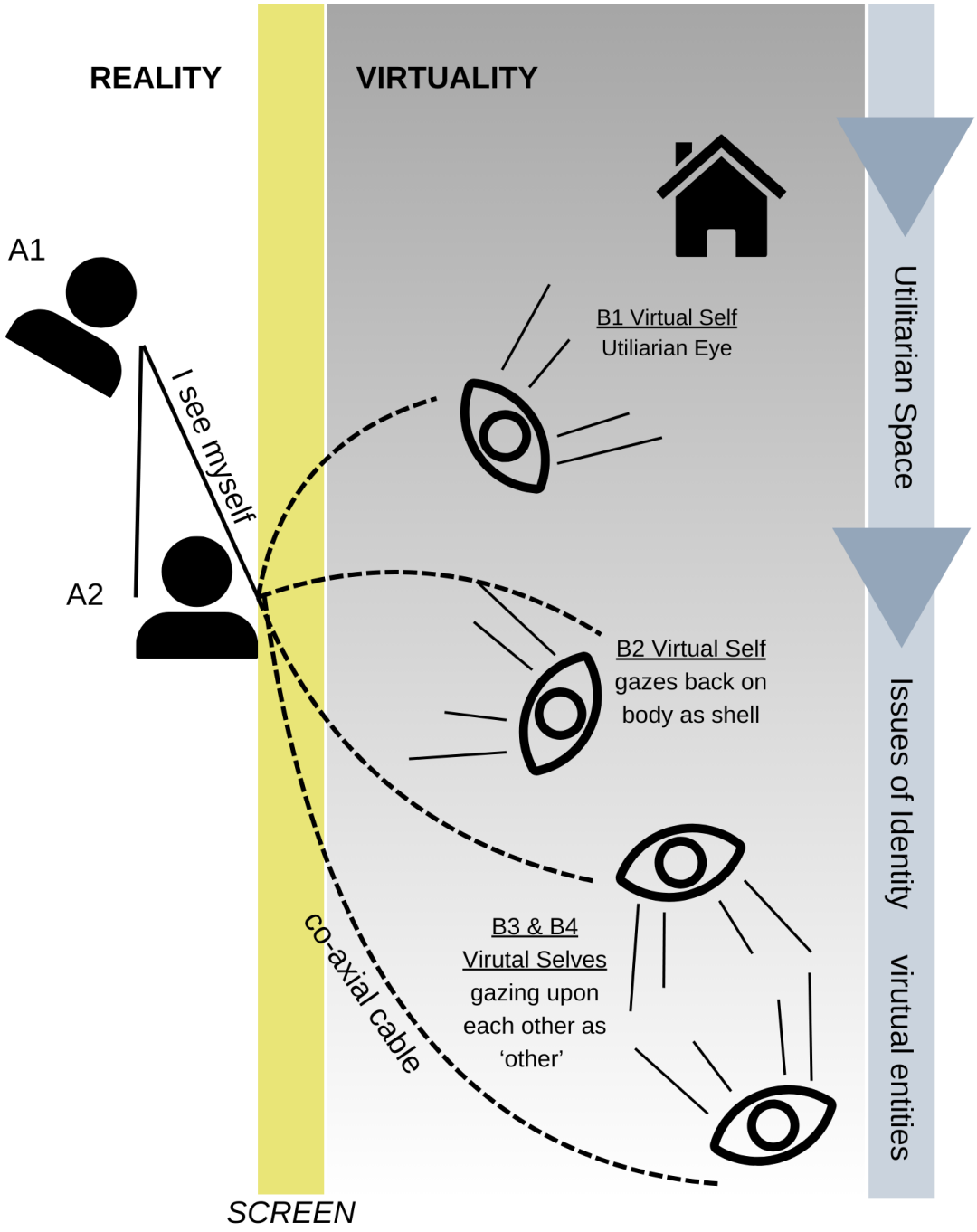


Figure 3.9: Aspects of identity within virtual space. Adapted from an illustration by Liz McKenzie. *Digital Sensations* (Hillis, 1999: 107)

Within this diagram, the subject's eye remains connected but detached from the body. extending metaphorically along a 'coaxial cable' that allows full freedom of movement, like an out-of-body experience. This creates a connection between the grounded, embodied self and the virtual realm. Virtual perspectives suggest that different images or avatars of the self can interact as separate entities while the embodied self observes, creating a scenario

of "I see myself seeing myself." This leads to a fragmented identity, questioning where it is truly located. This complex relationship between the self and its virtual extensions underscores the schizophrenic nature of identity in virtual reality. Game Designer Blow refers to this as 'proxied embodiment', whereby identity extends to some kind of proxy, inhabiting it and making it part of one's own body: "My guy" becomes "Me" (Swink, 2009: 28). With this view, the player's actions and the avatar's actions are unified, with the potential to exert reciprocal influences.

El Kamel (2009) also regards the avatar as a manifestation of self-concept and, similarly to Hillis, tries to understand the relationship between self-concept and a fantasised avatar given that there are no limits of exploration for the user regarding gender, race, appearance, or fashion choices. In this way, the user can create and 'be' whoever they wish through their avatar form(s). He proposes the construction and perception of an avatar originate with the 'resident' or 'player' based on four characteristics (self-concept, perception, personality and motivation), as shown below in Figure 3.10.

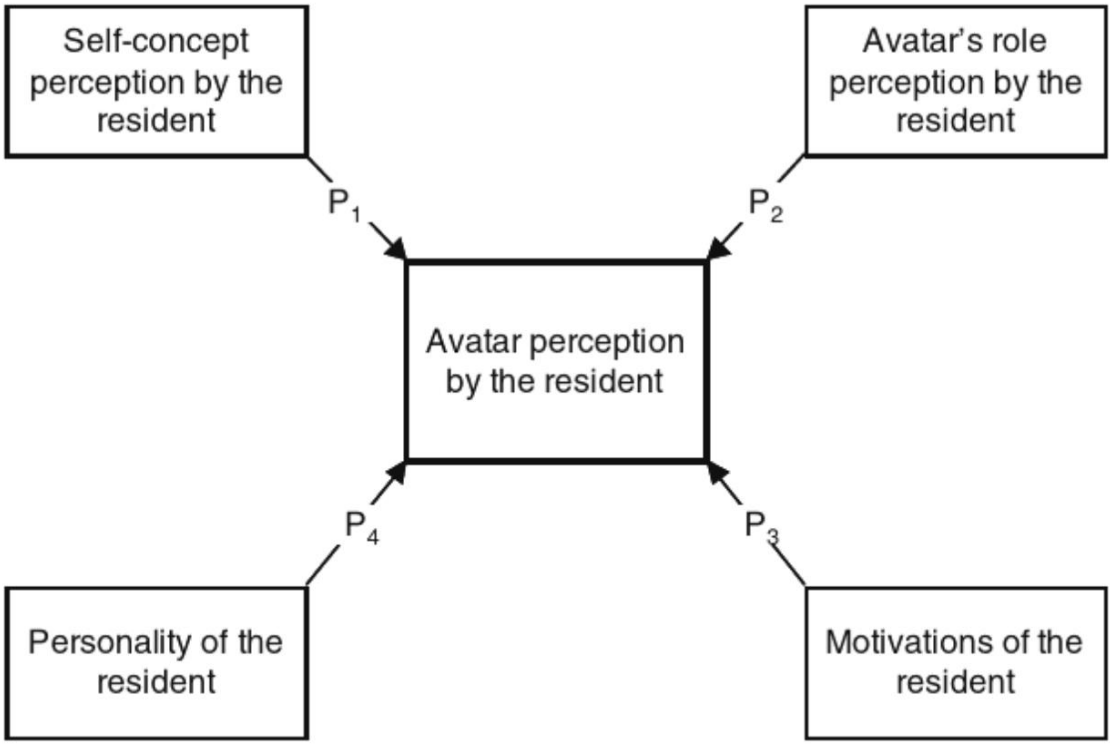


Figure 3.10: Dynamics of the Animation of Synthetic Identity in Metaverses: *Virtual Social Identity and Consumer Behaviour* (El Kamel, 2019: 31)

Both Hillis and El Kamel ultimately propose that the exploration of self through digital forms, however multiphrenic, ultimately allows us to gain a better understanding of those individuals entering the metaverse, or what El Kamel refers to as a 'resident'. In many ways, we could see this representation of self as dreamlike, imaginary and role-playing, but ultimately inherently residing within the resident. Belk (2013: 490) supports this within his revisitation and conclusions of the extended self within a digital world: 'In terms of the original formulation of the extended self (Belk 1988), we see that, with the proliferation of multiple online personas, the core self idea crumbles but the illusion of a core self remains a strong and viable concept.'

Much of the theory on virtual social identity is focused on those who are more familiar with online gaming and virtual worlds, such as Second Life. Strong themes emerge, such as re-embodiment, empowerment, fragmentation, immersion and escapism. Despite existing literature discussed strongly suggesting that the avatar is an obvious representation of self and risk of losing oneself, Žižek (1999: 107) argues that whilst we need a representation of ourselves for virtual interaction, an avatar can never fully represent us: 'The other is thus purely virtual: no longer a true, living, intersubjective other, but an inanimate screen, a stand-in.' King and Krywinska (2006) also contend that players see games through 'a picture frame' and are aware that games are unrealistic. Similarly, when exploring character identification in the role-playing game World of Warcraft, Tronstad states the fictional narrative of games contextualises the capabilities and behaviour of players (2008). Context seems to, therefore, play a key role in establishing the boundaries for gamer identification.

There is more research needed to be done focusing on fashion consumers within these environments and whether these shared spaces result in shared theory across video games and fashion identity. Mitchell (2008: 43-44) refers to identity construction as bricolage, which is suited to different forms of digital media: 'Like Bricolage, identity construction involves improvising, experimenting, and blending genres, patching together contrasting and contradictory elements, creating and modifying meanings to suit the context and its response to the requirements, affordances, and meanings of the situation.' From a fashion consumer perspective, we need to improvise and experiment, gather further information on identity construction, and instil meaning within these blended contexts. Unlimited DF could provide the perfect tool to explore identity tied or untied to our physical bodies across digital environments.

3.3.4 Blurred Lines and the Proteus Effect

'As we change our self-representations, do our self-representations change our behaviour in turn?'

- Yee and Bailenson (2007: 271)

In a digital age, fashion is mediatised and lived more online through social media (Rocamora, 2016). Gaming shows that it is just as important how you look online as it is offline, and often these lines are blurred. Within a 2023 study on the video game Roblox, 84% of the respondents stated their avatar had inspired their offline appearance and style, showing a clear connection and impact between their identity online and offline (Figure 3.11).

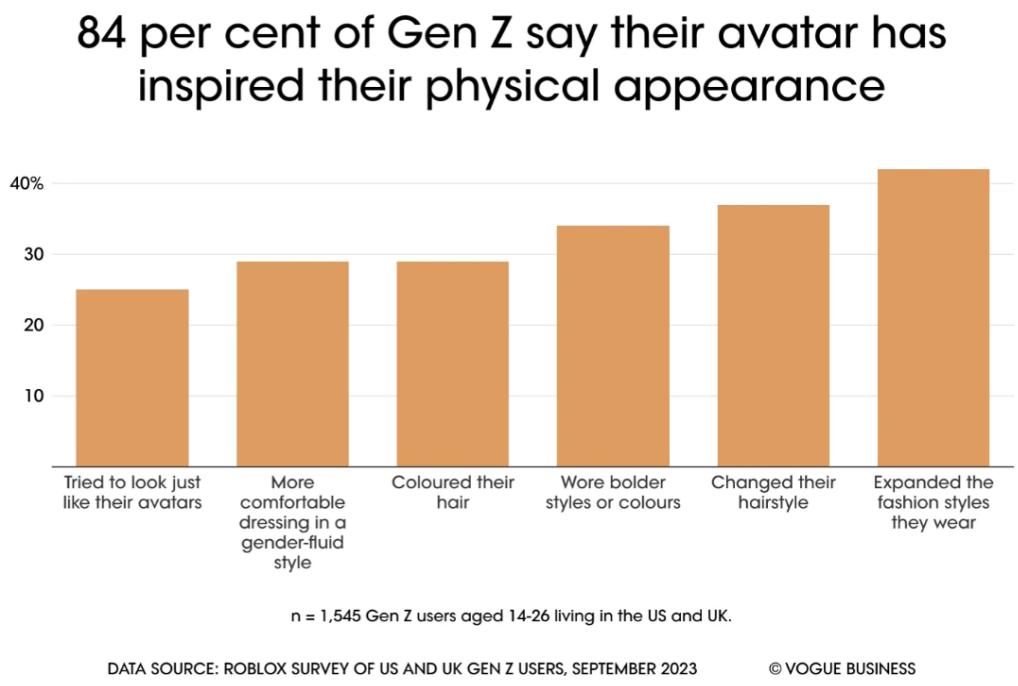


Figure 3.11: Roblox Survey Findings 2023 (Vogue Business, 2023)

Alongside Turkle (2005), Yee and Bailenson (2007: 272) argue that 'the mutability of our self-representations in online environments is a fundamental aspect of what it means to have a virtual identity.' Where extreme changes to appearances, such as cosmetic or gender reassignment surgery, are expensive, there is nowhere more flexible to transform than in virtual environments where users can choose or customise their own avatars.

The Proteus Effect (or Proteus Paradox), originally developed by Nick Yee and Jeremy Bailenson (2007: 271), explores that question: 'As we change our self-representations, do our self-representations impact our behaviour in turn?' The naming of the concept was based on the Greek god who could take on whatever form he wished. What is interesting about this research is that previously self-representation in online environments has been associated with anonymity, authenticity or deindividuation (Zimbardo, 1969; Gergen, Gergen, & Barton, 1973; Kondakciu et al., 2021), and research explores how behaviours

differ between online and offline behaviours (Anonymous, 1998; Flanagin, Tiyaamornwong, O'Connor, & Seibold, 2002; Jarvenpaa & Leidner, 1998; Postmes & Spears, 2002; in Yee and Bailenson, 2007). Yet, as Yee and Bailenson argue through the phenomenon of the Proteus Effect, even slight differences between our real-world bodies and our virtual reality bodies can have effects on our offline behaviour. This is supported by Belk (2013: 490), who concluded in his review of the extended self that, 'In the digital world, the self is now extended into avatars, broadly construed, with which we identify strongly and which can affect our offline behaviour and sense of self' (2013: 490).

Through two experimental studies whereby participants were observed interacting with attractive/non-attractive and tall/short avatars, Yee and Bailenson find that the way we create our avatars has a significant and instantaneous impact on our behaviour. Those with attractive avatars showed increased self-disclosure and a willingness to approach opposite-gendered strangers. Those with taller avatars showed an increase in confidence. Ultimately, Yee and Bailenson (2007: 287) showed that, 'as we choose our self-representations in virtual environments, our self-representations shape our behaviours in turn. These changes happen not over hours or weeks but within minutes.'

This is interesting within a fashion context due to the attention we pay to fashion as a reflection of our identity in real life. If our avatar is well-dressed or wearing a designer outfit within a digital environment, would this change the way that we behave? Yee's experimental studies were, in fact, inspired by a study in the mid-1980s on the National Football League and the National Hockey League. Psychologists Frank and Gilovich discovered that players wearing uniforms in the colour black received more penalties and that people perceived them as being more aggressive on the field. Yee (2014: 5) found that not only does clothing impact the wearer, but also the perception of the wearer by others: 'When we adapt new gadgets, those gadgets help shape how we think, behave, and interact with one another,' echoing Basar et al.'s (2015) philosophical view that every technology allows us to learn something new about ourselves (Figure 3.12). If these gadgets are DF items, it is essential to investigate whether and how their adoption will transform consumers and to determine whether Yee's hypothesis holds valid in the context of fashion.



Figure 3.12: The Age of Earthquakes (Basar et al., 2015: 68-69)

Whilst these experimental studies are focused on behaviours online, it could be argued that behaviour online has an impact on the way we behave offline also (Yee et al., 2009). Those that dress in cosplay[5], for instance, are certainly influenced by virtual worlds in real-life settings, dressing as video game characters or similarly to the way they dress their avatars. In fact, Yee (2014) argues that this can be the case and digital doppelgängers in a virtual world can change how you behave in the real world. Yee discusses Fox and Bailenson's (2009) study, in which they set students the task of watching their digital doppelgänger in a virtual world running on a treadmill or standing idly in a virtual lab room. Those that watched their digital doppelgänger run on the treadmill were more likely to increase their exercise over the next twenty-four hours, showing a change in behaviour impacted by their avatars.

Overall, the proteus effect provides a strong indication of the reciprocal relationship between offline/online and human/avatar. However, more research needs to be conducted to argue the validity of this connection within a fashion setting and whether the way we dress and

[5] Cosplay is a form of performance art where individuals dress up in costumes and accessories to portray characters from a wide range of sources.

embody our digital selves will have a similar and profound impact on our offline behaviours.

3.3.4.1 'Default' Dilemma

In 2010, academic and game designer Ian Bogost produced a satirical version of free-to-play online games to make a significant point. He argued such 'games' exploited the players with cheap psychology to squeeze their purse strings. To play Bogost's game, 'Cow Clicker', the player must click on the cow, listen to the cow moo and then wait six hours before they can click on the cow again. That is it. However, Bogost included ways for players to purchase and spend in-game currency —called 'mooney' (pun intended). Players could use their mooney to reduce the time between clickable moos or purchase cosmetic items for their cows – pink cows, emo cows, zombie cows, communist cows and ninja cows. These purchases give cow status and reflect the purchasing power as a player.

Despite being designed as an experiment in psychological exploitation in games, people started to really like the game. Cow Clicker became a parody of its own creation. However, Madigan (2016) noted that it proved Bogost's point—people are willing to use real money for virtual items for their online personas, much like fashion consumers are willing to pay for fashion items to show off their style, wealth and status.

In contemporary culture, it is becoming increasingly apparent to young players that the way their avatars dress can impact social hierarchy at school. Relating to the Proteus Effect and Bogost's experimentation, school kids are feeling pressured to spend money within video games so that they are not targeted and bullied for their default characters: 'Defaults' are noticeable within video games due to their standardised outfits, which have not been customised by virtual skins. An article on gaming publication Polygon discusses the status and social validation associated with players' fashion choices within Fortnite: '...players earn prestige with other fans based on their character's look. In the context of Fortnite, possessing a standard character, commonly referred to as a 'default', is widely regarded as highly undesirable (Hernandez, 2019). Boellstorff (2008) also explores the phenomena but refers to them as a "newbie". Motives for consumption, especially for young players, are often not to appear as a "newbie" in games like The Sims and to explore ownership of luxury goods that they are unlikely to be able to afford outside the digital realm. There are evident similarities to the fashion theories proposed by Simmel and Veblen that refer to status and imitation, even though these theories are applied within a physical context. However, it remains unclear whether fashion consumers would be affected in the same manner as gamers when fashioning their digital selves.

Kozinets and Kedzior (2009: 3) believe that re-embodiment of self will have a direct effect

on consumption and marketing ‘because of the re-embodied (rather than disembodied) nature of the virtual world experience’ This refers to what the avatar looks like as well as what the avatar wears, meaning that, ultimately, the avatar itself becomes another form of virtual skin for the player to wear within virtual environments. Using Second Life (SL) as a case study, Kalyyaki et al. (2023) argue the attachment to one’s avatar can influence consumption within virtual worlds through avatar customisation. Their study is underpinned by the attachment theory (Ainsworth & Bell, 1970) to understand the relationship between avatar and consumer behaviour within Second Life. Relating back to concepts of re-embodiment, Proteus Effect, and Belk’s digital modifications of the extended self, Kalyyaki et al. (2023: 2) argue that the avatar is a digital object in itself and that users form relationships with it as representations of themselves: ‘This relationship can foster the creation of a virtual self that users aspire to become, either reflecting their actual self or an idealised version.’ While their sample size was small, findings suggest that participants who care more about their avatars are more likely to spend more Linden (SL currency) and promote buying behaviour. The study also corroborates Yee et al.'s (2009) findings, showing that viewing avatars as extensions of oneself is significantly linked to various factors, such as purchase frequency, avatar customisation, avatar appearance, and concern for the avatar's looks.

As discussed previously, time is a significant factor in avatar creation. Players invest substantial effort, expense and time in designing their avatars, which consequently becomes an investment in their extended self (Belk, 2013; MacCallum-Stewart and Parsler, 2008; El Kamel, 2008). Studies by Yee, Kozinets and Kedzior, and Kalyyaki et al. are situated within the virtual world, and whilst they demonstrate a connection between physical and virtual identity and behaviours, their research still lies heavily on games. One could assume that the ubiquity of fashion for fashion consumers blurs the boundaries between the digital and physical even further. Social media influencers, for example, already put time into establishing their online presence and their influence, alongside fast fashion, has impacted consumer behaviour offline. Currently, the potent combination of social media and fast fashion emphasises quick turnover and trend-driven products, leading to overconsumption and devaluation of items. If we devote more time to curating our digital identities, we must consider whether this will enhance the value and significance of the items we consume, potentially leading to paths for amelioration, or whether it will intensify and accelerate the unsustainability of the fashion industry.

3.3.5 Digital Bodies as Interfaces

As Entwistle (2015) argued, the body plays a crucial role in understanding how clothing and fashion contribute to the construction of identity. However, to explore new ways of

understanding and experiencing fashion within digitally mediated geographies, physical human beings must somehow make a step beyond the physical-digital barrier. Defined by characteristics of DF as an end product, Chan et al. (2023) refer to the avatar body or the 'human photographed body' as the interface. Ultimately, DF does not need a physical body, but for the consumer to look and feel like they are 'wearing' the garment as an end product and to help achieve a sense of spatial presence (Madigan, 2016) and social presence (Mennecke et al., 2010), then adopting some form of a 'body' is encouraged. Choosing an interface forms part of the re-embodiment process for the individual alongside the process of disintermediation as the lines between the digital and physical increasingly blend and consumers become active agents in digital self creation.

Much like DF, digital bodies (or interfaces) can exist in various forms, such as avatars in VR environments, avatars in video games, or photographed 2D human bodies, and are dependent on technology, creators, users, and experiences. The form of DF is dependent on the environment (digital or real-life) as well as the interface chosen (avatar or image). Digital bodies can live purely online or blended with reality through mixed-reality (XR) and augmented reality (AR) technologies. Most digital versions of oneself can be edited and transformed, allowing expression and identity exploration without limit.

If we focus on digital bodies within the metaverse, we know that the metaverse is still forming and the issue around interoperability is one that technical experts are trying to solve to create a cohesive and connected metaverse. Interoperability affects our digitised selves. With interoperability unsolved, we cannot have one interface or representation of self that will enter the metaverse from different portals, creating what Kozinets and Kedzior refer to as a 'multiphrenic nature' (2009) and El Kamel's 'fragmentation of the divided self' (2008).

Not only does the lack of interoperability affect your digital version, but the variation in terminology can also be somewhat confusing, and each creation presents different use cases, challenges, and opportunities for the represented human. Through a comparison between current companies that focus on digital body technologies, a summary of the most relevant terms has been attempted and can be found in Appendix 4. It presents terms, definitions and traits referring to the digital body categories, including Avatar, Digital Human, Digital Twin and Human Digital Twins.

Each of the categories offers different explorations of re-embodiment for the user in which one can recreate a body, interact with others within the space, establish a sense of social presence and communicate with a 'real' person within a virtual environment (Kozinets, 2009). Mennecke et al. (2010: 1) present the 'Embodied Social Presence (ESP) Theory' that places 'the embodied virtual representation (i.e., the avatar) as the nexus of activity in social interaction within virtual worlds.' The theory explores and seeks to define the role of

the user's physical body and their perception of their virtual body through a symbolic understanding of connection, communication and interactions. Mennecke et al. (ibid., 6) suggest that 'while virtual bodies cannot replace the real-world bodies of interacting social actors, the virtual body can be used as a tool for conveying concepts, meaning, and symbolism in ways that mirror the way social actors use their physical bodies in real-world social interactions.'

As discussed within the previous sections, the avatar is understood as an obvious representation of self in the game (MacCallum-Stewart and Parsler, 2008), yet avatars are often fantastical or a representation of a human, which tends to fall into the 'uncanny valley'. This concept was popularised by Japanese roboticist Masahiro Mori in 1970, referring to emotional responses obtained by humans viewing objects that imperfectly resemble human beings. Avatars differ from digital humans in that they allow consumers the option of creating multiple online bodies for a multitude of online worlds, offering a multiperspectivality (Kozinets, 2009), which may lead to a multiphrenic nature (Ibid.; Hillis, 1999; El Kamel, 2008).

The hyper-realism of digital humans, on the other hand, is a visible reflection of the individual and aims to be indistinguishable from reality (Unreal Engine, 2024). Silva and Bonetti (2021: 1) highlight that digital humans are also distinguished from animated characters by one key characteristic: ' The illusion that they are "just living life" like the rest of us.' The process of creating digital humans may differ between technology companies, through scanning technologies and artificial intelligence, but the goal is to create digital humans that bear as much resemblance to humans as possible, capturing the unique qualities and nuances.

Further into the future, through technical innovation and human evolution, we may see the development of digital humans becoming 'Human Digital Twins', which merges the categories of digital twin and digital human. Human Digital Twins will be a reproduction of the outer aspects of a human being, such as physical and physiological characteristics, but also inner qualities such as personality, sensibilities, thoughts and skills. While technological research and capabilities are still nascent and somewhat speculative, companies such as NTT, the largest telecommunications companies in Japan, are already researching digital human computing. These extraordinary Human Digital Twins will be able to work on your behalf in virtual spaces, allow humans to converse with others who do not speak the same language, and even enable communication with the deceased. Furthermore, the Codec Avatar project by Meta's Reality Lab is researching the future of connection, creating life-like avatars of people to create 'authentic social presence' (Meta, 2019). Whilst these technologies are costly and currently within research and development stages, there is future potential for mainstream adoption. The constant evolution and

advancements of technology create diverse ways to extend our aggregated selves, and the concept of self will be challenged by new possibilities offered by our digital world.

3.3.5.1 Digital Humans in Fashion

We have seen a rise in fashion brands creating and adopting avatars as consumer-facing interfaces, with varying levels of success. Virtual influencer Lil Miquela has been used by brands including Calvin Klein, Pacsun and BMW; Marks & Spencer created their virtual influencer, Mira; and beauty brand Nars created a team of avatars called 'The Power Players'. Avatar adoption by brands may have been influenced by market research stating VIs receive higher rates of engagement than humans (see Figure 3.13). However, we must keep in mind that this report was conducted by VirtualHumans.org[6] and the influencer marketing platform, Hype Auditor, which have a positive approach to VI.

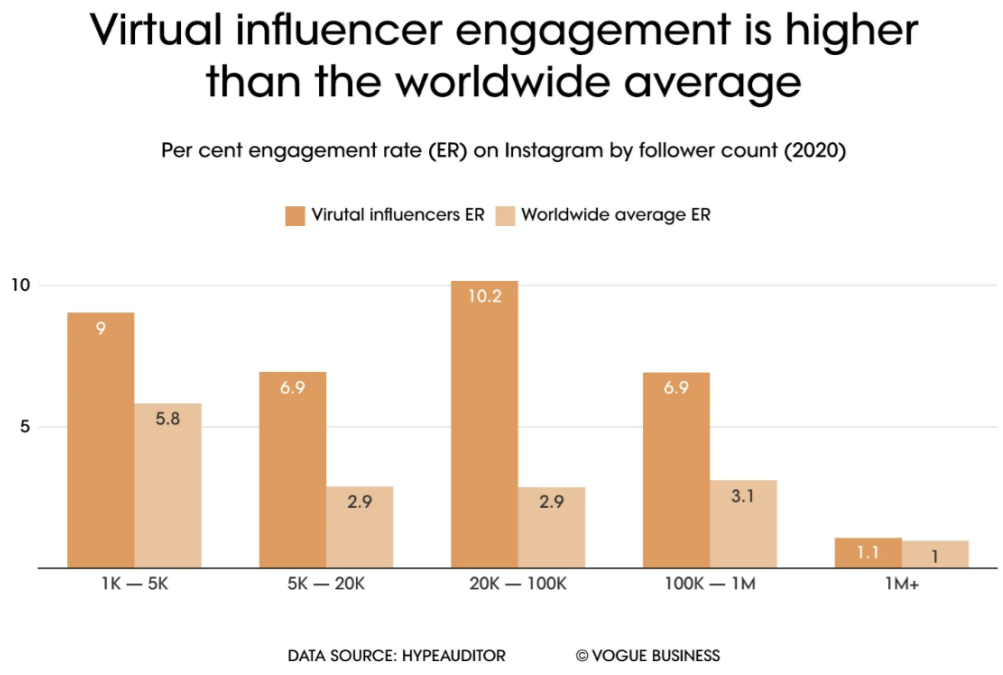


Figure 3.13: Virtual Influencer Engagement by Hype Auditor (Vogue, 2022)

Silva and Bonetti (2021), who adopt the term 'virtual humans', note that with virtual humans used within customer service applications, there is a focus on bringing the characters to life

[6] https://www.virtualhumans.org/

with high levels of visual quality. Within their study in 2021, they quantitatively analyse consumer attitudes towards avatars created by the company (such as fashion brands, marketing and technology companies). Their findings recommend brands designing avatars to be given two options for the appearance of virtual humans: (1) an identical twin and (2) not identical but with a similar body shape. If only one option can be offered, then their findings show that (2) is slightly more popular than (1) overall. However, their research focuses primarily on the creation of personal stylists, which may differ from the marketing use cases of avatars, such as Mira and Lil Miquela, who are created as aspirational characters. Avatars, or digital humans, as personal stylists are used for try-on and much more of a reflection of the consumer, which may change 'perceived usefulness' (Davis, 1989: 320). Their findings show that attitudes towards using a digital human are fully mediated by trust and perceived usefulness and, therefore, suggest brands promote trustworthiness of digital humans, which, if successful, will increase the consumers' propensity to interact with digital humans.

Silvia and Bonetti's (2021) research does not focus on consumer attitudes and perceptions of the sustainability aspects of virtual humans and digital clothing in fashion and suggests further research in this area. Their research also does not consider the creation of 3D-scanned digital humans, which, whilst there are similarities between virtual humans and avatars, digital humans are a less synthetic version of a virtual human and an obvious representation of the individual. One interface or digital body, which is also missing from Chan et al.'s list of interfaces, is a 3D digital human created by photogrammetry and volumetric capture, which captures personal identifiable information (PII).

High levels of visual quality can be achieved through 3D scanning and the digitisation of humans is already occurring within the fashion industry, with brands digitising fashion models to solve issues of productivity, cost and even sustainability. Using photogrammetry and volumetric capture, brands are scanning models to create 3D photorealistic assets that are being used for their online stores. These digital humans, or digital human models (DHM), can exist without their human counterparts in online environments, such as e-commerce platforms or metaverses. The image below from The Very Group's e-commerce store shows the comparison between the DHM (left) and real-life model (right) and exemplifies the level of realism this technology can currently produce (Figure 3.14). The purpose of digitising models is operational, helping to solve the problem of overstock. Without this solution, items of clothing may miss their window of opportunity to be sold, adding to the issue of textile waste.

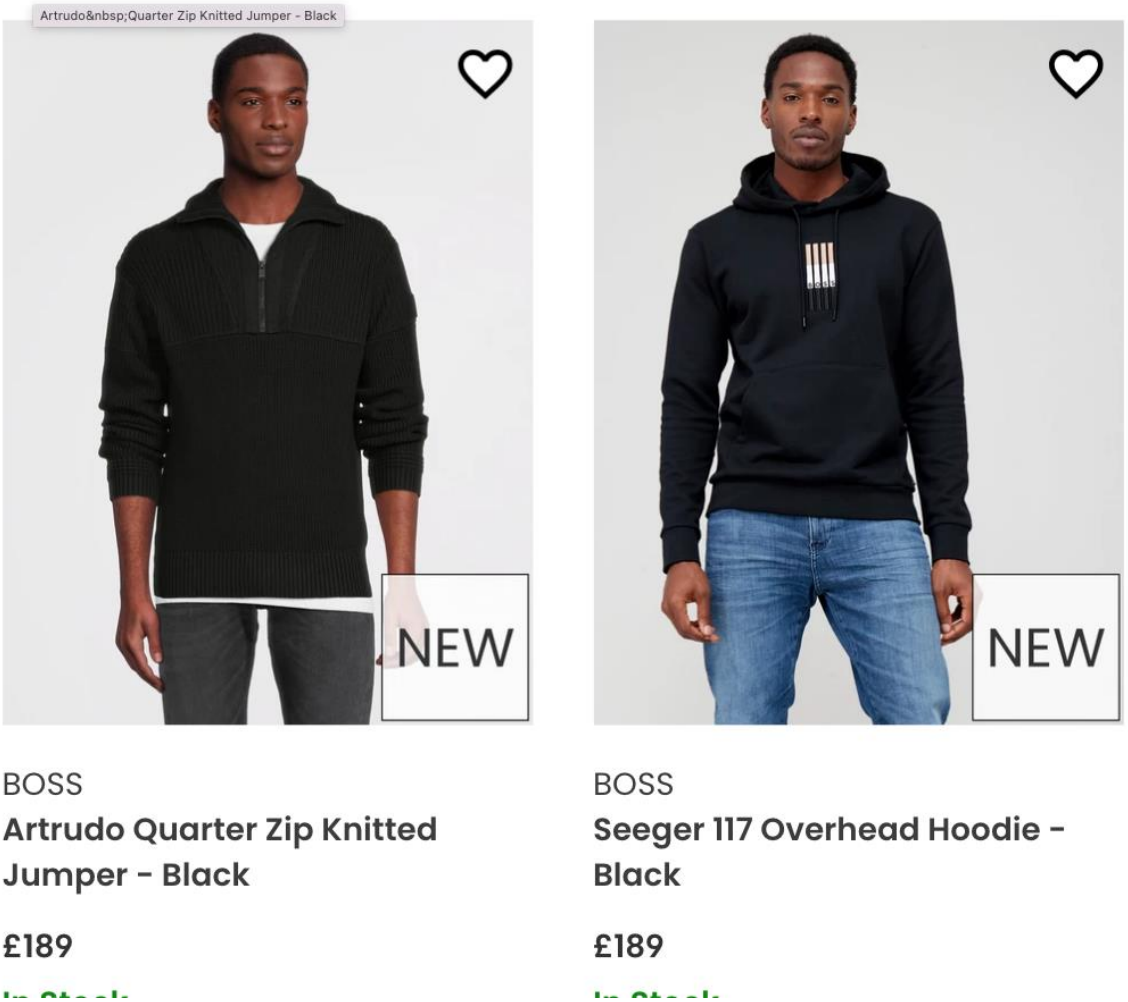


Figure 3.14: Human versus Digital Human in e-commerce. Image supplied by The Very Group (2022)

Other examples include Balenciaga, who used DHMs during the pandemic when they could not show their AW21 campaign in person for their immersive video game-style presentation, *Afterworld: Age of Tomorrow* (Figure 3.15).



Figure 3.15: Balenciaga Fall 21, Age of Tomorrow video game. (Socha, 2021)

Adopting DHMs in this way means that fashion models do not need to travel to shoots, as they can send their DHM instead, thus reducing emissions and helping toward a more sustainable fashion future. This is similar to the sustainable debate regarding DF and the reduced need for transportation (Benson, 2021). However, this is only under the condition that fashion's presence in the metaverse does not come with an increased carbon footprint due to the energy requirement for innovative technologies.

A beneficial use case for consumer adoption of digital humans is for VTO tools, which may support purchase decisions (Pantano et al., 2017) and fashion's returns issue. The British Fashion Council's (2023) *Returns Report* found that 93% of customers blamed 'incorrect sizing or fit' as the reason for their return. Personalised digital avatars can provide customised style and wardrobe advice, potentially promoting more sustainable consumption (Conti, 2020; Tilley, 2020; in Silva and Bonetti, 2021). However, Chan et al. (2023) note the challenges to consumer acceptance of VTO, particularly referring to self-image satisfaction. Whilst they suggest self-image satisfaction is one of the most discussed factors affecting the adoption and effectiveness of VTO tools, they highlight that there is a research gap that explores the relationship between body-fitting realism, consumer acceptance of DF and the impact on body image and satisfaction (Cho and Schwarz, 2012; Plotkina and Samuel, 2019; Shin and Baytar, 2014; Yim and Park, 2019; Yu and Damhorst, 2015). Particularly, Chan et al. (2024: 170) also note that 'the effect of body satisfaction on

digital-only fashion with photo-based tailoring is unexplored.'

3.4 SUSTAINABILITY

3.4.1 The Sustainable Development Goals and Digital Fashion

Sustainability has been an ever-present theme running throughout this literature review, just as it touches upon every aspect of our lives environmentally, socially, culturally and economically. However, the following section provides a critical approach to sustainability and ethics in relation to DF and the creation of the digital self. DF and the importance of curating our digital selves may be the next phenomenon as we create new forms of consumption and expression and increasingly exist within digitality. Combining the evolution from e-commerce to the metaverse, the rise of DF, the advent of digital natives and the imminent arrival of Web3, it seems inevitable that 'becoming digital' was always our next state of being. But in terms of sustainability and ethics, what will this mean for our next generations? As we evolve and transform, it is important to note that we are crossing into new unknown landscapes that are not created nor governed by the same rules as the physical world yet still have a significant impact on the environment and society. So, it is essential to understand how sustainability is applied within digital realms and how this impacts the physical.

The Sustainable Development Goals (SDGs) are useful as a framework to understand the implications of DF across environmental, social, economic and cultural sustainability. Specifically, Periyasamy and Periyasami (2023) propose that the SDGs be used as a valuable framework for the analysis and development of the metaverse for future research. The strength of adopting the SDGs as a lens is that they are endorsed by 193 nations and operationalised with indicators and targets that can measure progression and incorporate a strong social equity element. The SDGs are not only challenges but sources for inspiration and as Davis et al. (2023: 390) suggest, 'Industry 4.0 could lead to radical new business models.' DF, avatars and the metaverse are innovative, if not radical, but are they in line with the SDG's view of sustainable development? The originality of this research is also its biggest challenge, given that we are at the start of a new chapter of the internet and emergent technologies are yet to fully take root within mainstream, contemporary culture. Current phenomena and industrial evolution require us to retheorise existing research, as well as apply the SDGs within new contexts. Therefore, applying the SDGs within the digital-centric context advance the knowledge of what sustainability means within a digital world.

As we have already begun to understand through the digitisation of the body, DF not only has the potential to impact sustainability goals and measures within the fashion industry,

but it is also linked to ethics and digital well-being (Burr, 2021), particularly when given the requirement of a digital body. As Rinaldi (2019: 135–136) argues: 'Going "beyond sustainability" is a must.' As noted, Chan et al. (2023) highlight eight gaps in knowledge related to DF, identity and sustainability, particularly noting the impact of varying levels of body satisfaction, as well as consumer perceptions and motivations towards DF to drive sustainable consumer behaviour. Furthermore, the relevance of data has been highlighted, which surfaces practical questions surrounding data ownership (Ball, 2022). Therefore, connecting sustainability to ethics and well-being further advances our understanding of the digital fashion ecosystem.

Based upon the discussion within this literature, four SDGs have already surfaced as most relevant to the themes of this research as presented within tables 3.1a and b *(in order of relevance).* However, it may be that through this research, other goals become more relevant and the order of relevance shifts.

Table 3.1a: Sustainable Development Goals Research Framework

SDG	Justification	Theoretical Links
	The primary aim of this research is to explore the impact of DF on end users and their behaviour. While DF is marketed as more sustainable due to its non-physical nature, there is little evidence to support it as a responsible or sustainable form of consumption. This research does not aim to quantify DF's carbon footprint, as that is beyond the scope, but instead focuses on consumer perceptions of DF, examining whether it can replace physical fashion and promote sustainable consumption, or if it simply encourages overconsumption.	Displacement Rate, Attitude-Behaviour Gap, Digital Sustainability, Hedonic Consumption, Disintermediation, Fragmentation, Inter-dividuals, Proteus Effect
	Cai and Choi (2020) suggest that SDGs 1 and 10 have been overlooked by policymakers and stakeholders, presenting an opportunity for DF to address inequality, promote discrimination-free representation,	Digital Sustainability, Digital Ethics and Well-Being, Inter-dividuals, Re-embodiment and Extended Self,

	and create new revenue streams benefiting consumers over companies.	Fragmentation
	Shift, a leading centre on UN business and human rights principles, states that innovation must consider its impact on both planet and people to contribute to sustainable development (2022). As we innovate for digital worlds, it's crucial to responsibly evolve assets and identities while meeting SDG 9 targets.	Digital Sustainability, Attitude-Behaviour Gap, Digital Ethics, Extended Self, Disintermediation, Responsible Innovation
	When presented with the potential to work with the metaverse via our digital selves, we must create opportunity and mitigate exploitation, encouraging policy innovation and education within digital literacy.	Digital Sustainability, Digital Ethics, Disintermediation

Table 3.1b

SDG	Guiding questions (*sub-questions to main RQs)
	1. *How can the option of DF increase the displacement rate of physical fashion or provide another source of overconsumption?* 2. *In what ways do the users' key demands for digital fashion items and services encourage sustainable practices?* 3. *How do digital fashion experiences/services encourage sustainable consumption habits, considering digital well-being and transparency?*
	1. *In what way do consumers feel digital worlds are accessible and safe spaces for representation and consumption?* 2. *How can consumers feel empowered financially within digital worlds?*

	1. *As physical and digital identity blur, how do we navigate the immersion into digital worlds and its impact on fashion consumers? What policies and guidelines do we need to adapt or create?*
	1. *Are companies focused on technological innovation or considering the wider impact that could present opportunities for employment, monetisation, and financial empowerment to others? Or are companies remaining centralised entities?* 2. *Is legislation up to date with innovation to pave the way for responsible innovation?*

This following section highlights areas in which DF and digital body creation can contribute to and hinder sustainable development across production, consumer behaviour and issues of digital ethics and well-being, as well as identifying key areas for further research and responsible innovation. Focusing on SDG 12, it begins with an introduction to the current state of consumerism, trapped within a 'consumerist cage' of capitalism, and the risks for further exploitation through digital transformation. Discussion of the attitude-behaviour gap is subsequently addressed, which further highlights the current paradoxical nature of Gen Z consumers and the conflicting differences between sustainable motivations, attitudes, and actual behaviours. This section also introduces a new concept, the 'Displacement Rate', which refers to the potential for DF to substitute traditional physical fashion and critically questions whether DF, as a tool for digital sustainability, could reduce the attitude-behaviour gap. What follows is a deeper discussion of Blazquez's new concept of 'digital sustainability', which is relevant in the context of DF, digital bodies and digital worlds, as it explores how digital tools (specifically DF) can be used to promote sustainable behaviours (SDG 12, 9). However, while contextual and practical examples are explored and critiqued, this section reveals the limited understanding of how digital sustainability applies to consumer behaviour and how a broader sense of digital sustainability needs to be considered beyond the realms of production, focusing on its implications on digital ethics and well-being, which leads on to the next section, 'Digital Body Ethics' (SDG 8, 9, 10). The section concludes on the need for responsible innovation within digital innovation when considering sustainability and ethics (SDG 9), looking beyond short-term innovation and the impact of DF on the consumer as an end product.

It is also important to reiterate that quantifying the environmental impact of DF and digital identity is out of the scope of this research. However, some discussion on existing data will

be presented to justify and highlight significant caveats that concern the validity of environmental data and the complexity of measuring sustainability within a digital context.

3.4.2 Escaping the Consumerism Cage (SDG 12)

> ***'We are trapped in an iron cage of consumerism. But the cage is of our own making. We are locked in the myth of growth. But the key was forged in our own minds. There are physical and material limits to our existence. But there is a creativity in our souls that can free us from to live meaningfully and thrive together.'***
>
> **- Tim Jackson (2021)**

The issue of sustainability within fashion is a wicked problem (Charter et al., 2024), and the relationship between fashion as a material commodity and consumerism is complex. Ecological economist Tim Jackson (2021: 14) argues within his post-growth ideology that 'We are trapped in an iron cage of consumerism... We are locked in the myth of growth.' He disputes the culture of capitalism that makes us believe materiality and rising GDP (gross domestic product) is the recipe for fulfilment and argues that we can prosper without growth. Fletcher (2016) argues that, with a post-growth mindset, we must tend to what we already have and consider a future not dependent on growth or rising consumption alone.

Rocamora (2013) and Smelik (2016) view fashion as a paradigm of modernity and its changing temporality as generations come and go, and it is evident that fashion (including brands and consumers) responds to technological innovation and globalisation (Kraus, 2021; Thomas, 2019). Unfortunately, this industry has a history of exploiting mechanisations through overproduction and social marginalisation (Ashby, 2016; Sardar and Lee, 2015; cited by Bertola and Teunissen, 2018), unethical labour practices and kept us bound within this cage of consumption. Rocamora (2017: 58) and Thomas (2019) use the fast fashion phenomenon as a prime example, which emerged in the 1990s and was accelerated by digital platforms. It was reported by the United Nations Environment Programme and the Ellen MacArthur Foundation that an estimated 100 billion new garments were produced as of 2019 (Davis et al., 2023). Kozlowski stated that some fast fashion brands are producing up to half a billion items of clothing a year due to consumer demand (Fashion Law, 2022). However, in 2017, the Ellen MacArthur Foundation reported that worldwide, the average number of times a garment is worn before it ceases to be used has decreased by 36% compared to 15 years ago (Abagnato et al., 2024). Consumers are becoming increasingly interested in the environmental and social consequences associated with their consumption patterns (Schneider and Jastram (eds.), 2018: 147; The State of Fashion, BOF, 2019), yet the reality of their behaviours highlights the paradoxical attitude-behaviour gap (Loi and

Hassan, 2016).

Addressing the risks of technology, ecocentric scholars, such as Fletcher (2018), argue that a technocentric approach is reductive and relies on efficiency and further innovation, rather than a complete system rethink. The reliance on technology could increase a digital divide, furthering disparity in access and resources (McKinsey, 2020; Rinaldi, 2019) and accelerate an already unsustainable industry. On the other hand, if Rocamora's argument is correct, then due to generational shifts and technological advancements, the fashion industry must prepare for its consumers to evolve within a digital era. Furthermore, if we apply a critical approach to fashion academia, it is arguable that much theory is outdated, as it has explored fashion as a material product. As shown through contemporary consumer culture, including phenomena like fast fashion, social media and video game consumerism, it raises the question of whether we need to own physical clothing to satisfy the psychological tendencies typically associated with consumption (Wang et al., 2008; Belk, 2013).

From a consumer perspective, our relationship to materiality needs to be challenged within a digital world. Jackson argues that society considers the relationship between materiality and rising GDP as the recipe for fulfilment and argues a case for growth beyond capitalism. However, not only do we need to contemplate the notion of 'growth', but also how immateriality and a new concept of growth may allow society to prosper. Within Jackson's (2015: 7) report for the Sustainable Development Research Network, he highlights the importance of motivating sustainable consumption due to the fact that 'actions that people take and the choices they make... all have direct and indirect impacts on the environment, as well as on personal (and collective) well-being.' Therein lies scope for further research from a fashion consumer perspective to understand the motivation for sustainable practices beyond material culture.

3.4.3 Attitude-Behaviour Gap (SDG 12)

As we have learnt so far within this literature review, the psychological motivations for fashion consumption run deep, which adds to the complexity of fashion's sustainability problem. Hammond et al. (2019: 544) argue that 'positive effects of sustainable consumption on status depend on preconditions such as visibility and exclusiveness, and it would seem that visibility cannot be gained by consuming less.' They challenge the notion that conspicuous consumption typically does not lead to sustainable behaviours and that it is extremely difficult to remain sustainable in an industry which revolves around visible materialism. The fast fashion industry, in particular, is characterised by its reliance on rapid consumption cycles, low prices and short-lived garment use (Camargo et al., 2020), requires trillion litres of water annually (Magwegwe and Shaik, 2024), and therefore, is

inconducive to sustainable consumer behaviour, raising concerns of major environmental and ethical issues (Lundblad & Davies, 2016; Niinimäki et al., 2020; Bläse et al., 2023).

Empirical evidence shows that a higher number of consumers are attracted by the value of ethical consumerism (Han et al., 2019) and are concerned about the environmental impacts and social ethics within mainstream society (Wiederhold and Martinez, 2018). However, the change in consumer behaviour and purchase decision is much less apparent (Park and Lin, 2018; Casais and Faria, 2021). As discussed previously in 3.3.2, Loi and Hassan (2016: 109) argue there is an attitude-behaviour gap whereby, regarding sustainable fashion consumption, 'The public's positive attitude towards sustainability is not matched with the public's actual sustainable consumption practices.' To place this in context, a study in 2023 by *The New Consumer* found that 52% of global fast fashion Shein shoppers said they considered caring for the planet, and 67% are willing to pay more for environmentally sustainable products (Dawkins, 2023). However, on the contrary, Shein has become the highest-emitting company in the fashion industry, listing over 10,000 items a day, and has been under scrutiny for human rights issues that continue to preside in their supply chain (Yahoo, 2024).

Despite extensive research on sustainable purchasing behaviour, there is still a gap in our understanding of the predictors of consumers' sustainable fast fashion purchasing behaviour (Magwegwe and Shaik, 2024). Theoretical models of ethical consumption have been developed to elucidate fashion purchasing behaviours, including the theory of reasoned action, the value orientation model, the norm activation theory, and the cognition-affect-behaviour model (Testa et al., 2021; Busalim et al., 2022). It is the theory of planned behaviour, developed by Ajzen in 1985, which has seen widespread adoption among researchers, demonstrating its robustness in predicting sustainable purchase intentions and actual behaviours (Rozenkowska, 2023). Amongst references to more than 5000 papers within the Web of Science database, it has been adopted by the likes of Calver et al. (2022), Djafarova and Foots (2022), and Magwegwe and Shaik (2024) to understand consumer intentions versus ethical and sustainable consumption behaviour.

The theory of planned behaviour is applied to investigate attitudes, subjective norms and perceived behavioural control (PBC) of purchase intention and purchase behaviour (Djafarova and Foots, 2022; Carrington et al., 2010) (see Figure 3.16). It has been particularly useful in determining sustainable consumer behaviour, including recycling, green packaging use and energy-saving behaviours (Rausch and Kopplin, 2021). In Djafarova and Foots' (2022) study, the theory of planned behaviour was applied to understand Gen Z's ethical consumerism.

The model introduces the concept of perceived behavioural control, which refers to the individual's perception of the ease or difficulty of performing a behaviour and is comprised of two highly related variables: perceived self-efficacy and perceived controllability. It reflects a person's belief in their ability to carry out a specific behaviour, considering factors such as financial position, accessibility or time convenience (Djafarova and Foots, 2022).

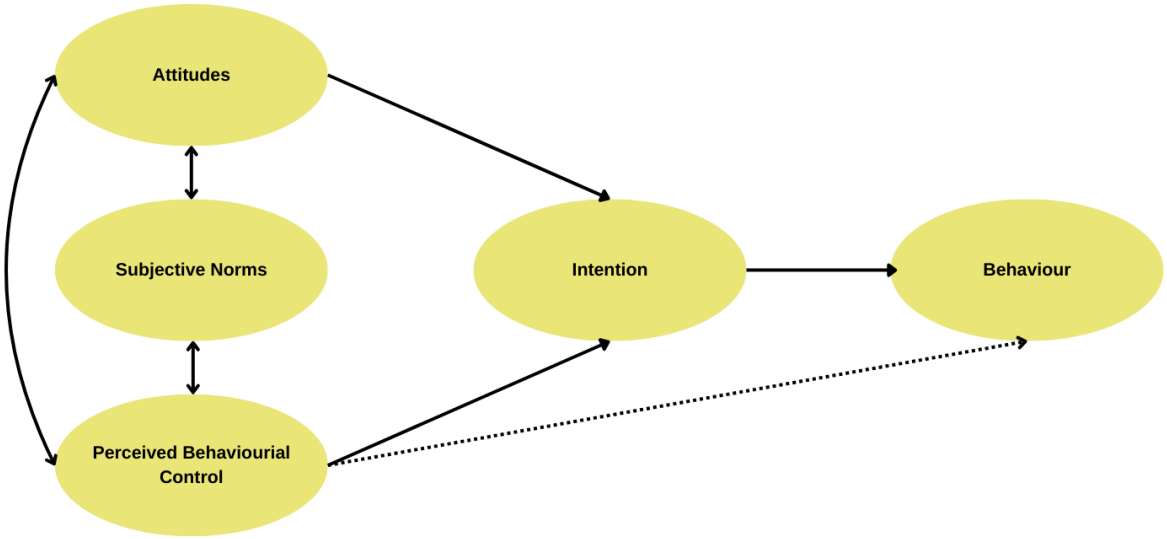


Figure 3.16: The Theory of Planned Behaviour: Based upon Worthington (2021)

Djafarova and Foots' (2022) findings show that Gen Z has strong awareness and desire towards ethical and environmental issues; however, frugality limits them from purchasing truly ethically in their current life stage and, therefore, creates the attitude-behaviour gap. They suggest utilising effective marketing strategies to persuade Generation Z to act ethically, specifically considering digital influencers, due to findings suggesting Gen Z are driven mainly by unlimited exposure to social media platforms.

However, Magwegwe and Shaik's (2024) findings are more nuanced, based on a convenience sample of 123 South African consumers. While findings support that perceived behavioural control mediates the relationship between sustainability awareness and sustainable purchasing behaviour, they suggest that companies or policymakers may need to distribute resources differently based on consumers' perceived behavioural control levels: 'For consumers with low perceived behavioural control, investing more in attitudinal change could be more effective. Conversely, for consumers with higher perceived behavioural control, resources might be better spent on removing barriers to action, such as providing more information on clothing's country of manufacture or durability and improving the availability and affordability of sustainable fashion' (2024: 28882). In other words, while raising sustainable awareness is important, it is alone insufficient to bridge the attitude-behaviour gap. Efforts to increase perceived control over making sustainable purchases need to be addressed.

Casciani et al. (2022) also note the paradoxical attitude-behaviour gap found frequently within consumers' ethical intentions versus their sustainable consumer behaviours, highlighting that the change in cultural mindset is significant from a consumer point of view. They propose that attention to cultural sustainability is most prevalent as we encounter a paradigm shift in our understanding and interpretation of the world of fashion towards a sustainable digital future (Crewe, 2013; Periyasamy and Periyasami, 2023). As Djafarova and Foots (2022) note, Gen Z is driven primarily through digital platforms where information is accessible and shared and suggests the use of digital influencers to communicate sustainable consumer behaviours. Given DF is created specifically for digital platforms, is worn by virtual influencers (see Figure 3.5, Chan et al., 2023: 165), and allows consumers to consume fashion without the need for fast fashion physical pieces, DF could be seen as an effective tool to close the attitude-behaviour gap. The next section discusses what digital fashion house DRESSX refers to as the 'Displacement Rate' through a critical lens, questioning the reality of such a techno-solution to bridge such a gap.

3.4.4 Displacement Rate (SDG 12)

'Can digital self definition help save the planet?'

- Belk (2013: 492)

Imagine a world where we consume and express ourselves purely online, without material possessions beyond our basic needs. Belk has been somewhat prophetic and questioned this in 2013, hence becoming a prominent figure throughout this literature review. He argues the case for further research on his concept of dematerialisation to rematerialisation, already posing concern over the impact and value of digital goods. He questions whether digital self definition helps save the planet. Such practices might suggest the rise of a post-materialistic society in which our desires for tangible consumer goods are replaced by desires for virtual goods. Such a conclusion is likely, as Belk suggests (2013: 492), to be 'overly idealistic'.

First, according to Periyasamy and Periyasami, much of the impact of the metaverse is 'anticipated'; therefore, research within and surrounding this field is often speculative and more qualitative data is needed (Pelligrino et al., 2023; Blazquez, 2024; Chan et al., 2023). Furthermore, Pellegrino et al. (2023) note that much peer-reviewed literature still considers the metaverse as a business case and to understand the impact of DF, digital body creation and metaverses, an increase in user adoption needs to occur. There has been visible caution by the fashion industry to adopt emerging technologies due to a concern that technology could affect jobs and workflows and reveal many uncertainties concerning the

current fashion culture. Davis et al. (2023) put forth the idea of socioeconomic readiness level (SRL), which refers to the readiness of society to adopt emerging technologies, and they encourage an analysis of the SRL as complementary to the technology readiness level (TRL). They use body scanning technology as an example of fashion's wavering readiness. Whilst body scanning assists in poor clothing fit, which could help with lowering the rate of returns, it has triggered a negative response because of privacy concerns and, therefore, would mark low on SRL. There is also a similar concern with the creation of digital humans, whereby biometric data is captured and has the potential to be exploited, which may impact consumer well-being. This form of digitisation, through VTO and digital human creation, has received little attention from academics despite its growing use in the fashion industry. It further strengthens the argument that digital sustainability must extend beyond environmental concerns to encompass broader social and cultural sustainability issues.

On the other hand, in terms of sustainable fashion consumption, Mesjar et al. (2023) and Chan et al. (2023) note the value of dematerialised fashion to replace physical items for consumers who wish to keep up with fashion trends and that technology facilitates the digital transformation of 'disposable fashion' within virtual realms (Henniger et al., 2023). Chan et al. (2023) focus on DF as an end product, suggesting DF could decelerate physical fashion production and consumption for those who wish to wear items for social media culture. Whilst not an established academic theory, the replacement of tangible consumer goods by virtual goods is defined by DF company DRESSX as the displacement rate. Currently an unknown quantitative measurement, it refers to the total percentage by which DF substitutes traditional fashion in terms of market revenue (DF Sustainability Report, 2022). Their hopes are that DF will displace or remove consumers' need to buy physical fashion and motivate sustainable consumption through DF end products, resulting in a new, digital fashion culture. If so, could DF help close the attitude-behaviour gap? At present, these expectations are purely speculative, and Blazquez (2024) and Chan et al. (2023) note that the connection between DF as an end product and sustainable practices calls for further investigation.

Crewe (2017) also expressed concern that the adoption of 3DVD technologies will have a detrimental effect on the transformation to more sustainable consumer cultures against overconsumption habits (in Casciani et al., 2022: 789-790). This is further supported by Pellegrino et al. (2023), who find virtual environments contributing to overconsumption and a culture of disposability, as customers 'may be more likely to purchase virtual goods and experiences that they would not consider buying in physical reality.' Even if they do not have a physical form, virtual goods and experiences require energy to produce (ibid., 2023). Due to the ability to create multiple versions of one's digital self, we may no longer be only discussing the democratisation of fashion due to cheap, disposable items but the

democratisation of unlimited identities through transient, digital fast fashion. Furthermore, brands are currently not using DF as a replacement for physical fashion but creating ‘digital twins’ whereby consumers receive the digital item, generally in the form of an NFT, plus the physical item. It is, therefore, arguable whether DF may be the new freedom for unlimited creativity or an alternative form of overconsumption which debates any notion that DF is a more sustainable option.

As we move beyond physical to digital spaces, the understanding of fashion consumption behaviours may have been stunted by previous research (Alba and Williams, 2012). According to Hammond et al. (2019: 541), society, up until now, has led us to believe that materialism and ‘an obsession with owning possessions and acquisitions are a means to personal happiness and is, thus, associated with self-centredness and self-enhancement values.’ Yet adopting new perspectives, such as Tim Jackson’s post-growth vision, there may be other ways to live, prosper and feel fulfilled. As we live more online and understand that human need is not built upon material worth, there are still many challenges for the fashion industry to displace the consumer's need for physical fashion, which can have a positive impact on sustainability. Based upon video game research, there may be potential for DF displace attachment to physical items with digital substitutes. Further research is required to explore if DF as a tool for digital sustainability could provide an opportunity to consume less physical fashion. The concept of digital sustainability will be discussed more within the following section.

3.4.5 Digital Sustainability (SDG 9, 12)

The immaterial state of DF and its ecosystem, including the creation and distribution of metaverse platforms and consumer interactions through avatars and digital humans, presents its own opportunities and challenges regarding sustainability. When materiality is dematerialised and human bodies are digitised, research must consider the impact of this transformation across the DF value chain, highlighting paths of amelioration versus acceleration. Wiedmann et al. (2020: 7) state that: ‘While digitalisation is already a key driving force in societal transformation, it has so far led to more consumption and inequality and remained coupled with the indirect use of energy and materials.’

Blazquez (2022: 148) adopts the term ‘digital sustainability', defined as ‘the use of digital tools to promote sustainable behaviours’. Digital sustainability is upheld by three pillars, including communication and digital media (C&DM), consumer-facing technologies (CFT) and DF, which Blazquez notes can promote and offer sustainable consumer practices if effectively adopted within immersive channels (Figure 3.17).

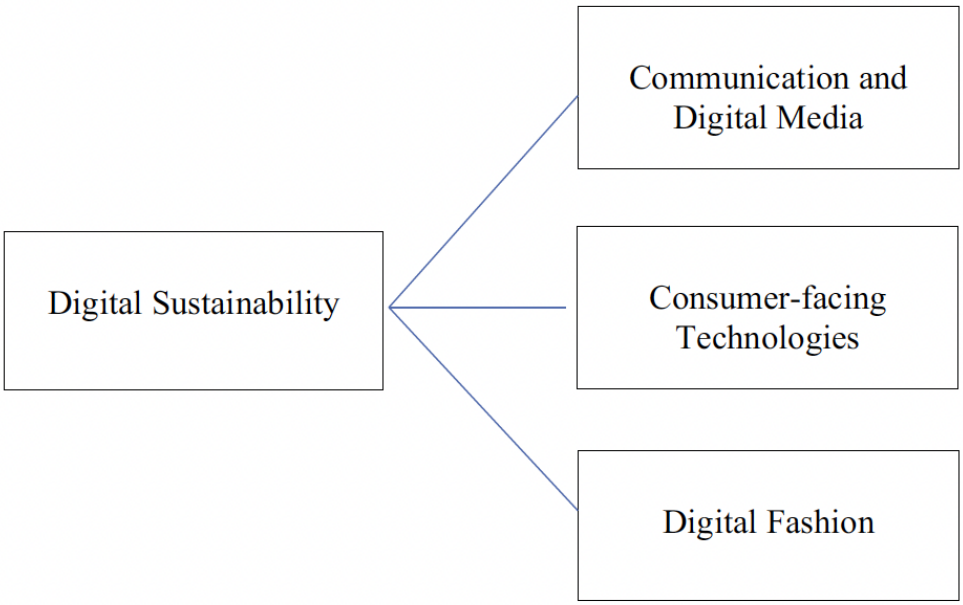


Figure 3.17: The Three Pillars of Digital Sustainability, built upon Blazquez (2022) (Blazquez, 2024: 310)

For example, within the C&DM, Blazquez focuses on the metaverse as an innovative and immersive channel to disseminate sustainable knowledge and promote sustainable behaviours through specific messages relevant to the brand. However, brands must be careful to avoid forms of greenwashing (Blazquez Cano et al., 2020), and, as Neri (2019) forewarns, fashion communication without mediation could result in either a rise to radical individualism or a form of narcissism within future generations.

Kousar et al. (2022: 3) states that 'globally one trillion KWh of electricity is consumed per year to produce sixty billion kg of fabric.' Yet, using Clo 3D as a DF tool, one of the leading companies to digitise the design process, offers true-to-life 3D garment simulation technology, which has changed the way designers create garments, reducing the amount of waste produced within the sampling phase and reducing carbon emissions (clo3d.com, 2024). DF fashion company DRESSX (2022) claims that producing a digital item versus a physical item saves 3300 litres of water per item and uses 97% less carbon than the production of a physical garment (Figure 3.18). However, it is important to note that these claims are unverified by third parties, and it is, in some respects, metaphorical to compare physical and digital items, which are entirely different entities offering different properties and uses. Whilst DRESSX shows effort in quantifying the environmental impact of DF production, we do not have a holistic understanding of the supply and value chain, nor are there standards in which these figures can be compared.

General Comparison: Physical vs Digital Garments production

Data

Type of Garment	Physical Garment						Digital Garment	
	Mass, g	Composition	CO2, kg	Source	Water, l	Source	CO2, kg	Water, l
T-shirt	200	100% Cotton	6,5	(1)	2500	(5)	0,250	0
Jeans/ Pants	477	98% cotton, 2% elastane	33,4	(2)	7570	(6)	0,313	0
Dress	400	100% polyester	28,4	(3)	1800	(7)	1,287	0
Jacket	400	44% polyamide, 48 % polyester, 18% cotton/ elastane mix	27	(4)	1400	(8)	0,366	0
Cool couture look							2,496	0

Figure 3.18: Sustainability/methodology, raw data & references (DRESSX: 2023)

Focusing on the supply chain, Periyasamy and Periyasami (2023) also argue the case for DF and the metaverse, showing the positive influence of these technologies on digital sustainability, particularly regarding environmental impact. Using the example of Helsinki Fashion Week in 2021, which transitioned to a fully digital format, they present Figures which suggest a reduction in the carbon footprint of each attendee from 137 kg to 0.66 kg. They also highlight the current issues within the traditional supply chain alongside rising consumer demand and offer novel strategies through the implementation of the metaverse and DF to mitigate excess waste, enhance transparency and productivity, create value through customisation and assist circular business models.

However, to understand these figures and their impact on the industry, more data needs to be obtained from numerous sources with complete transparency across the DF creation, including software, data storage, energy sources and consumer use. Whilst measuring the carbon footprint is out of the scope of this research, it is important to note inconsistencies between the data to highlight that there are significant caveats which concern the validity of

environmental data within the DF sector. At present, Davis et al. (2023: 383) state there is ‘insufficient information about the hidden energy and emissions impacts resulting from the use of IT solution for these digital solutions.’ Through Davis et al.’s own computational measurement, they estimate producing a 3D garment visualisation requires approximately 4 kWh, the equivalent of driving a Tesla Model S more than 20km. If it has been found that even sending one email has its own carbon footprint (Armstrong and Richter, 2019), the energy needed for fashion’s digital transformation, including the production and use of DF, virtual experiences, NFTs and blockchain technologies, would, therefore, require a significant amount of energy that overrides many sustainable claims that fashion’s digital transformation is a more sustainable option. Additionally, stating that no water is used in the creation stages of DF if using AI is concerning. A recent study by Li et al. (2023: 1) shows that deploying AI in data centres is not only carbon-intensive but also requires huge water consumption: ‘For example, training GPT-3 in Microsoft’s state-of-the-art U.S. data centres can directly consume 700,000 litres of clean freshwater (enough for producing 370 BMW cars or 320 Tesla electric vehicles) and the water consumption would have been tripled if training were done in Microsoft’s Asian data centres.’ Periyasamy and Periyasami (2023), supported by Davis et al., propose that further research into the domain of DF from a technical perspective is needed. Whilst out of scope within this research, this highlights the necessity for fashion to expand further beyond its sectors and engage with experts that can better measure energy consumption when considering a digital transformation, in line with responsible innovation and sustainable development.

Furthermore, while they note the potential for digital sustainability through tools such as DF and the metaverse, Chan et al. (2023) call for further qualitative research on its effectiveness from a consumer perspective. Casciani et al. (2022) also contest that there is a limited holistic view of the effects of digitalisation on the sustainability of the fashion system because inadequate attention has been devoted to its cultural dimensions (in Malin and Ryder, 2018); referring to Bertola et al. (2016) and Martin and Vacca (2018), they note this is a major limitation given the fashion industry is one of the most culturally intensive industries. Focusing on the metaverse and sustainable consumption, Pellegrino et al. (2023) considered this within their review of 21 journal articles. Like Blazquez (2024), their examined literature reveals that the metaverse holds vast potential for brands to help customers grasp what they are buying and let businesses test novel product concepts before fully investing in them. This would dramatically reduce the need for physical samples, as well as reducing the carbon footprint for marketing campaigns created IRL. Pellegrino et al. (2023: 6) also note Bibri and Allum's (2022) and Schachter’s (2022) arguments that the metaverse could positively impact connection and inclusivity by providing ‘a space where people can overcome barriers like distance and racial segregation, play, socialise and explore together.‘ However, success within these areas can only be achieved if challenges

such as ethical concerns, privacy issues and accessibility barriers are tackled (Ball, in Heath, 2022; Chan et al., 2023). This presents the argument that digital sustainability goes beyond just being a 'tool' for sustainability but considers issues of ethics and consumer well-being.

3.4.6 Digital Body Ethics (SDG 8, 9, 10)

> '**Jeff:** ***We at Miramount want to... want to scan you. All of you – your body, your face, your emotion, your laughter, your tears, your climaxing, your happiness, your depressions, your...fears, and your longings. We want to sample you, we want to preserve you... we want... all this, this... this thing, this called... "Robin Wright".***
>
> **Robin Wright:** ***What will you do with these... things? That you call Robin Wright?***
>
> **Jess:** ***We'll do all the things that your Robin Wright wouldn't do.'***
>
> \- **The Congress (2013)**

Beyond an interface, what one means by 'digital body' could be viewed metaphorically through a post-humanist lens, such as Haraway's cyborg or Baudrillard's view on the advancements of innovative technology becoming integrated with the self: 'Am I a man or am I a machine?' (Clark et al., 2008). A deeper exploration of the complexities of posthuman philosophy is beyond the scope of this research, but it is important to highlight important ethical challenges when humans intertwine with technology. As we blend physical and digital worlds and humans increasingly exist within digitality, a recontextualisation of what 'being human' means is required, and a further understanding of how it may impact nature and forms of life. In 2011, Gomel argued in her essay *Science (Fiction) and Posthuman Ethics: Redefining Human* that whilst the boundaries of the ethics have traditionally coincided with the boundaries of humanity, it is no longer the case. A notable example of this is explored within *The Congress* (2013), a movie based upon the 1971 black-humour science fiction novel by Stanislaw Lem, *The Futurological Congress,* and is quoted at the start of this section. The main character, Robin Wright, who plays herself as an actor, agrees to have herself digitally cloned so that the film studio can use her avatar in any film they want and, as Jess says: 'We'll do all the things that your Robin Wright wouldn't do.' While the film and book both present a world of science fiction that turns out to be an illusion, the recent SAG-AFTRA strike in 2023 shows that emerging technologies such as AI are becoming a major point of contention for actors regarding human rights (Rich, 2023).

As we have established throughout the chapters referring to digital natives, we live within a digital age whereby we not only interact with technology but are, as Lupton (2017: 200) argues, 'configuring' humans: 'The nature of the technology has changed over the millennia. In the contemporary digital era, bodies are digitised, both by individuals on their behalf and by other actors and agencies seeking to portray and monitor their bodies.' In 2013, Belk (2013: 494) predicted that: 'Future forecasts of cyborgs and post-humans could bring dramatically different technologies into the picture... With 3D printing it will be possible to make hard copies of some digital possessions, further eliding the virtual/tangible divide.' In light of fashion's digital transformation, we have not just changed the form of fashion items from threads to code but also our entire bodies. In Baudrillard's view, this is the end of traditional anthropology as we know it, as the science of studying humanity is overshadowed by the impact of the latest technologies and in response to anthropocentrism, which emphasises human significance. Through Baudrillard's view, if we continue to digitise our bodies, technology will increasingly exist within us, not just alongside us.

Innovation within this area highlights the importance of digital ethics and responsible innovation. There is rising awareness and academic attention to what Zallio and Clarkson (2023) refer to as 'Metavethics'. This emerging field of ethics focuses on examining, evaluating, and protecting the ethical integrity and social impacts of the metaverse by its creators and users (Zallio and Clarkson, 2023). For innovation to make a genuine contribution to sustainable development, there is a need for coherent strategies that look at how it may affect both planet and people from an ethical and moral perspective (Shift, 2022). Gomel (2011: 4) argued that we need to recontextualise our understanding of human rights as we blend physical and digital worlds, using science fiction as a speculative yet often accurate cursor to future scenarios, arguing that science fiction exerts 'a powerful influence on culture, creating a feedback loop of images and ideas'.

Within a fashion industry context, if we look at the current phenomenon of virtual influencers/humans within fashion campaigns, such as Lil Miquela, one could argue the moral obligation of creators to be transparent and not hide behind the image of the avatar. As Hillis (1999) argued his concept of the coaxial cable (refer to Figure 3.9), the responsibility lies with the source, or the location of identity. Lil Miquela has 2.7 million followers on Instagram, is of 'ambiguous ethnic background' (Business of Fashion, 2024), is politically active and is currently 'living' in LA. In fact, she was created by Trevor McFedries and Sara DeCou, who founded the creative agency Brud. Another example is Shudu, who is deemed the world's first digital supermodel and has been featured in campaigns for Balmain, Christian Louboutin and Samsung and has been 'gifted' items from

Lanvin (Figure 3.19). She is an Amazonian-esque model but created by a British white man named Cameron-James Wilson. Wilson's creation has triggered industry debate on diversity and ethics, such as a brand being able to use the image of a black woman without paying a black woman (Newbold, 2018). Furthermore, in 2023, Levis announced it was using AI models, created by Lalaland.ai, to 'increase diversity' within their model portfolio (Clark, 2023). This announcement received industry backlash, with critics calling the avatar models 'fake', 'problematic' and 'racist' (Clark, 2023). It is stated on Lalaland.ai's website that the models are 'inspired by real people, generated by AI', but considering diversity, inclusion and sustainability, it critically begs the question why Levi is not using a diverse pool of real models instead of exploiting their likeness.



Figure 3.19: Shudu wearing Lanvin Concerto Bag (@shudu.gram, Instagram, 2024)

If we look at these digital versions of humans through a philosophical lens, there have been others who have highlighted a need for closer attention to ethics not only from an external perspective but as an innate moral conundrum. Hill (2013) focuses on the ethical phenomena of the avatar. He argues that if avatars are extensions of oneself, then an ethical encounter between two users occurs, relating back to the idea of social presence. Using theories derived from philosophers in ethics, including Kant's theory of the sublime (1790), one can conceive of digital environments as moral spaces and require a moral

responsibility to others residing in that space. Hill (2013: 81) argues that the avatar is a tensor, signifying ‘the meeting point of two users extended beyond their bodies.’ What Hills (ibid: 83) highlights is the moral obligation of users to present images of themselves and interact in a way that is ethically considerate and ‘gesturing towards the concrete reality they represent’.

When we begin digitising ourselves to create digital humans, the ethics surrounding privacy, autonomy and data ownership are critical to address (Davis et al., 2023). Digitising humans is already starting to emerge within the fashion industry, with models being digitised and used within e-commerce and metaverse platforms (refer to section 3.3.5.1). Interestingly, as a former fashion model and someone who has experienced being digitised previously by both photogrammetry and volumetric technology, my own experience has provided an interesting insight into this research and adds to the relevance of this study (refer to section 2.1). Digital humans within fashion-metaverse contexts are nascent, and there is extremely little contemporary research on this area, therefore adding to the originality of this research.

On the issue of ownership, in his famous quote, Locke (1988: 297) profoundly expresses the idea that every individual has rightful ownership over their own being: ‘Every Man has a property in his own person. This nobody has any right to but himself.’ However, when we begin to create digital beings of ourselves and others, do the same moral and legal perspectives on personal autonomy and ownership apply? The issue of data ownership has been highlighted by Ball (in Heath, 2022) in response to the creation of assets within the metaverse. Currently, much like Locke’s view, possession over a digital body within fashion is currently a question of philosophical perspective rather than a legal requirement. For example, fashion models do not own their own photographs, as the copyright lies with the photographer, and, similarly, the copyright of the digital creation lies with the creator or whoever foots the bill.

In a practical and technical sense, the UK’s General Data Protection Regulation (GDPR) states that biometric data, which can be captured when creating a digital human, is classified as special category data (ICO, 2024). However, through personal experience and informal discussions, there appears to be a lack of awareness and education on data acquirement, the nature of the data and its usage are something that should be explored further with the primary research. Furthermore, there are considerations to be made surrounding the storage of this extremely personal data, as well as its potential for privacy infringement and misuse by stakeholders and third parties. Periyasamy and Periyasami (2023: 18) argue that ‘Given that the metaverse collects more granular behavioural data than mere user interactions or internet history, ensuring privacy and security becomes a critical concern.’ As defined by the UK government, 'Personal data is a huge strategic asset

and the driving force of the world's modern economies. It fuels innovation in businesses large and small.' Michael et al. (2019) argue it is essential to achieving SDGs. As data protection is a human rights issue, and human rights are integral to the SDGs, it is, therefore, critical these issues are addressed imminently.

Furthermore, it also seeks the question of who profits from the data collected. Periyasamy and Periyasami (2023: 2) state that, within the context of the metaverse, '...Original designers are entitled to receive royalties when their work is employed.' However, there is little evidence to support this. Designers may be entitled to receive royalties, but this may only be the case for NFT creation due to the implementation of smart contracts through blockchain technology. Fashion designers do not only create work for NFTs, and they may use multiple technologies for a plethora of digital assets unsupported by smart contracts; Therefore, enforcing this entitlement is currently a grey area. Another example is the case of digital human models (DHM), as models do not own their 2D images, nor do they automatically own their 3D scan. Relating to the sustainable development goals, such ambiguity within innovation raises larger questions surrounding human rights and digital ethics, particularly highlighting SDG 9 (Industry, Innovation; Target 9.1)[7] and SDG 8 (Decent Work and Economic Growth; Target 8.3)[8].

Campbell (2017: 1) describes Kant's concept of autonomy developed in 1979 as '...the ideal of free will: a human will be driven to action, not by appetite or desire, but by identification with a 'higher' or rational self'. Taylor (2008) adds that a person is only autonomous if his choices and actions are unaffected by factors that are external, or inessential, to himself. However, autonomy of the digital self within fashion is still yet to be considered despite the nature of biometric data which can be captured within photogrammetry and volumetric

[7] DEVELOP SUSTAINABLE, RESILIENT AND INCLUSIVE INFRASTRUCTURES

Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.

[8] PROMOTE POLICIES TO SUPPORT JOB CREATION AND GROWING ENTERPRISES

Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.

scanning. Beauchamp and Childress (2019) stated that the concept of autonomy is by far the most significant value to have influenced the evolution of contemporary medical law, contributing to the informed consent process. One would encourage the fashion industry, due to the merging of fashion and technology, to derive knowledge from the medical sector when integrating innovative technologies.

As fashion undergoes a digital transformation, responsible innovation requires we must understand the impact of technologies on human beings, and, therefore, we must build technology to mitigate risks and encourage, as Crewe, Holt and Turkle believe, empowerment. The process of 'disintermediation', described by Crewe (2013: 769) when referring to the internet in 2013, where virtual worlds were beginning to collide with the physical, claims that:

> *'Digitally mediated technologies will empower consumers by undermining the hold of large organisations over the production and distribution of fashion and its knowledges, creating hierarchies of relation where producers and consumers are more closely aligned in terms of knowledge, power and authority.'*

As Web3 technologies, such as AI, become more intertwined with the fashion industry, it offers an increasingly democratised space for fashion creators and consumers. It may also lead to an increase in disintermediatory effects, as predicted by Crewe (2013), whereby traditional power is placed with fashion companies, and publications are moving towards a more diversified assemblage of participants, including fashion bloggers, influencers and consumers, offering a real promise of a more transparent fashion system (Rocamora, 2011). For example, the rise of DAOs (Decentralised Autonomous Organisations) are organisations based upon smart contracts and decentralised governance rather than relying on a central authority or management, which holds promise to revolutionise traditional organisational structures.

The sense of empowerment does not come without its risks, particularly when considering well-being. The concept of 'digital well-being' is referred to by Burr (2020:1) as 'the impact of digital technologies on what it means to live a life that is *good for* a human being'. What differs from the physical world to the digital is that bodies are already constructed within the physical and cannot be changed without expensive and often irreversible surgery. When users enter the digital world, they must first construct their bodies, followed by dressing them. This act is multiplied due to the current lack of interoperability. The re-embodiment or digital transformation of the consumer becomes twofold: Not only must we consider our fashion choices but also our gender, race, age and body proportions, all of which can be easily modified in a virtual world (Yee, 2014). If an active or tall avatar (Yee and Bailenson,

2007; 2009) can impact your behaviour, how can the shape of our avatars or our avatar's style impact our own behaviours? As Yee (2014: 139) questions: 'What are the consequences of being in a world in which facial reconstructive surgery is neither expensive nor painful but cheap and instantaneous?' The choices we make from our physical origins of self, therefore, have wider implications, as well as questioning what it means to be human within a digital era. It also challenges the industry to create tools which consider the ethical implications on the users, which introduces the concept of responsible innovation covered in the next chapter. From a sociocultural and design perspective, Dunne (2008) debates the potential of technology to enrich our lives but notes the potential of creating passive and enslaved users as we close the gap between humans and technology, which he refers to as 'data enslavement'. More theoretical research within this area needs to be conducted for the industry to best adopt emergent technology which supports and enriches human life.

3.4.7 Responsible Innovation (SDG 9)

'With power comes great responsibility.'

- ***Uncle Ben to Spiderman (1962)***

'Responsible Innovation', defined by Rinaldi (2019: 26) when referring to the fashion industry, 'is considered as an innovation related to the product, service or, more comprehensively, to the business model that is able to reduce the impact on the environment across the firm processes and to build a better balance with the people involved in the economic and non-economic activity of the company'. However, it should not only be seen as an update to models but as ensuring long-term economic sustainability. Pérez-Bou and Cantista (2022) state that the concepts of the innovation system (Nelson, 1993) and sustainability (Brundtland, 1987) emerged almost simultaneously and followed parallel paths. As Uncle Ben said, to innovate is to be responsible.

The concept has been used as a government paradigm, defined as 'taking care of the future through collective stewardship of science and innovation in the present' (Stilgoe et al., 2013: 1570), and applies to a range of sectors, from medicine and technology to fashion. There isn't a single, universally accepted theory of responsible innovation, but scholars and practitioners draw on various ethical frameworks, risk assessment models, and sustainability principles to guide responsible innovation practices, such as the sustainable development goals.

As we have established by Casciani et al. (2022), there is already academic discussion on industry implications and less on the social and cultural impact. As technology advances and humanity becomes more intertwined and immersed within digitality (Negroponte, 2000),

it presents more opportunities but also puts up a mirror to society, challenging us to ask questions about how we live our lives and how we want our future to look. Right now, the future feels uncertain. It may seem speculative, if not slightly absurd, to consider sustainability within virtual worlds when we have yet to solve so many issues within our physical world (McSorley, 2023). However, if we take recent events in 2023, such as the SAG-AFTRA strikes and Biden's 2023 speech on responsible innovation and artificial intelligence, there is a sense of urgency towards how we respond to the evolution and rapid growth of technology. There is no doubt that technology is revolutionising the way we make clothing using data. Rinaldi argues that through responsible innovation, emerging Web3 technologies, such as open-source platforms and interoperability, AI, blockchain, IoT (Internet of Things), AR, VR, decentralised finance (DeFi) and identity could help digitally transform the fashion industry and improve traceability, sustainable consumption, inclusivity, frameworks for the circular economy, governance over the data economy and legitimate environmental policies. Lines that once separated the fashion, technology and science sectors are becoming less defined, with collaborations across sectors becoming essential for fashion's digital transformation.

Stilgoe et al. (2013) note Callon et al.'s (2009) use of the metaphor of science and technology 'overflowing' the boundaries of existing scientific regulatory institutional frameworks. Callon et al. (in Stilgoe et al., 2013: 1569) point to the need for new 'hybrid forums' that will help our democracies to be 'enriched, expanded, extended.' Addressing this need, Stilgoe et al. describe a framework for responsible innovation based upon four dimensions, including anticipation, reflexivity, inclusion and responsiveness. By using the framework, actors and institutions are challenged to go beyond compliance with established regulation, challenging conventional roles and institutional responsibilities.

The framework also highlights the challenges these technologies create, addressing many of the challenges embarked upon by the Sustainable Development Goals, such as creating a digital divide and exposing disparity in access and resources. The environmental impact of creating and using such emerging technologies is nebulous, and therefore, we do not have any hard evidence or a standardised way of measuring their carbon footprint or the resulting effects on the environment. Fletcher (2014) and Periyasamy and Periyasami (2023) also argue that innovative technology cannot just be for the privileged few for profit but must be accessible to the masses, reducing inequalities. In addition, Cai and Choi (2020) argue that SDGs 1 and 10 have received less attention from policymakers and stakeholders and, therefore, present an opportunity for DF worlds to rectify inequality and offer new revenue streams that benefit the consumers rather than the companies. When considering technology in line with sustainable development and responsible innovation, we need to consider the societal implications and not innovate for the sake of innovation.

As Davis et al. (2023: 384) argue, information is key and a 'view of the impact of new technologies on environmental goals, from changes in individual behaviour to disruption of entire markets, is critical in order to prevent any rebound effect.'

Kraus et al. (2021: 1) contend that understanding the opportunities and barriers of adopting technology that drives a digital transformation is to understand the societal and institutional implications: '... Digital transformation not only produces changes in an industry but impacts societies as well. Therefore, as the importance of a digital transformation becomes clearer and clearer, it is simultaneously accompanied by high expectations placed upon it.' Ultimately, as fashion undergoes a digital transformation, responsible innovation requires that we must understand the impact of technologies on human beings and the environment, and, therefore, we must create approaches to technological innovation that mitigate risks to the users.

3.5 CONCLUSIONS AND FRAMEWORKS

3.5.1 Conclusion

'Every new technology allows us to learn something new about ourselves.'

- **Age of Earthquakes (2015: 69)**

The pace of research may never keep up with the rapid advancements of technology and the fast-paced development of DF, making this a challenging topic to study (Chan et al., 2023). Even definitions of DF are evolving. Yet, as Basar et al. (2015) pointed out, human nature does not change, and 'every new technology allows us to learn something new about ourselves'. A better understanding of the impact of technology may organically occur through a generational shift. Digital natives, those born within a technological world, will inherently understand the intricacies and affordances of technology far better than those who were born in a more analogue world, such as Prensky's 'digital immigrants' (2001). Yet, as Crewe argues, it is necessary to begin the debate, as the collision between virtual and material spaces requires a fundamental rethink about the role of fashion production, consumption, knowledge, and the laws of markets. Furthermore, as Alba and Williams (2013) argue, we need to advance our current understanding of traditional consumer psychology, reframing consumers as users of DF tools and spaces (Rinaldi, 2019), and revisit what Belk has already revisited, understanding the extended self as the lines between physical and digital are less defined.

At present, DF as an end product and its cultural impact have not been fully explored by many academics from a consumer and sustainability focus, given that DF is yet to be a normalised form of consumption in current mainstream culture (Chan et al., 2023). However, some academics predicted it: Crewe argued that the absence of physical presence will become second nature; Turkle saw technology helping us develop our identities. The unprecedented pandemic accelerated the need for the fashion industry to digitise its practices and creations. In doing so they revealed lucrative opportunities across a variety of settings, including digital content creation, fashion design & technology, gaming and others.

The opportunity for DF to pave a more sustainable path for the fashion industry is often contradictory and challenging. Not only must we consider the energy usage needed to facilitate this digital transformation from an industry perspective, but we must also consider the culture of consumerism within digital worlds that will ultimately dictate the adoption of DF as a mainstream form of consumption. Regarding the four pillars of sustainability – economy, social, environmental and culture (British Council, 2020) – this research is less about the quantitative impact of creating, distributing and using DF on the environment but a qualitative approach to understanding how we can best navigate this space responsibly. How do we 'use' DF and virtual environments in a way that benefits both people and the planet? As Jackson (2015) notes in his report for motivating sustainable consumption, the actions people take have a direct and indirect impact on our environment, our personal lives, and our well-being. Industry and research must look beyond the practical implications of emerging technologies to understand societal and cultural implications, which can aid responsible innovation (Rinaldi, 2019).

Existing literature focuses on fashion's digital transformation, exploring a combination of research on the rise of DF and the metaverse and digital identity, with some acknowledgement of sustainability. Collectively, the connection between all the terms is under-researched. Recent research is industry and business focused, with particular emphasis on the marketing (Noris et al., 2020; Riesgo, 2019; Casciani et al., 2022; Blazquez, 2024; Chan et al., 2023) and the sustainable impact of technology on the supply chains (Periyasamy and Periyasami, 2023), with some attention to the ethics (Gomel, 2011; Neri, 2019; Ball, 2022; Zallio and Clarkson, 2023). Blazquez (2024) suggests that the creation of the digital self using DF and metaverse spaces could lead to developing a sustainable identity but how, why and what does this 'sustainable identity' look like for consumers?

Fashion theory that exists in consumer culture and the concept of self is often outdated and limited within the constraints of the material world, and like Belk, iterative and reflective

approaches need to be adopted. It is within the video game field that we can find established theoretical research into the relationship between digital possession and identity for gamers. As gaming and fashion blur, alongside the line between the physical and digital, the theoretical connection between fashion consumption and virtual social identity allows us to begin to understand the consumer within virtual worlds, such as the metaverse. What we have learnt through previous research is that digital bodies and fashion, due to their immateriality, offer symbolic possession and meaning (Kozinets and Kedzior, 2009; Wang et al., 2008; Turkle, 2005; Crewe, 2013; Holt, 2002; Yee and Bailenson, 2007; Belk, 2013). Instead of physical and digital being seen as two separate entities and realities, existing literature suggests that fashioning ourselves for the metaverse will have a direct impact on our consumer mindset within the physical world, given that our constructed identity within these online realities are parts of what Belk (1988, 2013) considers the 'extended self'. Video game theorists have argued that constructing one's online self has been proven to have an impact on the gamers in the physical world, all explored through the theories of spatial presence (Madigan, 2016), re-embodiment and the extended self (Kozinets and Kedzior, 2009; Belk, 1988), and the Proteus Effect (Yee, 2007).

Furthermore, literature suggests a link between the gamer and their avatar, and El Kamel states the construction of one's digital self (or avatar) resides with the 'player' and is based upon four characteristics: self-concept, perception, personality, and motivation. This 'residency' anchors the digital transformation of the 'player', whereby they feel re-embodied through their avatar (Belk, 2013; Kozinets and Kedzior, 2009). This can be increased through a feeling of immersion through social and spatial presence and game feel (Swink, 2009), which refers to the effect interactions with virtual items can have on the real-life player. Within fashion, the origin of self lies with the consumer, or, in the words of Hillis (1999), the coaxial cable connects the grounded consumer to their embodied reality as an avatar-consumer within the digital world. As their choices within a digital world will rest with the physical self, it could be argued that the same characteristics presented by El Kamel are applicable to fashion consumers also, as they are ultimately human concepts that drive consumption in all forms.

However, there are some key considerations and differences to be made between gamers, fast fashion and fashion consumers within the digital world, and we cannot assume gamers and fashion consumers are the same. First of all, time is a determining factor for the fashion consumer who is not using digital worlds for gameplay to invest in 'time aristocracy', as put forth by Lehdonvirta (2009) and Belk (2013), in their digital selves. King and Krywinska (2006) and Tronstad (2008) argue that gamers are fully aware of the boundaries of a video game and will purchase skins for that specific context. Considerations in the differences between video gamers and fashion consumers regarding perspective, expectations and

motivations are required for further research.

Secondly, the users' re-embodiment of the digital body as an interface is a crucial step in the creation of the digital self. When a user enters a virtual world, such as the metaverse, the user must first choose or create their bodies before dressing them unless they are using a photographic image of themselves. Within the virtual worlds there are multiple layers, which adds to the debate between academics as to whether digital representation acts as true representation, deindividuation or a fragmentation of self, with individual and social impact on ethics (Hills, 2013; Zallio and Clarkson, 2023), autonomy (Holt, 2002; Turkle, 2005; Crewe, 2013; Yee, 2014) and digital well-being (Burr, 2020).

3.5.2 Theoretical Framework

Within the context of DF, the process of creating the digital self is created through the choice of both body and fashion items, which suggests research should focus on both areas: the body (digital body) and the dress (DF).

Key concepts discussed within this literature review have been categorised into 'identity factors', 'consumer drivers' and 'behavioural impact' to produce a theoretical framework (Figure 3.20) that begins to connect DF, identity and sustainability theories and concepts (refer to Appendix 6 for full categorisation of concepts). This framework will be utilised as an instrument to inform the methodology for primary research that holistically approaches the concept of the digital self.

The categorisation reveals sub-categories that are repeatedly discussed throughout the literature, highlighting their importance across both physical and digital worlds. Key sub-categories include self-concept, representation, perception by others, sense of agency, connection and connectedness, self-image satisfaction and symbolic relationships between self and possessions, which are encapsulated by the primary focus of Belk's extended self. It also highlights the debate in theoretical perspectives, including fragmentation versus residency of self, individualism versus imitation (inter-individuals), utility versus pleasure (hedonic consumption), escapism and self-realisation (re-embodiment and fragmentation), deindividuation or empowerment increased by disintermediatory effects, and the ongoing attitude-behavioural gap in sustainable consumer behaviours.

To respond to Belk's question for future research asking whether the digital self and the desire for virtual goods can 'save the planet', we must understand the digital native consumer as the physical and digital worlds become increasingly blurred. We need to

consider all three key themes, including how one constructs the self within digital worlds (identity), why (consumption drivers) and how (behavioural impact) they consume across blended physical-digital worlds, as well as the potential implications.

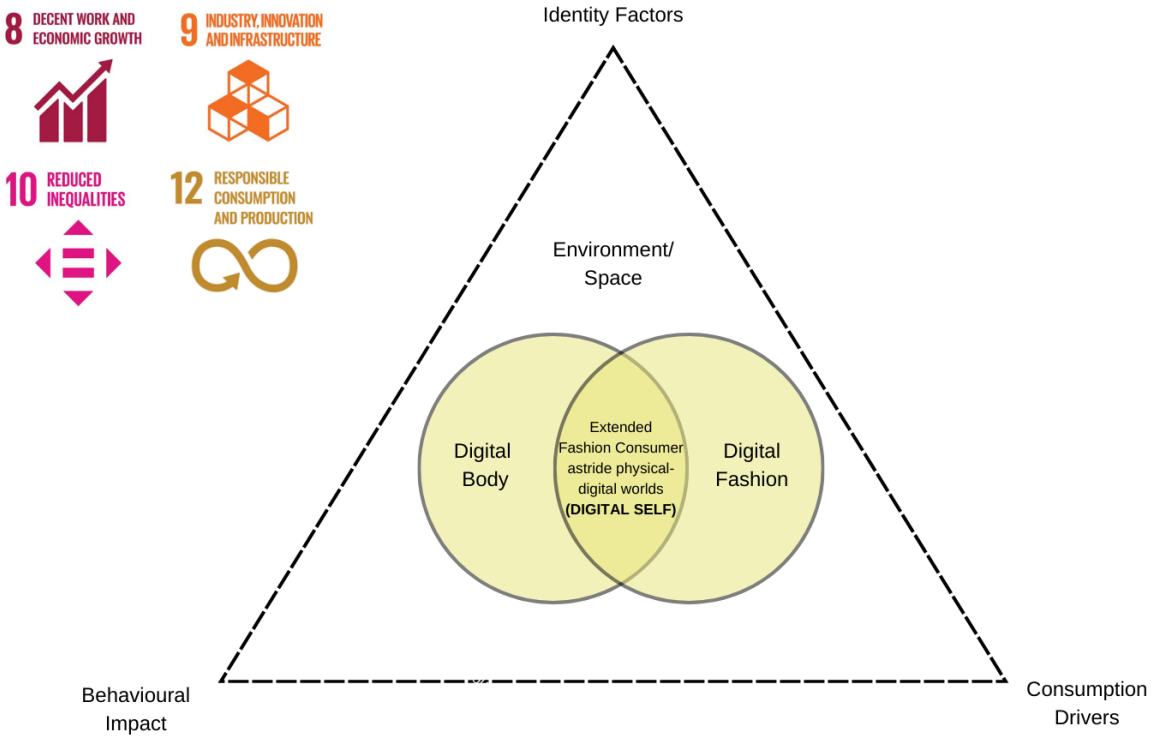


Figure 3.20: Theoretical Framework (Author's Own)

This proposed framework is upheld by key sustainable development goals to measure the awareness of responsible innovation and the success of sustainable development, as suggested by Periyasamy and Periyasami (2023). The SDGs present a paradigm in which both physical and digital worlds must abide, and it is important to uphold new digital landscapes to the same standards as the physical. Refer to Tables 3.1a and b for a deeper discussion into how the sustainable development goals are applied as a framework within the context of this research.

3.5.3 Research Gaps

Within the metaverse, DF and identity may be interlinked much like the physical world. This assumption can be argued through existing theories, predominately within video game research. However, a more comprehensive understanding of this relationship from the perspective of fashion users is necessary to fully grasp human factors and implications related to DF.

There is some cultural discussion about the role of DF and how it is the new tool for fashion expression without limits, a sustainable alternative to physical items which replace or displace fast fashion (Blazquez, 2002; DRESSX, 2022; Mesjar et al., 2023; Chan et al., 2023), turning designers into coders (Rodriguez and Garcia-Badell, 2022) and unlocking immersive retail experiences that will change the way we create identity and consume fashion through augmented, virtual and mixed realities (Alexander and Blazquez Cano, 2020; Periyasamy and Periyasami, 2023). Whilst there has been some academic exploration around DF in marketing and communication, which is reflected in the way that fashion brands currently use DF as a marketing tool, little has been discovered on the impact of DF on fashion consumers as an end product. In particular, Chan et al. (2023) suggest that further research needs to be conducted on the relationship between DF as an end product and self-image satisfaction, which this research seeks to explore in relation to DF and digital body creation.

Furthermore, Blazquez (2024) and Chan et al. (2023) also note that the connection between DF as an end product and sustainable practices warrants further investigation and the debate is complex. There is a case to be argued that a society immersing itself into digital spaces and experimenting with online personas can be harnessed to create sustainable paths for fashion without the requirement of physical possessions or bodies (Casciani et al., 2022). According to Mesjar et al., this debate has been a popular topic in the articles from 2021. Yet there is little substantive evidence to demystify the debate as to whether DF will be beneficial for people and planet or if it heightens our habits of conspicuous overconsumption and encourages unethical practices (Crewe, 2013). Furthermore, DF has not been explored as having potential to close the existing attitude-behaviour gap which is so prominent within Gen Z sustainable fashion consumption.

The originality of this research is underpinned by critically exploring the societal and cultural implications of DF from a user perspective, including Gen Z fashion consumers and fashion models as examples of early stakeholders and future adopters. Addressing gaps in knowledge summarised by Chan et al. (2023) (Appendix 5) and Blazquez (2024), this research particularly addresses the need to understand the relationship between digital self creation within digital/virtual spaces and the potential implications for sustainable consumer practices through qualitative inquiry. Pellegrino et al. (2023) also suggest that future research should examine the legal implications of virtual goods and experiences replacing physical products. Exploring the concept of DF through fashion user values and beliefs, which is underexplored by researchers, this research contributes to Blazquez's (2022; 2024) digital sustainability as well as providing an updated review and re-theorisation of the extended self in response to emergent technologies. The use of the SDGs will provide a framework to understand how digital fashion and digital self creation implicate the

progression of sustainability as addressed by the goals and targets, advancing our knowledge of what sustainability means within a digital fashion context.

As established within the literature, there are clear steps one must take to enter digital worlds and fashion their digital selves that differ from the physical self. These include:

a. The importance of creating one's digital body through avatar or digital human form (the interface)
b. Followed by the dressing of the digital self through DF options

These steps are interesting to address in a silo. However, this research will go further and holistically approach the concept of the digital self by understanding the value and implications of adopting a digital body, as well as the connection between body and dress. Fashion and identity have been theoretically linked when understanding consumer behaviour within the physical world. Yet further research is needed to understand the relationship between these steps across hybrid physical/digital geographies and its impact on behaviours.

Exploring the 'body' will be the first stage of the primary research, using the modelling industry as a case study to understand how this evolution may be an important tool for building a sustainable, inclusive, and equitable future in relation to the Sustainable Development Goals, to raise considerations regarding digital ethics, and to understand the social and human impact of such innovation. The second stage and study will focus on Gen Z fashion consumers dressing their digital selves within two different metaverse spaces, DRESSX and Zepeto. These platforms were chosen as they require two diverse types of interfaces, which could lead to interesting insights and comparisons. A blended approach of online and offline methodologies will be used to understand the connection between the participant and their digital self. Whilst the methodologies are not original in themselves, how the methods are combined to gather relevant information across hybrid geographies (online/offline) and contribute to industry foresight through scenario-planning workshops could also be seen as a novel approach. Both studies will be comparatively analysed to provide a holistic view, highlighting opportunities and challenges for brands when adopting DF tools.

What makes this research and its focus on the digital body extremely relevant is the fact that the digitisation of humans is only beginning to occur within the fashion model industry. With the prospect of consumer VTO, understanding the creation of the digital body on the consumer, such as self-image satisfaction (Chan et al., 2023), is prevalent for unveiling ethical implications as well as driving efficiency. Through the unique insight of my personal experience (refer to Section 2.1: Context) as a fashion model and someone who has

digitised themselves through photogrammetry and volumetric capture, the research will be enriched through a deeper understanding of the current phenomena that are currently only experienced by a few.

Adopting the SDGs as a framework for sustainability, the research will pay close attention to the adoption and response of participants and how DF may impact offline behaviours. It seeks to expose both opportunities and risks towards digitising humans and dematerialising fashion, helping to foster best practice across consumer, industry and government sectors. Evidence shows that fashion has generally adopted technology to accelerate production and consumption, which is at odds with sustainable goals. For DF innovation to make a genuine contribution to sustainable development, there need to be coherent strategies that look at how it may affect both planet and people (Shift, 2022). Final outcomes of this research will provide novel approaches which will assist industry in responsible innovation that is aligned with sustainable development and user ethics.

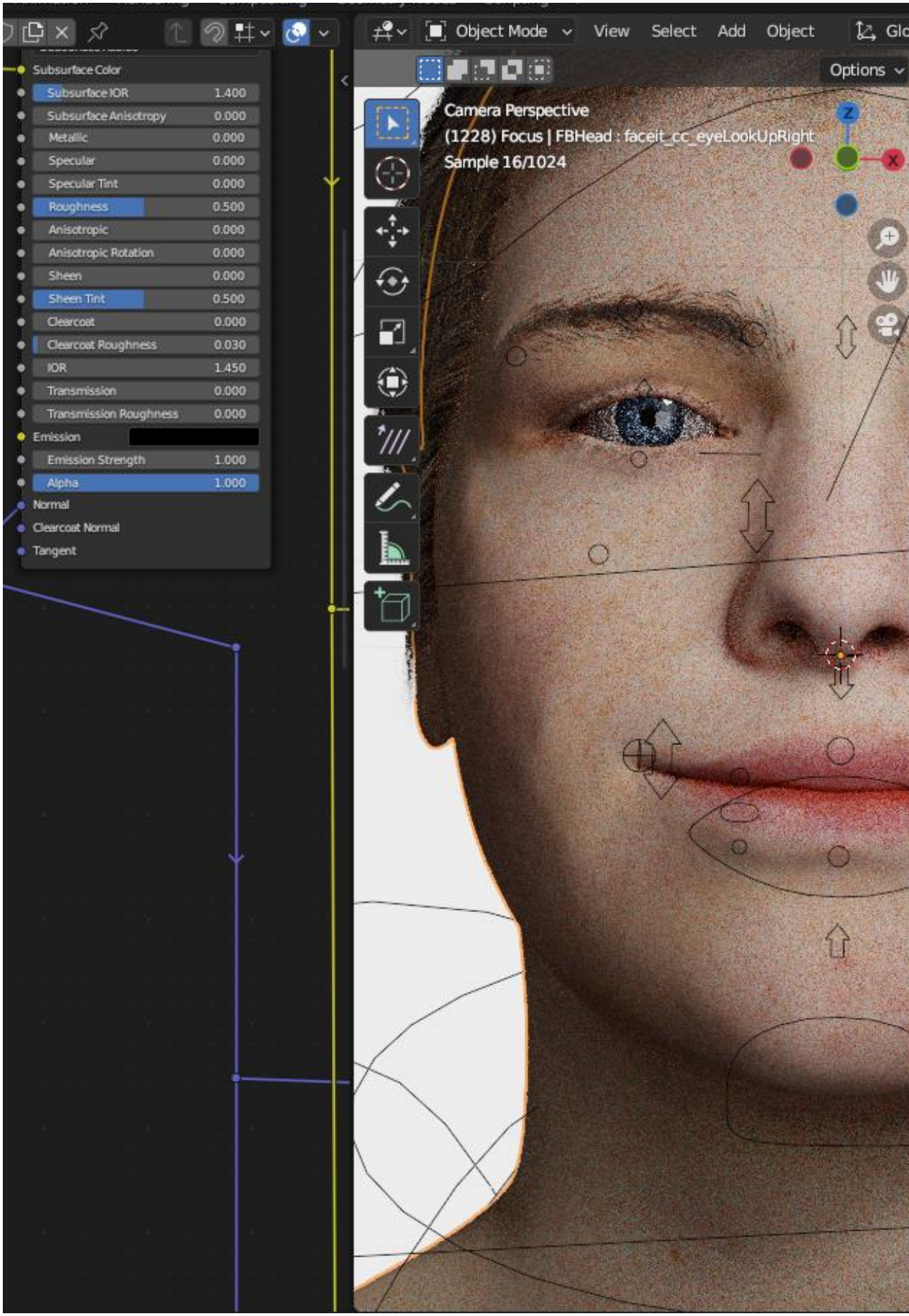
In conclusion, with an understanding of the current landscape, existing theoretical underpinnings, and gaps in knowledge, the following questions will guide the primary research and informed chosen methods and methodologies:

RQ1. What are the motivations for users of fashion to invest in the creation of their digital selves, and is sustainability a driving motivation?

RQ2. How will the creation of digital bodies play a role in constructing fashion identity across digital and physical worlds?

RQ3. Can dressing the digital self influence consumer behaviour offline, replacing the desire for physical fashion for the fashion consumer and thus contributing to sustainable fashion consumption?

RQ4. Using the sustainable development goals as a framework, what are the sustainable and ethical considerations of constructing digital identities within the digital fashion paradigm?


Subsurface Color
Subsurface IOR 1.400
Subsurface Anisotropy 0.000
Metallic 0.000
Specular 0.000
Specular Tint 0.000
Roughness 0.500
Anisotropic 0.000
Anisotropic Rotation 0.000
Sheen 0.000
Sheen Tint 0.500
Clearcoat 0.000
Clearcoat Roughness 0.030
IOR 1.450
Transmission 0.000
Transmission Roughness 0.000
Emission
Emission Strength 1.000
Alpha 1.000
Normal
Clearcoat Normal
Tangent
Object Mode
View
Select
Add
Object
Options
Camera Perspective
(1228) Focus | FBHead : faceit_cc_eyeLookUpRight
Sample 16/1024

Chapter Four

METHODOLOGY

4.1 INTRODUCTION

Underpinned by existing literature and theoretical frameworks, the research assumption dictates that the concept of fashion within digital worlds will have just as much importance to the fashion consumer as within the physical world. Fashion theorists have continued to argue that fashion, identity, and consumerism are complex yet inherently linked. Video game theorists exploring virtual social identity provide insight into the gamer's relationship with virtual goods. Plus, as Rocamora (2014) argues, fashion is the paradigm of modernity, responding to generational temporality as well as technological advancements. However, despite the blurring lines between fashion and gaming, the relationship between the fashion-centric user (such as the traditional fashion consumer) and the concept of digital fashion is still not clearly understood, and similarities between gamers and fashion users cannot be assumed within a fashion context.

Chan et al. (2023) argue there needs to be more attention on DF as an end product, suggesting qualitative research with users of DF. Instead of exploring the technical and business capabilities, including the implications of fashion's digital transformation on supply chains and business models (Casciani et al., 2022; Periyasamy and Periyasami, 2023; Lui et al., 2019), or DF and the metaverse as an effective marketing tool (Noris et al., 2022; Blazquez, 2024), the 'users' of the technology were at the centre of this research to provide holistic and anthropological insight of DF as an end product. As Rinaldi (2019) suggests, we need to rethink the terminology used to describe the consumer of digital items as a 'user' rather than a 'consumer' or 'wearer' of the garment. The end 'users' (or participants) within the two studies included fashion models and Gen Z fashion consumers.

Furthermore, despite the rise of DF and the metaverse providing practical and sustainable implications (Periyasamy and Periyasami, 2023), it is unclear how these new tools for fashion expression will or can drive more sustainable consumer practices. For the DF sector to thrive within a fashion-centric context, we must understand what will drive the fashion users to cross over into digital worlds to express themselves through dematerialised fashion and invest in their digital self. Plus, gaps in literature show that it is not just the fashion item

that needs to be focused upon but the connection to the digitised body which contributes to the fashion user's extended self within digital worlds (Belk, 2013) and their self-image satisfaction (Chan et al., 2023). Therefore, this research includes two studies: a preliminary study on *Digital Bodies* and a larger study on *Digital Dressing.*

Just as the metaverse is currently within its infancy stages, so are we fashioning our digital identities. The findings hope to achieve insight for the industry to responsibly innovate within the framework of the Sustainable Development Goals and with the end user as the prime focus. As Rinaldi (2019) also argued, industry and research must look beyond the practical implications of emerging technologies to understand societal and cultural implications, which can aid in responsible innovation.

4.2 OVERVIEW OF METHODOLOGICAL APPROACH

4.2.1 Research Approach

Extending upon Chan et al.'s (2023) systematic literature review and furthering the field of DF, this research was developed upon the ontological framework, providing an understanding of why fashion consumers engage in consumption for their digital identity. From an epistemological position, it sought to unearth the potential implications of the dematerialisation of fashion on dressing and self-expression, particularly in the context of sustainable development.

The overarching approach for the qualitative research was interpretivist due to its emphasis on understanding the social phenomenon of DF and digital identity through the subjective experiences and interpretations of fashion users across digitally mediated geographies (Saunders et al., 2019; Crewe, 2013). Saunders et al. (2019: 149) state that interpretivism emphasises that humans are different from physical phenomena because they create meanings and 'the purpose of interpretivist research is to create new, richer participants' responses to DF and identity creation within digital settings' (Stokes, 2011; Bryman and Bell, 2007). Due to the subjective nature of inductivism, research requires a large amount of in-depth qualitative data to ensure validity and reliability and, therefore, inform the chosen methods for this research, including netnographic observation.

2.2.2 Research Methodology

The overarching methodological choice for this research was multi-method with a qualitative focus. Based upon their systematic literature review, Chan et al. (2023) suggest that further

qualitative research is needed to delve into DF as an end product, grounding theory, generating hypotheses, and deepening understanding. According to Creswell and Creswell (2017), qualitative methods allow insight into participants' beliefs, values, and attitudes, capturing more in-depth and detailed insights into novel experiences and allowing for flexibility in the data collection. It encourages engagement of the researcher to elicit rich descriptions and deepen understanding of an emerging field of study, such as DF identity (Parker, 2014). Indeed, academics caution that extensive use of quantitative methods in an emerging field is unlikely to produce compelling results (Edmondson and McManus, 2007). Furthermore, Chan et al. already confirmed marketing, indicating familiarity and limited need for further research within this area of DF. Even so, Kawamura (2020) argues claims that most qualitative researchers do not believe that one can analyse human experiences quantitatively. Qualitative methods were, therefore, appropriate to analyse the customer experiences of participants creating and dressing their digital selves.

A unique blend of dominant and novel methods was adopted to produce a multi-method sequential qualitative approach to data collection. For Study One, a cross-sectional study focused on the impact of digitising fashion models, using focus groups with fashion models and a novel industry workshop using the scenario-planning method (Schoemaker, 1995; Mariton, 2016). Through different perspectives and narratives, a preliminary and holistic view of the phenomena was able to be captured.

Study Two required a longitudinal approach, using participant-observational interviews to study DF as an end product across two DF platforms, DRESSX and Zepeto. As suggested by Chan et al. (2024: 74-175) for future researchers, the adoption of participant observation and in-depth interviews allows participants to directly experience various forms of DF end-products: '...Mere knowledge may not be sufficient for expressing opinions, while case studies and in-depth analysis of specific examples of DF products or companies can be conducted to identify best practices and key success factors.'

For Becker (2018), surveys and interviews cannot adequately capture how an experience evolves over time. Bizzi and Langley (2012) and McColl-Kennedy et al. (2015b) have suggested the use of longitudinal research designs, which have greater potential to capture a phenomenon's processual aspects. Real-time longitudinal designs and the use of repeated interviews can be incorporated into longitudinal design. However, many researchers utilise both retrospective and real-time data collection methods, and, therefore, a study does not have to be longitudinal to capture the full picture. As Becker (Becker, 2018: 470) states: 'The crucial requirement is to document the sequence of events over time and within their context.' For Study Two this was important to consider given the focus on changes to consumer behaviour. Due to time restraints, participants were surveyed, and then selected participants were interviewed at two stages. A survey was primarily adopted

as a sampling tool to highlight and filter relevant participants for the observational interviews. The primary research lasted across a three-month period, with a two-week window between the observational interviews to allow for any behavioural changes. Alongside the observational interviews, a netnographic method was adopted by the researcher to observe participants' actions online and subsequent social media actions and interactions. Due to the nature of the research exploring the fashion consumers within digital contexts, a suitable online methodology was required to collect the array of qualitative data across websites to social media (discussed further within section 4.4.2.1).

2.2.3 Two Study Rationale

The justification for this two-study approach is due to the significance of each stage in the evolution of the fashion consumer within digital spaces, as well as a response to the phenomena occurring in real-time throughout the scope of this research. Both studies allowed exploration and insight into the digital transformation of the extended fashion user (Figure 4.1). Each section was not exclusive to one another, informing one another through iterative analysis and triangulation, and explored distinct aspects within the broader concept of fashion within digital worlds.

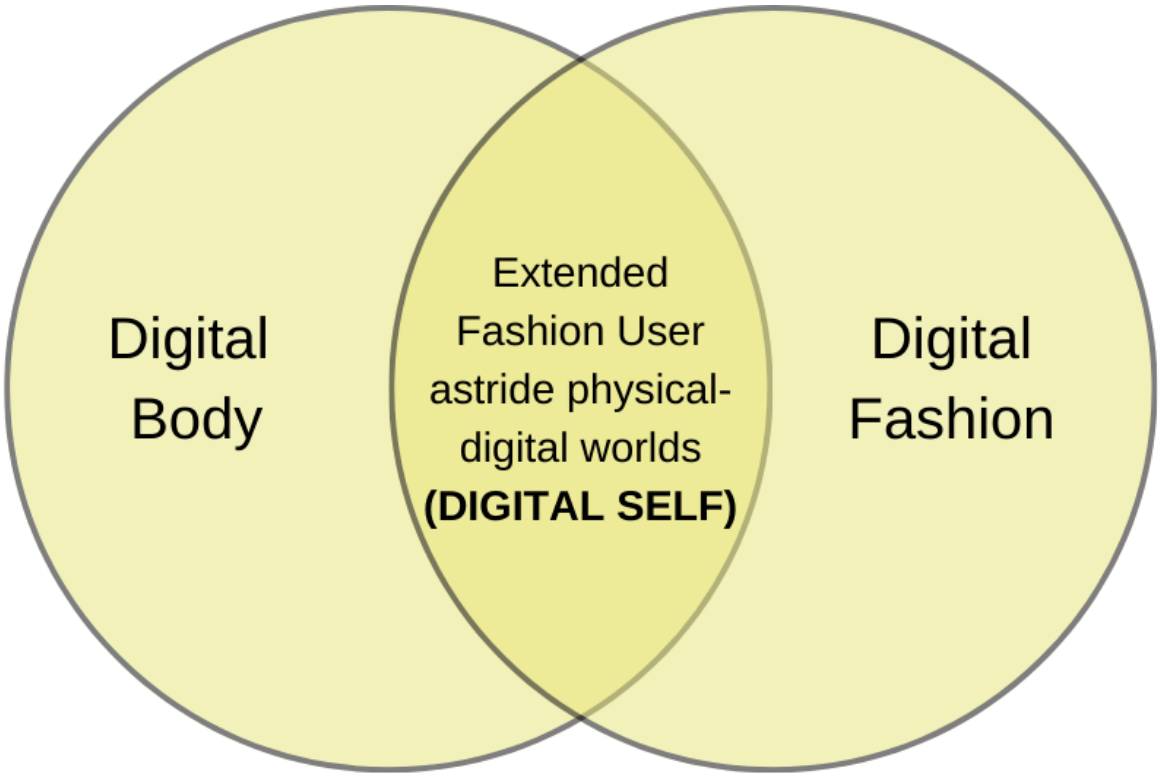


Figure 4.1: Relationship and requirement of both 'digital body' and 'digital fashion'

for the extended fashion consumer (the digital self) astride physical-digital worlds

As established within the literature review and presented within the theoretical framework (Figure 3.20), the requirement for entering virtual worlds is to adopt an interface (such as an avatar or digital human) before dressing it through DF as an end product (Chan et al., 2023). It was crucial to address the foundational step of the digitisation process, whereby a user had to adopt a digital body as an interface, as the full realisation of the digital self within the context of fashion consumption has not yet been fully understood.

Study One, in fact, came about as a response to an opportunity that presented itself during the research through personal connections and experience. The focus on fashion models was, in many ways, convenient, given that models were already undergoing a digital transformation using 3D digital scanning, AI (Artificial Intelligence) and CGI (Computer Generated Imagery); They provided a rich participant pool to explore the impacts of body digitisation, as well as being legitimate stakeholders within the DF paradigm (Mitchell et al., 1997). I also had access to these participants either directly or via model agencies who acted as gatekeepers due to my own professional experience. At the time of this research, fashion consumers were not privy to the mainstream use of these technologies, although, through the nature of responsible innovation, we must prepare for the advancements, such as virtual try-on. Therefore, fashion models as 'users' of the technologies offered insight into user perspectives and the wider issues of body digitisation, such as digital ethics. However, it is important to note that the significance in the findings is attributed mainly to Study Two. While Study One revealed some interesting findings, some did not directly align with the aims of this study and, therefore, cannot be considered fully within the scope of this research.

Study Two focused on the Gen Z fashion consumer and their response and adoption of DF for digital identity creation through DF experiences. This broader study required more time, participants, and different methodological approaches. This study addresses some of the key gaps in research derived from Chan et al.'s (2023) systematic literature review concerning the adoption of DF as an end product by the consumer.

4.3 STUDY ONE METHODOLOGY – DIGITAL BODIES: An investigative and speculative study on the digitisation of fashion models and the wider impact on industry and consumers

4.3.1 Introduction

An important gap in knowledge was found resulting from the current phenomenon of digital humans entering the fashion paradigm, which had been observed on a professional and

academic level by the researcher. This fundamental study explored the digitisation of humans as the first stage of the extended self within digital worlds, offering interesting insight into the process and implications of digitising humans and addressing objectives 3 and 4 of the research. Supported by the British Fashion Model Agents Association (BFMA), fashion models were researched as a relevant case study, given models were already being digitised by fashion clients to be used within e-commerce and metaverses. My own experience as a fashion model who previously and subsequently went on to have their own digital scan created also reinforced the necessity for further understanding within this area. This study acted as a preliminary study that was presented at the Sustainable Innovation 2023 conference and has subsequently informed contractual decisions within the modelling industry, which will be presented within Chapter 7: Conclusions and Implications.

This study sought to understand how the digitisation of humans can be a tool for building a sustainable, inclusive and equitable future in relation to the Sustainable Development Goals, to raise considerations regarding digital ethics, and to understand the social and human impact of such innovation. Digital bodies can also become the interface for DF as an end product (Chan et al., 2023). Understanding the implications of digitising humans within fashion offered insight and guidance for the future, digitally native fashion consumer who will soon have the tools to fashion one's digital self. As argued by Dunne, we must speculate everything. Supported by Hyndman and Athanasopoulos (2018), they argued speculative methods are required to generate forecasts based on plausible scenarios which can inform best practice for future generations.

4.3.2 Research Design

A multi-method qualitative approach was adopted for this study, using two focus groups and one workshop. Within the time of this study, the creation and use of digital human models (DHM) were nascent but rising and, therefore, required a cross-sectional study combined with speculative thinking. As defined by Carson et al. (2001), a focus group focuses clearly upon a particular issue or topic and encompasses the need for interactive discussion amongst participants. According to Kawamura (2020: 66), 'the informal group discussion atmosphere of the focus group interview structure is intended to encourage subjects to speak freely and completely about behaviours, attitudes, and opinions that they may have.' Due to this 'information-rich' case study on fashion models, who are one of the first to be digitised for fashion industry purposes, Saunders et al. (2019) suggest focus groups (or group interviews) as the most appropriate method. However, it was essential to prepare for discrepancies between participants' input and encourage quieter participants to share their thoughts. One-to-one interviews could have helped to overcome this; however, the

interactions among and between focus group members were extremely important to stimulate discussions around such a new topic (Kawamura, 2020).

The workshop method is a novel form of qualitative market research to disseminate and encourage different interest groups to draw out the implications of the research for their own work (Keegan, 2009). As Keegan suggests, market research is often used to help identify opportunities for the future, which is sometimes referred to as 'marketing research' to differentiate it from 'data gathering' (ibid.; pg. 14). Workshops can also be useful for participants to have the time to absorb the feedback and consider implications within their area of responsibility, which is essential to a responsible innovation approach. However, the workshop method has limitations similar to the focus group method since the researcher, as facilitator of the workshop, is there to observe, gather data and to avoid objectivity and influencing discussion (Kawamura, 2020). It is important to have experienced facilitators and moderators of group discussion to stimulate conversation.

Given the emerging nature of digital humans, speculative thinking was essential, particularly in the workshop, which aimed to identify future risks and opportunities. This approach aligns with Dunne's (2009) advocacy for speculative thinking to generate meaningful forecasts for future scenarios. There is not a unified toolkit for conducting research in a speculative mode (Meskus and Tikka, 2022), and it is not commonly used within qualitative research. However, it is used as a strategic method for business and was, therefore, fitting to industry-expert participants. A scenario-planning workshop method was adopted to explore potential future developments and challenges based on their own experiences and insights. Loosely based upon Shell's method of scenario planning and adopting Mariton's (2016) structure, participants were led through a series of activities with the objective to develop explorative and speculative scenarios relating to the tools and technologies for digitising humans and the uncertainties of the future (Borjeson et al., 2006; Ringland, 1998). Within the context of this research, strategic scenarios were defined based upon the question: *What can happen if we continue to develop Digital Humans within a fashion context?*

Within the workshop, it was beneficial for the industry-expert participants to understand the attitudes of the individuals being impacted by the digitisation of fashion (in this case, fashion models) to strategically plan and manage the uncertainties of the future: 'This bottom-up approach aims to challenge current paradigms of thinking within the industry and draw attention to aspects that would have otherwise been overlooked' (Schoemaker, 1995). Therefore, findings from fashion models within the focus groups were significant for industry participants to be made aware of when addressing certain issues.

4.3.3 Sampling Strategy and Data Collection

Through personal networks, a purposive sampling strategy was used to obtain participants for both parts of this study, including working fashion models for the focus group and industry participants for the scenario-planning workshop across the UK and US. As Saunders et al. (2019) argue, non-probability sampling is typically adopted for group interviews (focus groups and workshops), as it is possible to learn a great deal from certain participants. To quote Patton (1990: 169): 'The logic of purposive sampling lies in the selection of information rich cases, from which the researcher 'can learn a great deal about matters of central importance to the purpose of the research.' The involvement of models, particularly, constitute an information-rich case given that this group of participants was one of the first to experience and be impacted by the digitisation of humans.

Having identified the target group of models for part one of the study, a snowball sampling technique was adopted as an appropriate method to locate similar subjects and to increase the number of participants (Kawamura, 2020). This was supported by the BFMA, who also acted as gatekeepers to a larger population of fashion models. A snowball technique also helped reduce any bias that may incur from the researcher knowing some of the participants prior to the research.

Two in-person focus groups were held with fashion models in New York (seven participants) and London (four participants), with a total of eleven participants (see participants table in Appendix 7). One participant joined online for the London focus group. The face-to-face focus groups enabled quicker rapport with the participants (Saunders et al., 2019); they were able to share thoughts and attitudes and receive instant feedback. However, they were more susceptible to digression between the participants, which sometimes impacted time management. Also, some participants listened yet did not contribute to the discussion and, therefore, were not picked up by the transcription. After some data cleaning, the inductive approach was beneficial in this instance.

Due to the emergent nature of the topic and limited participatory pool, age or birthplace was not taken into consideration for this research. One argues that this detail had little to no impact on meeting the objectives of this study and the validity of the results; fashion models from countries frequently travel between countries and the job remains primarily the same within each country. Future research into data protection and policymaking would suggest taking geographical location into account due to differences in data processing laws.

Purposive sampling was also used to recruit industry experts for part two, the scenario-planning workshop, who were key stakeholders and had relevance to the research topic across. A workshop preparation canvas (see Appendix 12) was initially used to map out the

relevant sectors that would be beneficial to the study, including fashion modelling agencies and the technology participant table. The online workshop consisted of eight industry-based participants who were selected based on three main criteria: experience, diversity of skills and diversity of knowledge. To ensure relevance and validity, the researcher sought participants through their own professional networks (including LinkedIn) who met one or more of the following criteria: Knowledge or experience within the area of DF, digital humans and/or sustainability; Employed by or runs a company that may be impacted by the digitisation of humans (such as a modelling agency or digital scanning company); technical knowledge, particularly in regards to digital humans, digital ownership, and digital ethics

It was also important to establish an even field between participants from both fashion and technology to provide a balanced discussion between technical knowledge and fashion-insider insight. Due to the availability of participants, three participants worked within the technology sector and four worked within the fashion sector. However, one participant bridged both industries and referred to their employment as exploring the intersection between fashion and technology and subsequently was established as 'fashion-tech'.

4.3.4 Research Procedures

The research was conducted in two stages, adopting two methods: focus groups and workshops. The purpose of these methods was to explore the phenomena of digitising humans through a relevant demographic of fashion models who have either experienced being digitised or share their perspectives, attitudes and beliefs towards the process of digitising humans. Insights from the focus groups were used to inform the workshop participants, coupled with their own industry expertise, to speculate potential scenarios that may evolve from digitising humans. Before beginning the study, for ethical purposes, all participants had to sign a consent form and were sent an information sheet prior to the focus group with further details on the purpose of the study (refer to Appendix 8 for consent forms and Appendix 9 for the information sheet for focus groups; refer to Appendix 14 for consent forms and Appendix 15 for the information sheet for the workshop).

4.3.4.1 Focus Groups

Focus groups were adopted as the research method to give the opportunity for models within the fashion industry a space to dive deep into thoughts and concerns about avatars and digital humans from an individualistic perspective. The research instrument, including the focus group framework and questions, can be found within Appendix 10. The groups were presented with visual aids and technical information (Appendix 11) to facilitate

conversation. Some questions raised novel ideas and issues for the participants that were previously unconsidered and, therefore, required the researcher to guide the discussions and highlight key areas specifically around technical capabilities and digital ethics. Each focus group was conducted in person, lasting 90 minutes, and was recorded using the voice memo app and Otter.ai for transcription, maintaining participant anonymity and securing validity in data through transcription and note-taking, as encouraged by Saunders et al. (2019).

4.3.4.2 Scenario-planning workshop

The workshop method engaged industry experts to identify key drivers and uncertainties regarding the future of digital humans. This method required that the research participants be active in the research process rather than simply passive sources of information so that they can generate ideas and concepts that help researchers to develop their findings (Keegan, 2009). Participants were given an information worksheet that provided tasks and expectations of the workshop (Appendix 15), alongside consent forms required for the ethical procedure (Appendix 14).

During the online workshop, the participants were led through a series of activities inspired by Shell's strategic method of scenario planning, with the objective of developing explorative scenarios relating to the tools and technologies for digitising humans and the uncertainties of the future (Borjeson et al., 2006; Ringland, 1998). The workshop was developed through a structured plan based upon Mariton's (2016) SME Strategic Management Consultancy (Figure 4.2).

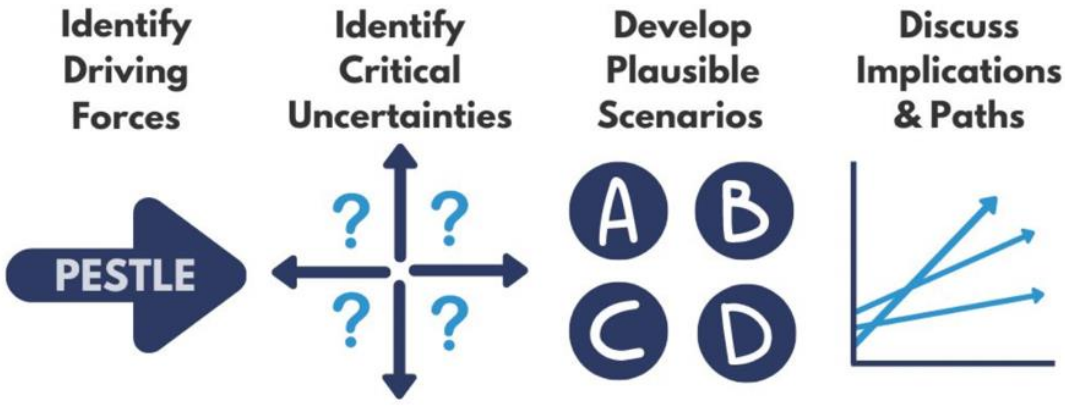


Figure 4.2: What is Scenario Planning and How to Use It. (Mariton, 2016)

A full outline of the workshop framework can be found within Appendix 16. The structure of the workshop is split across four sections: Identify driving forces, critical uncertainties, speculate plausible scenarios, and discuss implications and paths. Section one used the PESTLE analysis tool, which allowed participants to individually identify and evaluate critical uncertainties across political, economic, social, technological, legal, and environmental factors. The strategic planning framework helps business and project managers in the decision-making process. (Makos, 2024). Sections two and three split participants into two groups, as these tasks required critical thinking and allowed for diverse perspectives, producing richer insights and ideas. It also helped with time management. Section four brought all participants together to discuss implications (positive and negative) and paths referring to highlighted scenarios.

The online workshop was conducted via Miro, using Microsoft Teams, and lasted three hours. The researcher acted as facilitator and one 'Navigator' was required to assist in group work and if any issues arose.

4.3.5 Data Analysis

The activity throughout the workshop was recorded and stored within Miro, with the researcher taking screenshots of the completed tasks. Discussion was also recorded in Teams in case the researcher needed clarification, securing validity of the data as recommended by Saunders et al. (2019). Participant anonymity was maintained beyond the workshop setting, as was standard ethical procedure, by the removal of personal identifiable information.

Thematic analysis was adopted, using established coding cycles as suggested by Saldaña (2009). Saldaña (2009: 3) defines a code in qualitative enquiry as 'most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data.' In this case, the data was thematically analysed throughout the workshop due to the use of post-it notes, which quickened the initial coding process. Qualitative approaches containing thematic analysis are usually time-consuming with transcription followed by first coding cycles, but the post-it notes helped highlight some of the key codes throughout the workshop. The workshop was not recorded, as the researcher wished for the participants to feel comfortable to speak their minds, to allow group discussion to flow naturally, and for groups to discuss and debate before defining their answers through the post-it notes. Furthermore, due to the breakout groups whereby participants would break off into groups within Teams, it was difficult for the researcher to record all conversations simultaneously. Insightful anecdotes could have

been lost, but due to the use of Miro and post-it notes, most discussion and insights were filtered and captured by the workshop process. Post-workshop, the researcher analysed the findings further by grouping the post-it notes into concepts through pattern coding analysis, which related to similarity or difference, frequency, sequence, consequence, and causation (Saldaña, 2009). Themes were then compared to the focus group findings to contend or support.

4.4. STUDY TWO METHODOLOGY – DIGITAL DRESSING: A netnographic exploration of Gen Z consumers fashioning their online identities

4.4.1 Introduction

Digital Dressing was the main study for this research, which explored the act of fashioning one's digital self and its potential impact on sustainability and aimed to achieve objectives 2, 3 and 4 of this research. Having identified the key participant sample through secondary research, the research focused on the traditional fashion consumer (TFC) who does not conform to the video game community in which DF is typically understood. For DF to become a mainstream commodity within the fashion industry, it could be argued that DF needs to be further understood within the realms of the TFC and how TFC adopt DF to construct new visions of identity.

It is still uncertain whether DF can offer a sustainable form of consumption for the consumer, and there is a need to support or disprove DF's sustainability claims on a holistic level. This research does not offer quantifiable data to suggest environmental levels of sustainability; it offers a philosophical lens based on qualitative data on the impact of DF towards driving more sustainable behaviour within fashion consumers, as well as offering industry insight into the future trajectory of DF.

Disintermediation (Crewe, 2014) and mediatization (Rocamora, 2016) of fashion require us to think beyond even the contemporary field of fashion that theorises the concept of fashion as a physical commodity. DF and identity can bring the unimaginable to reality through their digital and virtual forms. The lines between realities are blurred, and as Web 2.0 evolves into Web 3.0 and so forth, the lines may diminish.

4.4.2 Research Design

A multi-method qualitative focus, including an online survey and online observational interviews supported by netnography, was chosen for this study. The longitudinal study

lasted across a three-month period from survey outreach to final follow-up interviews. Through triangulation, the findings across all methods were thematically analysed.

The intention of the survey was to assist in purposive sampling, to filter, nominate and recruit specific Gen Z participants for the observational interviews who met certain criteria. It also helped account for attrition whereby participants will likely drop out over time. However, there was concern that the observational interviews may not have offered enough data to generalise the findings to a larger group. The survey offered an opportunity to gain insight from a larger, more generalised sample, and, therefore, results from the survey were sometimes used as supporting data for findings where appropriate and can be used for future research. However, as Kawamura (2020) notes, surveys do pose the risk of participants answering in a way that is not in keeping with their true response, which can impact the validity of the findings, particularly with multiple-choice questions. Some of the concepts of this study were new to many of the participants, such as DF, avatars, digital humans and the metaverse.

Online observational interviews were adopted as appropriate methods for data collection for the selected participants. Online observational interviews can also be referred to as online interviews (Kozinets, 2020) or what Salmons (2011: 5) refers to as 'e-interviews', which are 'in-depth interviews conducted using CMC [computer mediated communication].' Saunders et al. (2019) also note that the observation technique is a type of participant-observation, which typically has its roots within social anthropology, and present four ways of approaching participant-observation which consider the anonymity of the researcher and the level of immersion. Observational interviews or 'observer as participant' allow the researcher to observe an activity whilst revealing their identity (ibid). Depending on the broad range of researcher-interviewee positions within an online context, it is important to think of the technical medium before structuring the interview. The researcher, in this instance, asks the participant to share their online screen whilst undertaking a series of tasks and explaining to the researcher what they are doing, guided by semi-structured open-ended questions. This method positioned the researcher as an 'outsider', which could be seen as limited given that the researcher is not fully immersed in the activity and, therefore, must rely on the participants to honestly reveal thoughts and emotions throughout the interview experience (Saunders et al., 2019). However, Kozinets (2020: 254) notes that 'body language and facial expressions might be helpful observations for you to collect as they provide their narration and explanation', and, therefore, the researcher recorded and collected both visual and verbal data.

According to Saunders et al. (2019), there are other considerations for this method, such as collecting data, which can pose problems due to the varied range of data, including

transcripts, videos, images, and note-taking. A pilot study was conducted to ensure that the researcher had enough time to capture the wide scope of data. Technical requirements were also taken into consideration, ensuring that all participants had a strong connection to the internet before proceeding, given that the interviews required online participation across e-commerce and metaverse platforms.

Following on from the initial observational interviews, if the participants wished to acquire a DF item from DRESSX and share their digitally dressed selves on social media (Instagram), responses or interactions from participants' followers were observed and recorded. This netnographic approach to observing the community of fashion consumers online allowed the researcher to gain further insight into natural responses beyond the possible un-naturalistic setting of the observational interviews (whereby the participant is aware of the researcher observing their online behaviour). According to Kozinets (2020), this is an important aspect of netnography and as we know from previous literature, fashion is as much about validation and imitation as it is about individualism (Veblen 1899; Simmel 1957; Von Bush, 2020). Due to the novel approach of netnography, the methodology will be discussed further within the next section and the reasons for its adoption within this study. Follow-up interviews were also scheduled two weeks after the initial interviews with those participants who wished to acquire a DF item from DRESSX.

Ethical implications can pose a challenge for the observational interviews given that interviews will be conducted online on third-party platforms and participant anonymity is essential. How the research overcame these challenges will be discussed within section 4.8.

4.4.2.1 Ethnography and Netnography

Due to the data collected within the *Digital Dressing* study across online media, from interviews to social media, the researcher required an online methodology which allowed the researcher to exploit data beyond the interview setting. *Digital Dressing* was a complex part of the research due to the study of the fashion consumer blended across online/offline geographies.

Established by Kozinets in the late 1990s, netnography is a portmanteau of "internet" and "ethnography" and is becoming an increasingly popular research method for the study of consumption in communities online. Kawamura (2020) describes ethnography as a qualitative, descriptive, and nonmathematical approach to studying humans, their lives, and behaviours, including their clothing choices, within their natural environments. However, due to the process of disintermediation as presented by Crewe (2013), whereby virtual

worlds begin to collide with the physical, this challenged the relevance of traditional ethnography and made the process of choosing a suitable methodology much more challenging. As Kozinets (2015) argues, new mappings of reality require us to try novel approaches.

Through further secondary research, an understanding of methodologies catered towards studying the relationship between consumer behaviour across online/offline worlds was established, unveiling a scope of genres from online ethnography (Beaulieu, 2004), virtual ethnography (Hines, 2000), to network ethnography (Howard, 2002). Przybylski's (2020) 'Hybrid Ethnography' seemed promising, especially considering its subtitle, 'Online, offline, and in between'. Pryzybylski offers processes to combine online and offline research methods to support the reality of contemporary fieldwork for 'expressive cultures'. Her focus on expression through online platforms (most specifically social media) was specifically relevant. Yet her hybrid ethnographic approach lacked the specific attention to digital worlds and was more fitting with live experiences, such as gigs and concerts, and was more situated within the offline world.

Netnography is becoming an increasingly popular research method for the study of consumption in communities online. Netnography requires participant-observational research based on online fieldwork and changes the nature of interaction by the researcher within these environments (Hetland and Mørch, 2016). It is a form of ethnographic research adapted to include the internet's influence on contemporary social worlds, which is an important distinction given that the internet is shaping culture and so embedded into the way we socialise, consume and behave across blended digital and physical worlds.

However, netnography is procedural and limited by its placement purely online, exploring established online communities. Bowler, Jr (2010: 1217) studies Kozinet's methods of netnography and states that it requires "immersion" of the researcher in the life of the online culture or community.' However, at the time of conducting this research, there were limited online communities in existence that were made up of traditional fashion consumers within the DF realm, other than social media and one-off events such as Metaverse Fashion Week. Those online platforms commonly associated with DF consumption, particularly Discord, were primarily made up of gamers, NFT and crypto enthusiasts. Therefore, this presented quite a significant challenge for the researcher to find appropriate online communities that did not seem to exist on a mainstream level.

As an alternative, Kozinets presents a blended ethnographic-netnographic methodology for studies of community online involving online and offline interactions. Kozinets presents a blended ethnography/netnography approach which accepts the importance of online

elements but also leaves room for influence from offline cultural interactions and decision-making (Figure 4.3).

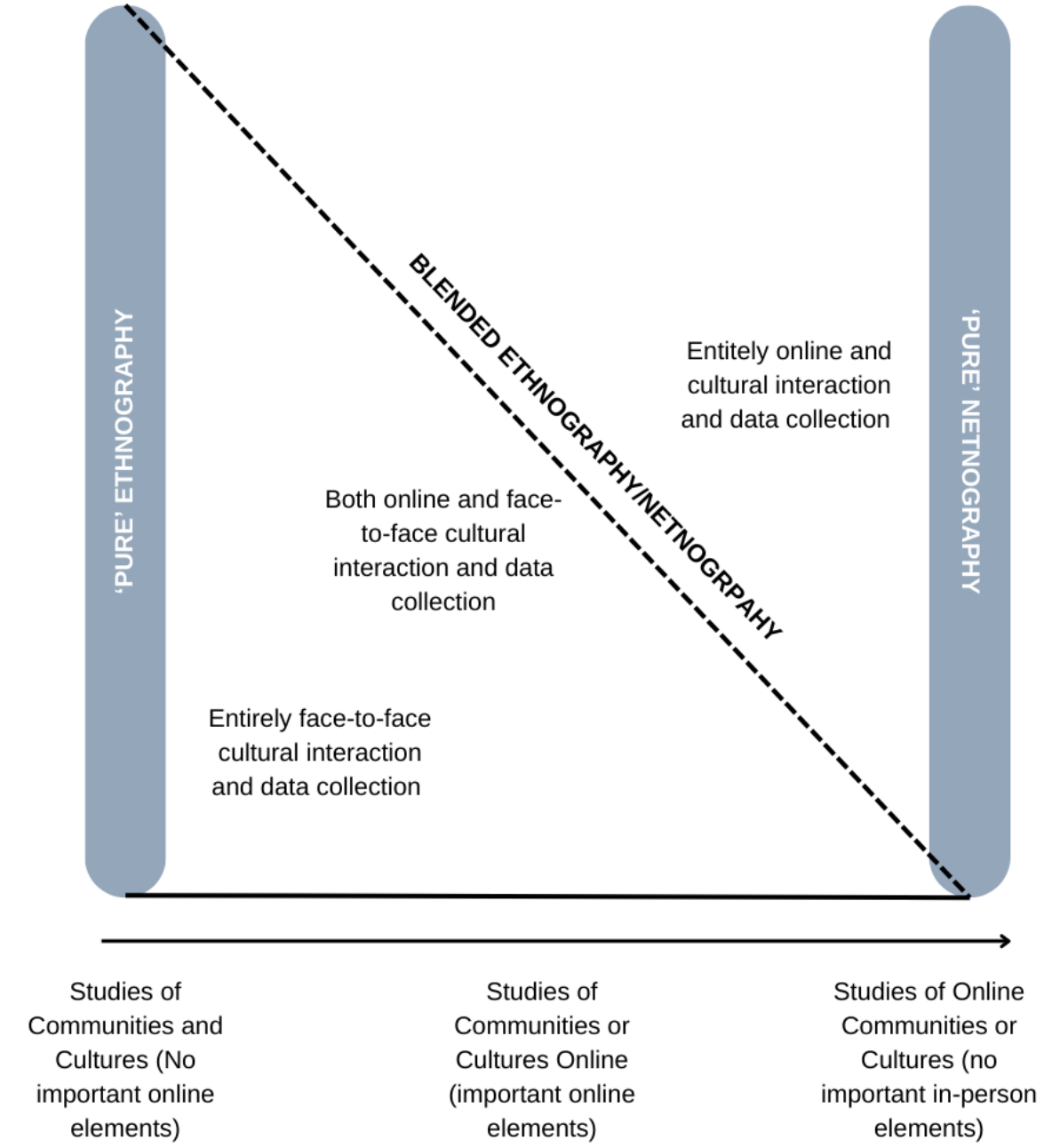


Figure 4.3: Co-ordinating online and face-to-face interaction and data collection: *Netnography* (Kozinets, 2010: 67)

Kozinets (2010) argues a distinction between researching 'online communities' versus 'communities online'. Due to the position of this research across hybrid worlds, it is important to understand this distinction when considering netnography as a main or supportive methodology. For example, communities online can examine social phenomena that exist beyond the internet and online interactions and relate to wider implications governed by the

participant's values, beliefs, and behaviours. Kozinets (ibid., 67-68) recommends that when researching 'community online', netnography should play more of a supporting secondary role given that 'technological mediation is no longer a new form of communication and community but has passed – or very shortly will pass – into the realm of the status quo, the way that our society simply is.' Given the prevalence of a digitally native generation and the rise of Web3 technologies during the period of this research (2022-2024), digitality and technology mediation have become part of the status quo.

Therefore, observational interviews supported by netnographic observation across social media channels became decidedly more prevalent for the research due to several factors: 1. The study explored established fashion communities online within one of their 'natural' online platforms (Instagram). 2. The level of ethnographic research is limited given that the researcher never observes the participant within their physical environment 3. Within a digital age, fashion, identity, consumer behaviour and even the impact on sustainability extend across hybrid geographies. If we consider Hillis's coaxial cable (1999), the origin of the digital self derives from the physical consumer connecting the grounded subject to its embodied reality. Therefore, research cannot presume the consumer to be either online or offline but must consider the disintermediatory nature of these blended worlds which positions the consumer as an omnichannel shopper (Lynch and Barnes, 2020). This approach is not devoid of limitations. Kozinets (2015) is fully aware that his suggested approaches for netnographic research will come into question and may become less relevant as technology advances and our lives become more intertwined with the digital.

4.4.3 Survey Sampling Strategy and Data Collection

As defined by the literature review, digitally native Gen Z are the most representative of potential DF consumers (Belk 2013; Vogue Business, 2023), as well as being pivotal in the progress and maturity of fashion's digital transformation (McKenna and Vodanovich, 2016). The identity of Generation Z, those born between 1996 and 2010, is, as Katz et al. (2021) and McKinsey & Co. (2023) argue, shaped by the digital age, climate anxiety, shifting economic landscapes and COVID-19. Therefore, the study will be focused on the Gen Z fashion consumer as the information-rich sample to explore DF and environments as potential tools for self-expression and transforming consumer behaviour.

Importantly, this study focused specifically on traditional fashion consumers (TFC) given that DF has generally been related to those that already play video games or have an interest in the digital items and worlds already. Whilst much can be learnt about the relationship between the consumer, possessions and self through video game literature, theoretical generalisation cannot be assumed. For DF to become mainstream, it is essential

we consider a mainstream TFC: one that has been researched and understood by fashion theorists within a fashion context, one that regularly shops physical fashion and sees the way one dresses as fundamental to self-expression and an enhancement of self-concept (Mair, 2018; Lynch and Strauss, 2007). Furthermore, from a technical and netnographic standpoint, Kozinets (2010: 1271) recommends 'distinguishing between newbies, minglers, devotees, and insiders', and, therefore, this research focuses on the newbies of the DF realm. Informed by established theory, the theoretical framework (Figure 3.20) provided a foundation for the primary research focusing on the fashion-centric TFC to guide survey and interview questions relating to identity factors, consumption drivers and behavioural impact.

To obtain the most representative sample of the participants for the observational interviews that were Gen Z TFC, a survey was used to cast a wide net of participants to later filter by criteria. The survey utilised two non-probability strategies: convenience sampling and snowball sampling. For convenience, a compiled list of UK universities was contacted to target an appropriate and condensed participant pool of Gen Z students. University lecturers became the gatekeepers to the participants, whereby they shared the survey information and questions with their students, ultimately adapting to the snowball sampling strategy. This proved an effective technique, with 159 participants responding to the survey. However, it is important to note that whilst surveys offer insight into a larger sample of participants, there is a risk of respondents answering the survey who do not fall within the research scope. Despite efforts made to find relevant locations such as UK universities, it was difficult to control whether all respondents were within the target Gen Z demographic. Therefore, the researcher cast a wider net of participants to increase the likelihood of relevant respondents, securing 124 out of 156 responses from Gen Z participants.

Using the survey results as a tool for purposive sampling, it was possible to define participants for the next stage of observational interviews, referred to as Gen Z 'traditional fashion consumers' (TFC), based upon a set of criteria (refer to table 4.1). The number of responses (N=) for each criterion, based upon the answers selected, were filtered and recorded. Those who responded to all the criteria were highlighted as selected participants for the next stage of research. A total of 41 participants met all the criteria from the research and became the participant pool for the next stage of observational interviews and netnographic observations. From the 41 participants reached, 18 participants responded and confirmed their participation within the interviews and a participant table can be found within Appendix 18.

Table 4.1: Criteria and Results for Participant Selection for Observational Interviews

Criteria	RQ	Required Answer(s)	N= (number of responses)
Gen Z	2	18-27 years	N=124
Buys physical fashion regularly	6	Regularly, Very Often, or All the Time	N=108
Shows a strong relationship with fashion	5	High Score 3-5	N=150
Interest in being a research participant in DF study	16	Yes, or maybe	N=120
Access to online	3	Yes	N=155
Not an avid gamer	4	No, or Sometimes	N=145
Shows none or little experience with DF	10 OR 7	No or Not Sure No	N=135 N=30
ALL CRITERIA MET	**ALL RQ**	**ALL ANSWER(S)**	**N=41**

As the digital and virtual worlds offer a new geography beyond country borders, it was challenging to only acquire participants born or living within the UK. It could be argued that it is irrelevant within these digital contexts. Furthermore, all interviews were conducted online and, therefore, the participants could log online anywhere in the world. However, due to the difference in cultural norms inherent within human participants, as well as an awareness of data laws, an effort was made to nominate those participants who primarily live within the UK but who were not necessarily born in the UK. Some cultural differences were considered within the data analysis from those who travelled between locations.

Furthermore, due to the nature of convenience and snowball sampling techniques, it is difficult to control the diversity of gender. However, due to research in the exploration of

gender on social media (Kondakciu et al., 2021) and the negotiations and navigation of gender fluidity within online generations, gender definition does not hold as much importance within online contexts as the physical restrictions for gender are diminished. Pronouns for gender identification were asked instead, with 16 participants identifying as She/Her and two participants identifying as He/Him.

Job titles were also asked at the start of interviews for the researcher to attain as much knowledge of the participant and their connection to fashion, revealing that most of the participants were students or employees of the fashion industry. To reiterate, the main criteria for the participants were to be active fashion consumers who did not have much experience or interest in gaming.

4.4.4 Research Procedures

The bricolage study was conducted in three stages adopting the three methods: survey (for sampling tool) and observational interviews, which were supported by netnography.

4.4.4.1 Survey

Participants based within the UK at the time of the cross-sectional study were recruited through the researcher's supervisory and professional networks, targeting UK universities where a large population of Gen Z fashion consumers were located. The main goal of the survey was to assist in the purposive sampling for the next stage of observation interviews, casting a wide net to secure a selected group of participants who met the desired criteria. Therefore, the majority of the questions were multiple-choice questions to quantify and define the key participants.

However, due to the iterative nature of research, the survey presented an opportunity to obtain a larger sample of data from a more generalised sample. The survey method was sometimes considered within the data analysis and findings as supportive data, where appropriate. Quantitative data was mainly acquired from the survey results to achieve the main goal and objectives for the survey as a sampling tool. However, optional open-ended questions were included to allow for elaboration and clarification on some of the answers to further understand the participants' meaning and can be used for future research.

The key categories of the theoretical framework (identity factors, consumption drivers and behavioural impact) were used to organise and inform the survey questions, which can be found within Appendix 17. The objectives of the survey, in order of priority, included:

- Define and confirm participants for next stage of observational interviews
- Understand current attitudes, levels of interest and engagement of Gen Z fashion

consumers towards DF and its potential impact on fashion consumption.

- Understand the level of knowledge about the opportunities and risks for the consumer in relation to the digitisation of fashion.
- Extrapolate whether identity is a key player in the fashion choices made within a digital environment, as suggested by existing literature.

Participants remained anonymous and no personal details were obtained, except email addresses, which were collected in case they were needed to be contacted for future research. For ethical reasons, all participants were given appropriate information about the research prior to their voluntary participation. Further ethical considerations are discussed within section 4.8.

4.4.4.2 Observational Interviews and Netnography

Observational interviews were then conducted to gain in-depth insight into participants' attitudes and responses towards DF. Initial interviews were conducted with all 18 participants and follow-up interviews were conducted with participants who received a DRESSX digital item and image (this was a voluntary step within the research procedure).

Based upon the DF typologies and terminologies as examined within the literature review, whereby DF changes dependent on environment and interface, initial interviews were conducted in two sections to explore two different experiences of DF. In doing so, the study explored not only the role of DF but also the significance of the 'digital body' as the interface within the digital transformation of the fashion consumer. Table 4.2 shows the differences and requirements between each experience.

Table 4.2: Study Sections – Summary of Platform and Requirements

Section/ Experience	Type	Digital Body	DF Platform	Sharing Platform
1	DF on IRL self	Human photographed image	DRESSX	Instagram (optional)
2	Direct-to-Avatar	Avatar	Zepeto	n/a

Prior to the initial interview, all participants were sent an interview information worksheet (Appendix 19) with all the relevant information and participation requirements, along with

the consent forms to be signed (Appendix 20). Before beginning the interview, the researcher repeated the aims and objectives of the interview and the requirements from the participants, as well as informing them of their participant rights and the ethical procedures set in place. The participants were then asked to share their screen for the entirety of the interview using the Teams presentation function, which was recorded both visually and verbally by the researcher through Teams (visual) and Otter.io (verbal transcription). Voice Memo was also used as a backup in case there were any technical issues.

Throughout the interview, participants were led through a series of tasks to create and dress their avatar, whilst the researcher asked semi-structured, open-ended questions. At the end of section one, participants were offered the chance to choose one digital item to be digitally tailored on an image of themselves and provided with a set of instructions for the correct image requirements (Appendix 21). This required the participant to send a photograph of themselves to the researcher with their chosen DRESSX item, which was then paid for by the researcher and sent to DRESSX digital designers to digitally tailor the item onto the participant's chosen photograph. This was an optional step, and participants were informed that any images used would be kept anonymous unless further consent was given by the participant to use their full image for the purpose of this research. Any associated costs associated with the DF items made on the DRESSX website were covered by the researcher. DRESSX offered a 20% discount for items available in the main DRESSX collection. Over written email, an agreement was made with DRESSX to end all licensing associated with the images used and ended by DRESSX on completion of purchase (Appendix 22), and this was also made clear to the participants within the consent form.

Participants were also asked whether they would like to share their DF image on their social media page and, if so, to tag the researcher so that they could observe responses from their community through netnographic observation and data collection. This stage was also optional, given that the researcher was aware that some participants might not feel comfortable or natural sharing such images.

Follow-up interviews were conducted two weeks later with participants who received a DRESSX item with their updated DF image. A 30-minute follow-up interview was conducted with semi-structured open-ended questions to understand whether this stage of the user journey had any behavioural impact on the participant.

For section two of the study, participants were required to create access to Zepeto through a URL link provided by the researcher and to continue sharing their screens. Unfortunately, halfway through these interviews the browser URL link stopped working, so participants were asked to download Zepeto on their iPads or phones and share their screens this way. To respect the participants' time, the promise of technical issues was factored into the

interview schedule and more time was given between sections to mitigate this risk.

Participants did not need to create an account and use any personal dates, but they did need to insert a date of birth to ensure they could access the platform. Upon access, participants were then given five minutes to create and dress an avatar using the DF items available. At this point, the researcher turned off their screen and microphone to avoid researcher interference, but the transcription was left on to capture any emotive noises or comments made by the participants. After five minutes, participants were asked further semi-structured open-ended questions about this experience, particularly focusing on the act of avatar body creation and any comparisons made between Zepeto and DRESSX as variations of DF experiences.

The interview guides for the observational interview and follow-up interviews can be found below (Tables 4.3a and b). They were based upon the theoretical framework established within the literature review (Figure 3.20), which has consolidated key theories and concepts into three broad categories: identity factors, consumer behaviour and behavioural impact. A pilot interview was performed to ensure that the guides offered enough time, instruction and clarity for the participants. This framework was created for future research and to be used as a guide, with the potential to be adopted to other DF platforms and digital environments.

Table 4.3a: Observational Interview Guide – Initial Interview (Study Two)

Location: Online via Microsoft Teams

Duration: 90 minutes

Section/ **Category**	**Actions**
Intro (10 mins)	Location: Online via Teams Duration: 90 minutes Platforms: DRESSX, Zepeto • The researcher introduces the aim and objectives of

	the interview and introduces the participants. • Ensure consent forms are signed in accordance with the **UCA Research Ethics Code of Practice**. • Participant to share screen with researcher. • Participant to open tab on DRESSX website www.dressx.com • Participant to download and use Zepeto on their mobile phone or tablet, or open tab on Zepeto browser version https://now.gg/apps/naver-z/6351/zepeto.html
Start Recording (Teams Transcription and Video, Voice Memo app)	
Section 1 **DF for IRL Self with DRESSX** **(60 minutes in total)**	• Participant to browse the DRESSX website and choose a garment that you would like to purchase up to $100. Purchasing is voluntary, depending on if the participant would like to share an image with DRESSX. • Participant to respond to research questions.
Category	1. **Research Questions** a. **Follow-up Questions**

	***Related Theoretical Concepts: Main (BOLD Italics) and** *Subsidiary (Italics)*
Identity Factors/Consumer Drivers (15 mins)	1. What is fashion's purpose to you? a. What do you usually buy fashion for? ***Hedonic Consumption, Inter-dividuals*** 2. How important is sustainability to you within your fashion consumption? a. How easy do you think it is to shop sustainably? b. How does your consumer behaviour match your attitude towards sustainability? ***Inter-dividuals,** Context, Attitude-Behaviour Gap* 3. What is your initial impression of these DF items? a. Do they feel like 'fashion' to you? b. Do they meet your fashion consumer needs? ***Dematerialisation, Hedonic Consumption,** Inter-dividuals, Context* 4. Why haven't you bought a DF item? 5. What would motivate you to wear a DF item? a. Would the environment play a role?

	b. Would community play a role? ***Context, Hedonic Consumption, Extended Self, Attitude-Behaviour Gap,*** *Re-embodiment* 6. How would you like to express yourself with DF? ***Inter-dividuals, Extended Self,*** *Dematerialisation* 7. How do you feel about these DF items in comparison to physical items? a. Do they offer the same retail therapy and consumer satisfaction? b. Do you feel a sense of consumer connection to these items or a sense of attachment? c. What would increase your sense of attachment? ***Extended Self, Hedonic Consumption,*** *Dematerialisation*
Identity Factors/ Behavioural Impact (5 mins)	8. Are you choosing fashion items that reflect how you dress IRL or something different? ***Extended Self****, Proteus Effect*
Consumption Drivers/ Behavioural impact (5 mins)	9. Do you think DF could influence your style offline? a. Could you see yourself taking more risks? ***Proteus Effect,*** *Dematerialisation, Extended Self* 10. How might DF change your consumer behaviours, if

	at all? b. Is there potential for DF to reduce your consumption of digital items, if at all? ***Displacement Rate, Proteus Effect***
All categories (Digitally Dressed Self) (15-20 mins)	12. How would you like to wear your DF items? a. On your real body or a digital representation of you? b. Would you prefer the digital body to look like you or a different representation? ***Context, Re-embodiment,*** *Fragmentation****, Proteus Effect*** 13. Can you choose some of your favourite items and explain why you like them? a. Where would you like to wear it? ***Inter-dividuals, Extended Self, Context*** 14. What do you see as DF's purpose? a. Do you see it as a more sustainable way to consume fashion? b. Would it meet your fashion needs? c. What is lacking? ***Hedonic Consumption, Extended-Self, Displacement Rate*** , ***Attitude-Behaviour Gap*** 15. From a fashion consumer perspective, where could you see DF being utilised?

	c. What type of environments would you like to see? ***Disintermediation, Context, Embodied Social Presence*** **Researcher to share the screen and show examples of the modes of avatars, environments, and DF combinations available.** 16. Observing these examples of the digital environments and the options to digitally dress oneself, which one do you prefer and why? a. Which environments do you see using as a consumer and why? ***Context, Disintermediation, Extended Self, Re-embodiment***
Follow-Up Interview (0-5 mins)	17. Would you like to purchase one of these items to dress an image of yourself? This would require an additional 30 mins of your time in a follow-up interview Y/N **(researcher to follow up with participant for DF item).** 18. Would you share that image on social media for the benefit of this research? Y/N **(researcher to follow up with participant for social media handle)**
Water Break (5 mins)	
Section 2 **Direct-to-Avatar with Zepeto (30 minutes in total)**	• Move to the Zepeto browser or app. Create an account by inputting a date of birth—no other personal information is required.)

(10 mins to prepare and create avatar)	• Participant to spend 5 mins creating and dressing avatar (researcher to turn off video and audio) • Participant to respond to Research Questions below
Category	2. **Research Questions** a. **Follow-up Questions** ***Related Theoretical Concepts: Main (BOLD Italics) and** *Subsidiary (Italics)*
Identity Factors/ Consumption Drivers (5 mins)	18. From a fashion consumer perspective, what is your initial impression about this experience? a. Does it feel like a fashion experience? b. What do you like/dislike about this experience? ***Context, Hedonic Consumption,** *Inter-dividuals*
Identity Factors/ Behavioural Impact (5 mins)	19. Can you explain the choice of your avatar and how you have dressed it? a. Are you choosing aspects that reflect how you look/dress IRL or differently? ***Re-embodiment, Extended-Self, Fragmentation***
All Categories (Digitally Dressed Self) (10 mins)	20. How important was the creation of the avatar to your dressing experience? b. Do you feel more/less connected than dressing for your IRL self?

	c. Did you feel like you expressed yourself more/less? d. Do you think this is a true representation of yourself? ***Inter-dividuals, Extended Self, Re-embodiment, Embodied Social Presence, Proteus Effect,*** *Hedonic Consumption.* 21. Which experience did you prefer as a fashion consumer? (DRESSX and Zepeto) a. Did the role of the avatar increase or decrease your motivations? ***Re-embodiment, Fragmentation*** 22. How could you see these platforms becoming part of your consumer behaviour? a. Could you see yourself consuming more DF based upon these experiences? ***Displacement Rate, Inter-dividuals*** 23. Do you think it could drive more sustainable consumption? ***Context, Displacement Rate, Hedonic Consumption, Inter-dividuals, Attitude-Behaviour Gap*** 24. How did these experiences make you feel about your style offline? ***Proteus Effect, Extended Self***

End. Stop Recording.

Table 4.3b: Observational Interview Guide – Follow-Up Questions (Study Two)

Location: Online via Microsoft Teams

Duration: 15-30 minutes

Category	Main Research Question	Prompt Questions
Identity Factors/Consumption Drivers	11. Why did you choose that DF item?	
Consumption Drivers/Behavioural Impact	12. How did you find the requirements for purchasing a DF item?	
Behavioural Impact	13. How did you feel on receipt of the image?	a. Did it live up to your expectations? b. Did you feel like you were wearing the item? c. Did you feel satisfied with the outcome?
Consumption Drivers	14. This item costs X. Would you have paid for this	

	item yourself?	
Behavioural Impact	15. What did you want to do with the image and what did you do with the image?	a. Store or share on social media?
Identity Factors	16. What was the response from others and how did they make you feel?	
Identity Factors/Behavioural Impact	17. In comparison to the avatar on Zepeto, did seeing your real-life body change your attitudes towards how you would like to dress digitally?	
Behavioural Impact	18. Have you gone back to DRESSX to search for/buy more items?	
Consumption Drivers/Behavioural Impact	19. Has it replaced your need for physical items?	a. How could this form of consumption help drive more sustainable choices?
Consumption Drivers/Behavioural Impact	20. Would you purchase another DF item and why?	
Identity Factors/Behavioural Impact	21. Has this experience changed your perception of DF, if at all?	

	22. Anything else you would like to add about the experience?	

During the interviews, it is important to not only consider participants' answers but also observe their journey and garment selections on the DRESSX website, as well as the visual construction of their avatar as required by a blended ethnography/netnography approach. Both verbal and visual cues leave room for influence from offline cultural interactions and decision-making (Kozinets, 2020), highlighting the interconnectedness of physical/digital realms within this study.

4.4.5 Data Analysis

The researcher recorded and transcribed the interviews using Teams and Otter.ai, maintaining participant anonymity and securing validity in data, as encouraged by Saunders et al. (2019). Voice Memo was also used as a backup in case there were any technical issues. After transcription, thematic analysis was adopted, using established coding cycles suggested by Saldaña (2009). Saldaña defines a code in qualitative enquiry as 'most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data.' (2009; pg. 3).

A multiple coding method was adopted through this research. Due to the amount of data that will be required for this research from different mediums, MAXQDA, a computer-assisted qualitative data analysis software, was used as the qualitative and multi-method data analysis tool. Data was collected across interview transcriptions and videos, avatar images, DRESSX images and social media data. Kozinet's strongly encourages the use of CAQDAS (Computer Assisted Qualitative Data Analysis Software) when capturing substantial amounts of data from different mediums and encourages netnographers to think about their vast data as a whole (2010).

The first cycle of coding involved capturing short phrases or words, referred to as In Vivo coding (Glaser and Strauss, 1967). Images and social media were also factored into the data collection. Initial codes were applied to this data, or further 'descriptive coding' was used where necessary, to document the breadth of opinions stated by multiple participants (Saldaña, 2009). Saldaña argues that one must be pragmatic with the types of coding methods adopted, and sometimes, the required use of the method may change due to

methodological needs. Coding is heuristic and is not just about labelling but about linking data. Hence, the second cycle and, sometimes, the third cycle of coding grouped the codes into categories which were revealed through patterns within the data and then organised into key themes for dissemination. Through pattern coding analysis, patterns often related to similarity or difference, frequency, sequence, consequence, and causation. Often codes needed to be defined more clearly, adapting code names, adding memos for the researcher, creating sub-codes or duplicating codes as they applied to other categories. This process of recoding and recategorising again defines the cyclical nature of data analysis and its time-consuming nature (ibid; Richards and Morse, 2007; Saunders et al., 2019). Within Figure 4.4, Saldaña (2009: 23) offers a streamlined codes-to-theory model for qualitative inquiry, as presented below, to show the flow of thematic analysis for the researcher.

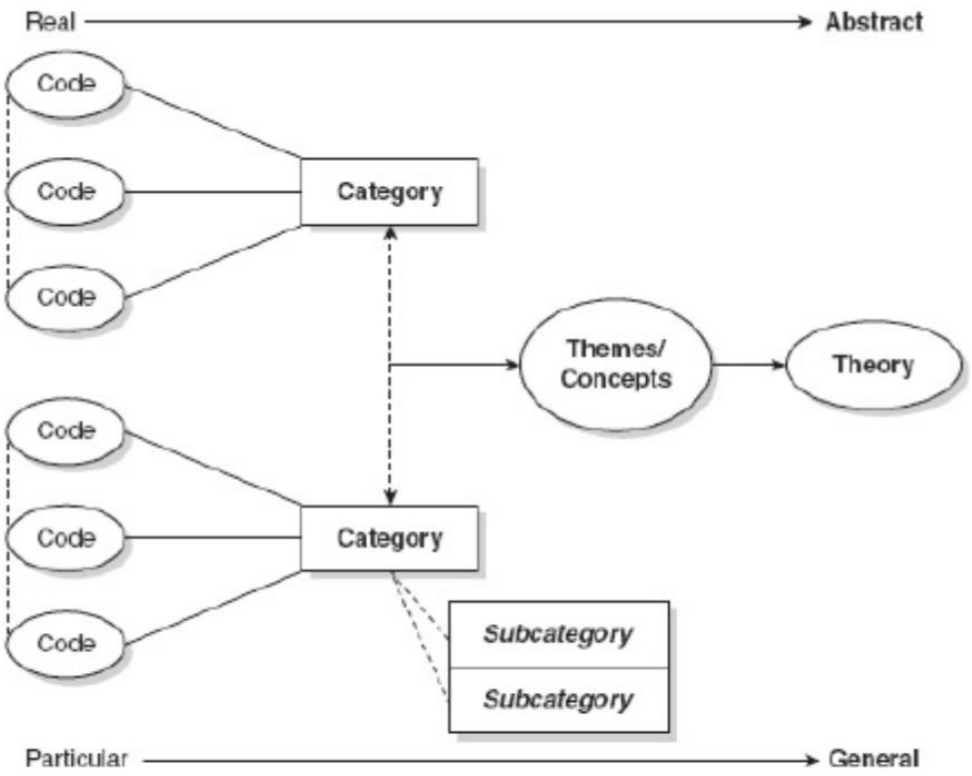


Figure 4.4: Streamlined codes-to-theory model for qualitative inquiry (Saldaña, 2009: 23)

The ability to show how these themes and concepts systematically interrelate can lead toward the development of theory (Corbin and Strauss, 2008). However, while themes and concepts can lead toward the development of theory, it is not always necessary for

qualitative inquiry and can become a challenge. Layder (1998) and Mason (2002) argue that pre-established theories can inform, if not drive, the initial coding process itself and preexisting theories inherently drive the entire research. Therefore, the theoretical framework produced within the literature review acts as a guide for the coding process to highlight data that argues or supports pre-established research. Producing theory was not the aim of the research, but to understand the participant within the context of the research aims and objectives and to provide practical suggestions and applications for industry. However, a framework did emerge from the study which will be discussed in Chapter 6: Conclusions and Implications.

MAXQDA also enabled some of the qualitative data to be quantified, such as word frequency, which was useful to pinpoint rising themes. However, Saldaña encourages consideration of word frequency in arguing that, within the data corpus, word frequency does not necessarily suggest significance, but it is nevertheless worth exploring as a “query” (as featured in In Vivo, for example) to explore any emergent yet undetected patterns.

Saunders et al. (2019) also define Otter.ai as a CAQDAS tool given the summarised detail it provides alongside transcriptions. These summaries were helpful to enable the understanding of emerging key themes and helped grapple with the heuristic and iterative nature of coding.

Quantitative and qualitative data collected from the survey utilised generative AI software ChatGPT-4 and Google Form summaries. Within the findings, survey data is used in support of the main data collected from interviews and, therefore, should only be considered as supportive data.

Within the data analysis, as presented within Figure 4.5, triangulation of different data collection techniques ensured that the data was understood correctly and strengthened the overall design of the research (Saunders et al., 2009; Bryman, 2006). Triangulation is often restricted to investigate the same phenomena (Kawamura, 2020), which, in this instance, is the act of fashioning one's digital self. It is a method usually used when interpreting qualitative and quantitative data (Creswell, 2007). Due to the infusion of the survey data later within the research, a comparison of the qualitative data received from each method was compared, highlighting any supportive or contradictory themes for consideration and supported by quantitative data obtained from the survey where necessary.

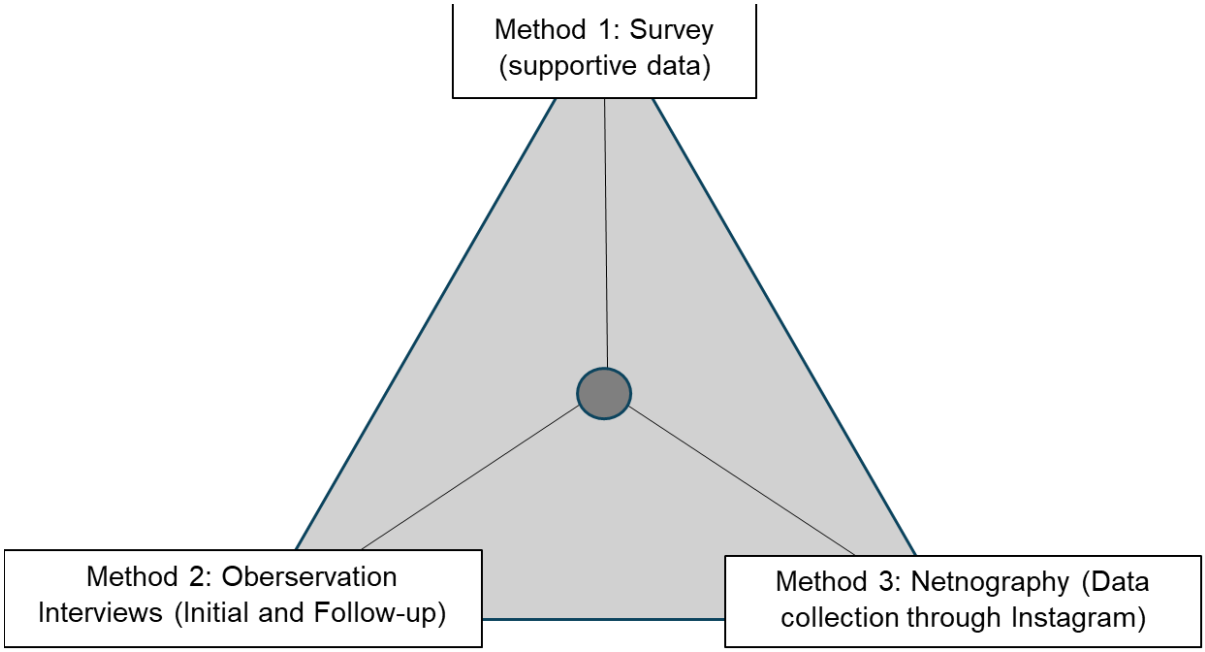


Figure 4.5: Triangulation of Methods (Author's own)

4.5. CROSS-STUDY METHODOLOGICAL CONSIDERATIONS

Both studies opted for a qualitative focus with thematic analysis and required active participation and speculative thinking. However, a bricolage of methods, time, participants, and sampling methods was required per study to achieve the most appropriate findings in relation to the study's objectives. Whilst *Digital Bodies* was a cross-sectional study using a multi-method approach of focus groups and a workshop, *Digital Dressing* was a longitudinal study opting for a multi-method approach including surveys and observational interviews supported by netnography. According to Thompson (2002), a mixed or multi-method design is helpful, for example, to generalise the findings to a population and develop a detailed view of the meaning of a phenomenon or concept for individuals. The methodology adopted for each study was most appropriate to understand multiple perspectives and construction of meanings (Kawamura, 2020) that had not previously been explored concerning the intersection between DF, identity and sustainability.

The *Digital Dressing* study was more complex due to the observation on potential behavioural change (Becker, 2018). A methodology for a longitudinal study was, therefore, needed to gain insight into behavioural changes both online and offline over a substantial time, as well as to avoid attrition. In many respects, whilst there was concern for participant attrition, the decreasing level of engagement revealed more about the process of DF than expected.

As Saldaña (2011) argues, research is iterative, and research plans changed due to emergent insights. For example, the *Digital Bodies* study was not initially planned at the start of the research. The opportunity and need to explore the importance of the digital body emerged from the researcher's response to secondary research, contemporary phenomena, and their own experiences with emerging technologies. Also, data from both studies was thematically analysed, yet *Digital Dressing* required the triangulation method due to the later decision to include some of the survey's quantitative data.

In many respects, the studies could be viewed independently. However, due to the interpretivist nature of the research, the difference in participant perspectives in response to the digitisation of fashion and identity offers a holistic view of the challenges, opportunities and wider implications on sustainability and digital ethics. Both studies captured 'snapshots' of the phenomena from different lenses of the social camera to offer industry a glimpse of future trajectories so industry can informatively prepare, equipped with knowledge from a fashion 'user's' perspective (Saunders et al., 2019). Collectively, both studies respond to the objectives of the main study and answer the research questions that unfolded throughout the secondary research.

Conclusions will draw upon the findings from both studies to collate and define occurring themes to inform best practice for responsible innovation and assist in the progress of the SDGs in response to online generations and digital cultures. However, it is important to maintain a balance of optimistic and realistic thinking, and therefore, it was crucial for the participants (and the researcher) to acknowledge potential challenges and limitations.

4.6 LIMITATIONS

4.6.1 Study One: Digital Bodies

It is important to note that due to the sample of participants within the *Digital Bodies* study achieved through purposive sampling, findings cannot be extrapolated to all models or beyond the modelling industry where digital scanning and digital human creation are concerned. As Patton (2009) acknowledges, while purposive sampling can be highly effective in qualitative research for obtaining rich, in-depth information, it relies heavily on the judgement of the researcher to select participants who are most likely to provide relevant information. Furthermore, the focus groups with fashion models were voluntary and relied upon the availability and interest of participants. Several factors may have contributed to the results and conclusions from this research, including age, education, and cultural differences, yet due to a limited participatory pool for this case study, these factors were not considered during the sampling process.

Indeed, as is the nature of speculation and working within the ‘gap’ of uncertainty (Meskus and Tikka, 2022), this awareness and understanding had to be considered when collecting and analysing the data. Within the context of speculative design research, it has also been argued that despite the best intentions of representing a plurality of views, there exists a lack of ethnic and cultural diversity (Tonkinwise, 2014; Ward, 2021; in Meskus and Tikka, 2022). Within this study, the researcher was limited by their own network and would encourage further research that steps beyond Western perspectives. Furthermore, further research into data protection and policymaking would suggest taking geographical location into account due to differences in data processing laws. However, it could be argued that the location of participants within both the focus groups and workshop had no impact on meeting the objectives of this study and the validity of the results; fashion modelling, as a profession, often requires travel between countries, and the job remains primarily the same within each country.

While curious about the topic, many participants were unaware of digital avatars and digital humans, with limited personal experience among participants. Therefore, time spent clarifying terms, technicalities and concepts fed into the interview time. If digital humans do become culturally mainstream, a return to this study with participants engaging with such digital tools may be more enlightening. Importantly, it shows that this is an unexplored territory of research and focuses on an emerging technology with future potential. Therefore, this research may be limited in scope, but it provides a valuable starting point for further development and contribution from other stakeholders, including academics, technology experts, policymakers and industry insiders.

My experience within the modelling industry, including first-hand experience with digital scanning technologies and avatar creation, positioned me as an ideal gatekeeper to the participants. It also allowed any questions or concerns to be addressed with confidence and empathy. However, the limitation here was that the researcher inherently had their own ideas and beliefs about the topic and, therefore, increased the likelihood of researcher bias. On the other hand, my experience could arguably have enriched the data due to the nascency and limited understanding of the topic at the time of this research. A critical lens was adopted by exercising researcher reflexivity and bracketing personal beliefs, experiences and assumptions when evaluating the findings to maintain integrity (Creswell and Miller, 2000). There was notable improvement within the workshops with the industry given the formal nature of the workshops and the systematic procedures put in place. As Creswell and Miller highlight, there is a fine line between engaging in collaborative practice of research practice and maintaining reflexivity whilst aligning with the use of systematic procedures, employing rigorous standards, and clearly identifying procedures.

The main limitation found within the scenario-planning workshop was to ensure all participants were involved and offered their own unique insights. As with workshops and focus groups, some participants can dominate. Within the workshop, the researcher was assisted with a navigator to keep a balanced discussion between all participants and to mitigate the risk of participant leadership. Whilst the researcher made considerable effort to include a range of participants across both fashion and technology sectors, it is also important to note that this small sample of eight participants cannot be generalised to the entire fashion and technology sectors. However, due to the expertise and knowledge of the selected participants, one can assume the findings are honest and an accurate representation of the industry from their professional perspectives.

4.6.2 Study Two: Digital Dressing

As Saunders et al. (2009) suggest, studies conducted over a longer period would have been advised for this study, with interviews conducted more than twice over three months; as human behaviour is slow to change (Basar et al., 2015), allowing the participant to explore and adopt DF over time may have allowed further discovery in changing consumption behaviours. Video game theorists suggest time is a key factor when thinking about the customisation of one's avatar and can develop into an investment of one's extended self (Lehdonvirta, 2009). This is also supported by Kozinets's netnographic approach, which embeds the researcher within online communities over prolonged periods of time.

Follow-up interviews were conducted with participants who required a DRESSX item to gain netnographic insight into the social interactions between the participants and their followers. However, it could be argued there was not enough time between the initial and follow-up interviews to observe any significant changes in consumer attitudes or behaviour, and further longitudinal research with participants is recommended. Upon reflection, the research could have started earlier, and further follow-up interviews could be scheduled. However, due to the voluntary nature of the research, the concern of attrition was always present. Also, given participants were mostly students, it was important to be aware of their schedules during exam season, during which the research was conducted, which did prove challenging when organising follow-up interviews.

Alongside complications in participant availability, interoperability and the cost of DF items also proved to be a challenge which may have impacted the findings. There were certain restrictions which limited the choice of DF experience, such as the requirement of cryptocurrency on certain platforms. Therefore, the study relied on free-to-use platforms and the support from DRESSX to provide a discount for digital items for the participants. Overall, the landscape and infrastructure for fashion consumers to enter digital worlds and

access DF is still challenging. As soon as the issue of interoperability is resolved, traversing across multiple platforms will allow DF and avatar creation to become less restrictive. Despite this, the methodology could be applied for future research when platforms are more accessible to the everyday consumer. This was one of the intentions of the researcher: to provide a flexible methodology that could be repeated and iterated across multiple platforms for future research.

Conducting the research online introduced a sense of separation between the researcher and participants due to the screen, which could be seen as a limitation. Just as avatars are digitally mediated representations of participants, the screen can act as a digital barrier, allowing participants to mask their true selves. This may lead to responses that are not entirely representative. However, observing participants in their offline context is arguably unnecessary for studying online behaviour. The researcher observed participants both in the process of creating their avatars and interacting as these avatars, with key decisions about digital identity stemming from the physical person within an online context. As Hillis (1999) noted, disintermediation does not diminish the connection to the origin of identity—the human participant situated in real life (IRL). Furthermore, being physically present with participants could also affect their behaviour, potentially making them more self-conscious. In contrast, the screen may allow participants to feel less observed, leading to more natural online behaviour. Additionally, online participation also widened the participant pool so that participants could join from anywhere in the world, as some were travelling at the time of the study.

4.7 RELIABILITY AND VALIDITY

The researcher ensured reliability and validity throughout the entirety of the research from participant sampling to data collection and analysis, and some examples have already been previously noted throughout this chapter. It has been known that the greatest threat to the reliability of research conclusions, particularly within qualitative research, is that of observer bias (Delbridge and Kirkpatrick, 1994), which can still stand true within online contexts. The complication for validity and authenticity within online netnography, in particular, is present due to the need to transfer text and images to meaning, which can be problematic for representation (Kozinets, 2010).

Kawamura (2011: 26) demonstrates that qualitative data sources, such as interviews and observations, are more difficult to validate compared to traditional quantitative methods that produce numerical results, ‘but the reliability in the qualitative research can be controlled by keeping careful records of interviews and observations.’ Therefore, certain measures can

be set in place to ensure reliability and validity of data. Before focus groups, workshops and interviews, participants were given instructions to ensure validity and that all had the same foundational level of knowledge, including participant information on certain terminologies and examples. According to Saunders et al. (2019: 157), validity 'is concerned with whether the findings are really about what they appear to be about.' The multi-method design for this research allowed the researcher to gain multiple insights and perspectives, backed by some quantitative data from a larger sample of participants, which increased the validity of the research. However, this approach required skilful analysis from the researcher that is challenging if analysed manually and can lead to human error, as well as researcher bias. Adopting AI tools, such as ChatGPT-4 and MAXQDA, to support the data collection and analysis of the data helped minimise human bias and the threat of logic leaps and false assumptions. All analyses were reread by the researcher to ensure accuracy, consistency and alignment with the research objectives.

Furthermore, discussions throughout the research were recorded, either through video, voice memos, note-taking, or within Miro (such as the scenario-planning workshop) in case the researcher needed more clarification on certain findings and to enrich the dependability of the data (Bell et al., 2019; Saunders et al., 2009). In-person focus groups were voice recorded using the voice memo app, and online discussions (observational interviews and workshops) were recorded on Teams. For transcription, the AI tool Otter.ai was used for the initial transcription, followed by a manual edit by the researcher to ensure that the transcription was correct and valid.

The researcher was also aware of the argument which may be put forward concerning the purpose of the two studies, how they relate to one another and how they meet the research's objectives. Transferability, which refers to the extent of the generalisation of the research. The loose connection of models to consumers, who have been placed under the same umbrella term of 'users', could be debated and lack external validity (Saunders et al., 2019). Models, by definition and employment status, are a tool to drive consumer behaviour, offering different insight and perspectives. However, due to the process of disintermediation within our digital society, consumers have the tools to become their own 'model' through social media, VTO and AR. Consumers may no longer need to see models wear clothing to envision what it may look like on them. The digitisation of models provided a suitable and accessible case study, given that the digitisation of humans was not currently mainstream, and one argues could have wider implications for future consumers who will have more access to digital scanning technologies and avatar creation through technological democratisation and advancement. Access to the model industry provided groundbreaking insight and knowledge into an extremely new phenomenon.

4.8 ETHICAL CONSIDERATIONS

Each method required an ethical consideration and approach that has been summarised in Table 4.4 below. All participants, in accordance with the UCA Research Ethics Code of Practice (Appendix 23), were anonymised, as there was no significant reason to reveal the identity of the participants. All data (including emails, videos, and social media content) will be deleted upon completion of the research, in accordance with GDPR.

Table 4.4: Ethical Considerations Per Method

Method	Data Obtained from Participant	Ethical Procedures	Ethical Actions	Appendix
Focus Groups	None	Consent Forms	Anonymised Participants	Appendix 8
		Participant Information Sheet		Appendix 9
Scenario-Planning Workshop	Name, Job Title	Consent Forms	Anonymised Participants and referred to Job Sector	Appendix 14
		Participant Information Sheet		Appendix 15
Survey	Email address	Research Information	Emails will be deleted upon completion of research (In accordance with GDPR and UCA ethical guidelines)	Appendix 17
Observational Interviews and Netnography	Name, Job Title, Photographic Image, Social	Participant Information Sheet	Anonymised Participants	Appendix 19
		Consent Forms		Appendix 20

	Media Screenshots	DRESSX Confirmation of Ending of Image Licensing	License ended on receipt of images and confirmation via email Anonymised Participants - Researcher removed any faces from images unless further consent was given - Researcher removed any social media handles and faces on images that would identify the participant	Appendix 22

A significant part of this research explored digital ethics regarding the digitisation of humans and fashion, highlighting areas for concern such as digital ownership and data protection. However, the tasks required for this qualitative research did not require the use of personal identifiable information and all research was conducted in accordance with the UCA Research Ethics Code of Practice. Tier one and tier two of the UCA research ethics process were approved by the research ethics board. Signed consent was required for all participants within the research and all participants remained anonymous and provided the right to leave the study at any time.

For access to students within the University for the Creative Arts and University of the Arts London, the researcher required lecturers, course leaders, and supervisors to act as gatekeepers and provide all necessary details to their students to ensure all parties were aware of the research aims, objectives and ethical procedures. Again, it is important to note that all participants needed to be digitally literate and have access to the internet to

participate. Therefore, this research is not inclusive of all fashion consumers and requires further consideration for future research and industry to democratise DF access as well as consumption.

For those participating with the observational interviews, acknowledgement of the narrative was required due to subjective opinions shared and recorded by the researcher, as well as acknowledgement that they were happy to use third-party platforms, DRESSX and Zepeto. Before accepting and consenting to the terms of the study, the participants were sent links to DRESSX and Zepeto's terms and conditions within information worksheets to ensure they were happy to proceed.

This research involved respondents to the internet and other visual/verbal methods. However, participants were kept anonymous within the data analysis and were not asked to use any personal data when using the Zepeto platform. Participants were referred to as Participant 1, 2, and 3 throughout the analysis and findings of this research. This was applied in the same manner when using third-party software such as MAXQDA to analyse the data: 'Data [will] be coded and stored in a manner that does not allow direct recognition of individuals within the stored data set(s) by anyone other than the researcher or research team' (UCA, 2020). Once analysed on MAXQDA, all information will be accumulated, recorded, and stored by the researcher within the university's secure OneDrive and will only be used for the purpose of the research, and all information will be deleted in accordance with GDPR, including the researcher's MAXQDA account. The ICO (2024) states, 'The UK GDPR does not set specific time limits for different types of data. This is up to you and will depend on how long you need the data for your specified purposes.' All data will be deleted one year after the completion of this study and participants will be informed of this.

Within the consent form, participants were asked if they would like to acquire a DRESSX DF item. They were then asked again within the interview to see, upon further understanding of the website and DRESSX, if their response had changed. Participants were made aware that an image of themselves was required for the DF item to be sent to DRESSX and their team as a technical requirement, but further consent would be required from the researcher should they wish to show their faces within the research.

Furthermore, no participant was asked to purchase the DF item directly from DRESSX. To maintain their anonymity, their images were sent to DRESSX digital designers through the researcher's DRESSX account. In addition, great lengths were taken to ensure that all images between DRESSX and third parties (including DF designer, Snap or Apple) would not use the participant's image without consent. A concern for ethics was in response to a clause within DRESSX's terms of service and privacy policy from 2023 (see below; Figure

4.6).

> ***DRESSX Terms of Service:*** *When you place an order or upload content that is covered by intellectual property rights (like photos or videos) on or in connection with our Service, you hereby grant to us a non-exclusive, royalty-free, transferable, sub-licensable, worldwide license to host, use, distribute, modify, run, copy, publicly perform or display, translate, and create derivative works of your content (consistent with your privacy and application settings). You can end this licence*

Photos and Images. When you upload a photo or image to facilitate the purchase of one of our products, we may collect information such as the photos and image, and will use tools such as augmented reality to facilitate the editing process. If you participate in NFT.DRESSX.COM we may also collect metadata describing each NFT and its properties as a digital asset.	We use this information to provide the European Services.	The processing is necessary for performance of a contract with you.	We share this information with: • Snap • Apple

Figure 4.6: DRESSX Privacy Policy in 2023

To avoid DRESSX being granted non-exclusive rights to the participant's image and to stop DRESSX from sharing the information with Snap or Apple, DRESSX provided confirmation via email that the licence to all images would be ended (Appendix 22).

Throughout the research, it was taken into account that participants may offer personal details regarding representation of self within these digital spaces whilst creating their avatars. Through an understanding of the topic and the attention to the personal concept of 'identity', this may include references to body image, cultural appropriation, sense of self and representation, and earlier experiences that may cause unease. If participants showed discomfort or unease at any point throughout the study, then the researcher moved on to the next question and would remove any sections that participants, on reflection, did not wish to share.

At the end of the interviews for Study Two, *Digital Dressing*, participants were asked if they would like to share their DF images on social media. This was voluntary and up to the discretion of the participant. If the participants agreed to share, any comments in response to the images shared on the public social media platforms were observed and recorded for netnographic data collection through screengrabs. However, no names, images or the participants' social media handles will be shared within or beyond the scope of this research and written documents that can identify the participant.

4.9. SUMMARY

A key summary of the methodological aspects for both studies can be found below in Table 4.5. The methodologies will support the overall findings and contributions of this research by offering diverse perspectives on aspects of fashioning the digital self to meet the objectives of this study and answer the main research questions. Research frameworks and procedures were guided by the theoretical and SDG frameworks presented within the literature review. Findings for each study were analysed and discussed independently and then collated within the final conclusions.

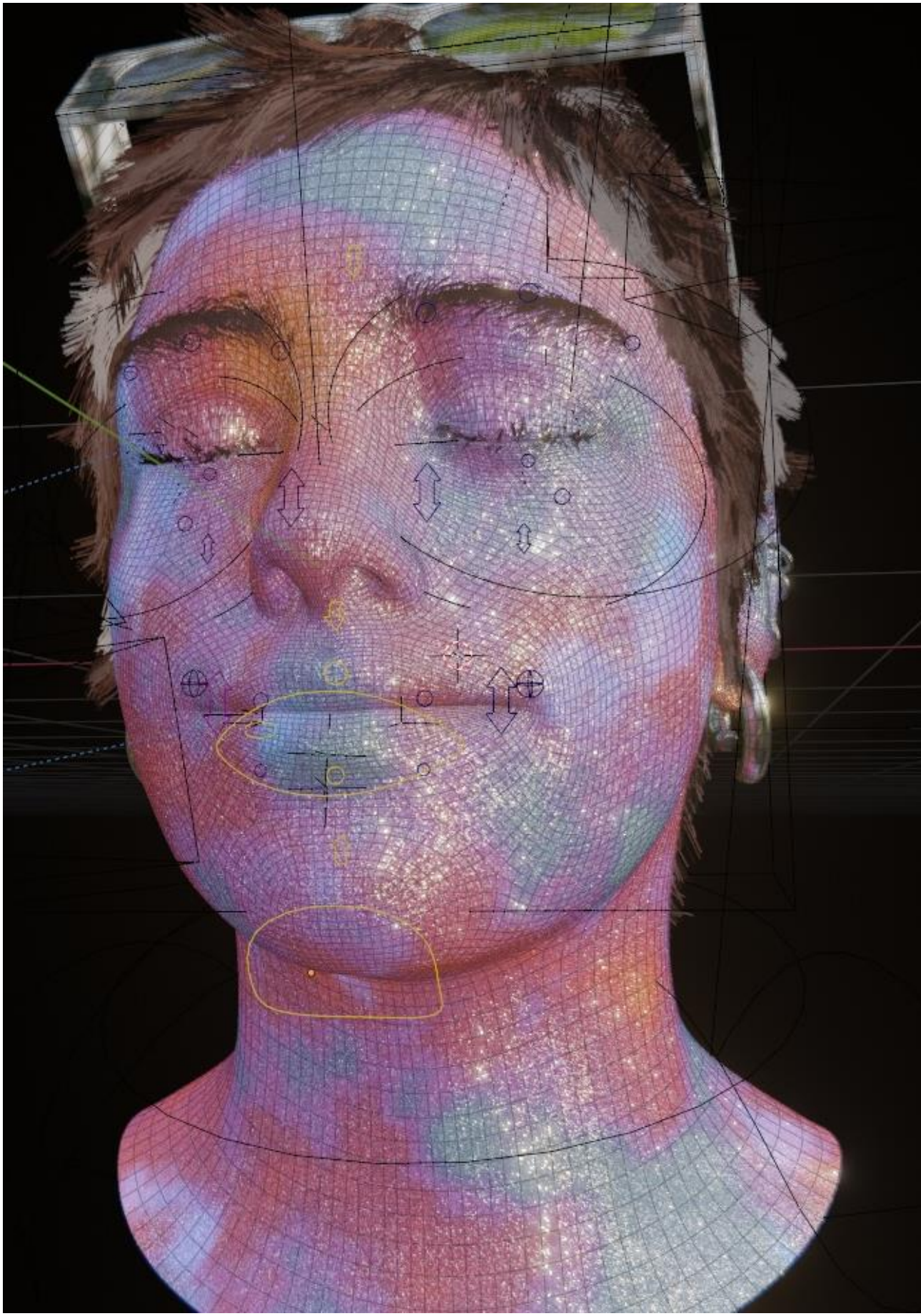
Table 4.5: Methodology Summary for Both Studies

<table>
<tr><th></th><th colspan="2">Study One: Digital Bodies</th><th colspan="3">Study Two: Digital Dressing</th></tr>
<tr><td>Philosophy</td><td colspan="5">Interpretivism</td></tr>
<tr><td>Time-Horizon</td><td colspan="2">Cross-sectional</td><td colspan="3">Longitudinal (3 months)</td></tr>
<tr><td>Methods</td><td colspan="2">Multi-Method Qual</td><td colspan="3">Multi-Method Qual Focus with Netnography

(Quant survey data was included later as supportive data)</td></tr>
<tr><td>Methods</td><td>Focus groups</td><td>Scenario-Planning Workshop</td><td>Survey (sampling tool)</td><td>Observational Interviews (primary data though initial and follow-up interviews)</td><td>Netnographic Observation (via Instagram)</td></tr>
<tr><td>Participants ‘Users’</td><td>Fashion Models</td><td>Industry Experts</td><td colspan="3">Gen Z fashion consumers</td></tr>
<tr><td>Sampling Technique</td><td>Purposive</td><td>Purposive</td><td>Convenience and Snowballing</td><td colspan="2">Purposive (based on criteria and survey responses)</td></tr>
</table>

Data Analysis	Thematic Analysis		Thematic Analysis with Triangulation	
Use of Software	Voice Memo Otter.ai *(transcription)*	Microsoft Teams *(online meeting room)* Miro *(online workshop tool)*	Google Forms *(collection and summary of data)* ChatGPT-4 *(thematic analysis)*	Microsoft Teams *(online interviews and transcription)*, Otter.ai *(transcription and summary)* MAXQDA *(thematic analysis with coding)*

Objectives	OBJ 3. Explore the existing and future scope of DF from Gen Z user perspectives and qualitatively assess its potential impact on sustainable fashion consumption. OBJ 4. Investigate the value of digitalising humans within digital fashion and how it can be used to facilitate or exploit identity creation and self-expression while considering sustainable and ethical development OBJ 5. Highlight key areas of consideration for academics, industry and/or policymakers across sustainability and ethics due to user adoption and the creation of the digital self.	OBJ 2. Critically analyse existing theoretical relationships between digital fashion, identity and sustainability. OBJ 3. Explore the existing and future scope of DF from Gen Z user perspectives and qualitatively assess its potential impact on sustainable fashion consumption. OBJ 4. Investigate the value of digitalising humans within digital fashion and how it can be used to facilitate or exploit identity creation and self-expression while considering sustainable and ethical development OBJ 5. Highlight key areas of consideration for academics, industry and/or policymakers across sustainability and ethics due to user adoption and the creation of the digital self.



Chapter Five

FINDINGS AND ANALYSIS

STUDY ONE

DIGITAL BODIES:

AN INVESTIGATIVE AND SPECULATIVE STUDY OF THE DIGITISATION OF FASHION MODELS AND ITS WIDER IMPACT ON INDUSTRY AND CONSUMERS

5.1 INTRODUCTION

This preliminary study employs multiple methods to uncover the most prominent themes from each approach, providing a comparative analysis to offer a comprehensive understanding of the impact of model digitisation and its broader implications for fashion consumers. While fashion models offered a personal perspective, industry experts offered a less sentimental view of the challenges and opportunities for digitising models. Together, findings from both perspectives highlight areas for consideration for the fashion and technology sectors to responsibly innovate in alignment with sustainable development and an ethics-first approach.

Due to the overall emphasis of this research to holistically explore the creation of the digital self through a fashion-centric and sustainability lens, this study offers focused insight into a key element of the digital self process— the digitisation of the body. However, as the primary focus of the research lies in Study Two, this Study One should be viewed as a preliminary

and supporting investigation.

Through consideration of the key findings from the focus groups and workshop, the findings of the study seek to partially answer three of the research's main research questions: RQ1, RQ2 and RQ4. Significant codes will be discussed in detail to justify how the findings from this study help to inform the main body of research on the implications of fashioning the digital self, with a specific focus on the concept of the digital body. Again, it is important to note that not all findings from this study, however interesting, are directly aligned with the aims of the research. For example, concerns over the reuse and legality of ownership of images and model payment structures cannot be dealt with fully enough with the context of this study, and therefore, detailed discussion of this finding is out of scope.

Throughout the text, ***Categories*** will be highlighted in bold and italics, **Codes** in bold and *Sub-codes* in italics. All coded focus group transcripts can be found within Appendices 24a and 24b, and screenshots from the workshop within Miro can be found within Appendices 25 (Critical Uncertainties) and 26 (Concepts, Paths and Actions).

5.2 FOCUS GROUPS

One overarching category of ***Digital Ethics and Autonomy*** encompassed eight key codes and seven sub-codes, which emerged across the focus groups (Figure 5.1). However, only four key codes (highlighted in blue), alongside the overarching category, are in scope of this research's aims and will be discussed within this analysis through the researcher's interpretation, including representation, model value and perspective, benefits and control. Other findings would be useful for subsequent research papers.

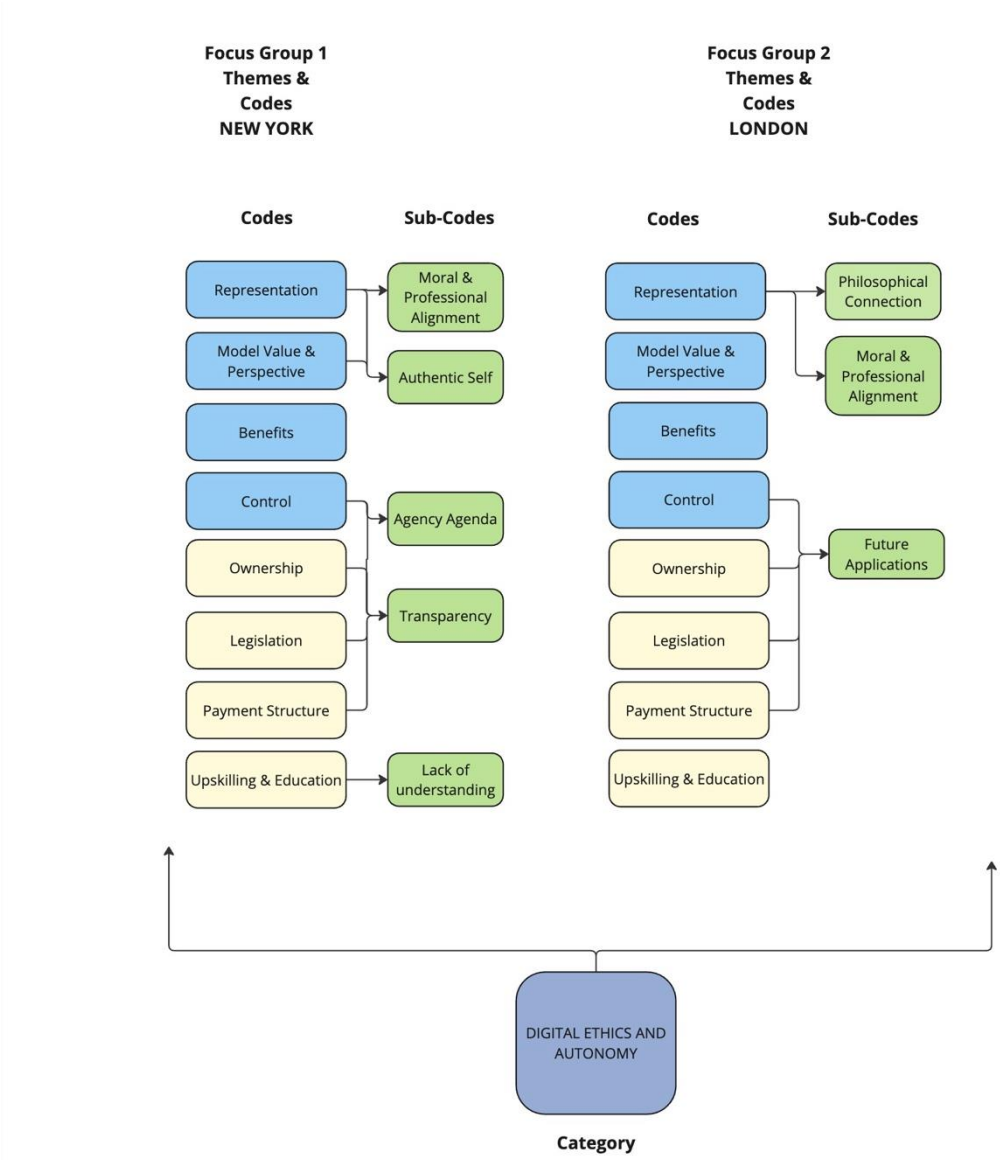


Figure 5.1: Codes and Subcodes from Focus Groups 1 & 2

5.2.1 Representation

There was a unanimous sentiment that digital versions of fashion models, whether that be an avatar or a digital scan, should be an authentic representation of the human model. On a professional level, for P1 there would be no point to create a digital version of a model if it were not a true reflection of themselves:

> *'... Your book looks like you because it's living in this world that we are in now. If I decided I was gonna make myself look completely different and wouldn't look like me in this world, why would it need to be me at all?'* (P1, FG1)

P1 refers to 'your book', which is a portfolio of images that models present to clients to get

work. P1 is arguing that while people should be allowed to create any digital version they wish, from a **model value and perspective,** it would make no sense to create a digital version that did not represent the person within 'your book' and whose image is their commodity. Within FG2, P11 speaks of an energetic connection that needs to exist between the IRL model and their digital representation. Both P4 and P11 philosophically reflect on the concept of the 'essence' of an individual. P4 notes that capturing an image of oneself is capturing the essence of an individual and that a digital human or avatar would be an extension of this. If we refer to Belk's (2013) summary of digital modifications of the extended self, he refers to the attachment to our avatars as a possession. The participants not only refer to the philosophical and psychological connection between human and avatar (P4, P11) but also highlight the possession of the avatar as a monetisable possession (P1).

Also, from a **model value and perspective,** P4 and P10 argue that it is important and 'healthier' that **representation** is in *moral alignment* with the individual based upon the fact that modelling can lead to images that are not representative or morally identifiable to the model in question. This attitude stems from the reality that a model's role is to create an image that meets the needs or creative direction of the photographer or client; Models are chameleons which adapt to situations to encapsulate the brand's ethos rather than their own. For example, P4 highlights a significant factor regarding religion, suggesting that certain models may not wish to be represented in certain ways or be seen wearing certain types of garments. Those with technical capabilities can manipulate and replace digital garments on the digital avatars and scans of humans. Should models not wish to wear swimsuits or prefer to adopt modest wear, the participants argue this must be an important consideration for *moral alignment.* Therefore, it is important that in the creation of a digital avatar or digital human of the model, the model feels aligned with this personal representation of themselves.

Participants not only discuss the impact digital representations can have on a personal level but also highlight their effects on others, such as children, as noted by P4 (FG1):

> *'It should be aligned with what we look like because the farther away we are from that, the more unreal things are... Children are looking, and you don't want to lose touch with reality.'*

Findings suggest that digital representations should not lose touch with reality for concerns over mental well-being impact. Striving for *authentic self* representation of models maintain a connection between digital and physical realms for the individual and the viewer of the image. P10 agrees with P4's argument regarding the ethical responsibility of the *authentic self,* but their viewpoint is arguably less personal and more of a professional opinion, which extends the subcode from *moral alignment* to *moral and professional alignment.* This may

be due to P10's previous experience as a lawyer and their age and experience within the modelling industry, which may have led to more pragmatic responses. When speaking from the perspective of the model profession, P10 (FG2) argues that it is more about having control over their image, preventing exploitation of their image that is not morally aligned:

> *'I wouldn't necessarily have a preference between there being an avatar of me, or a digital model likeness of me; I just want to know that there's some knowledge in place that those images, in whatever form, are not going to be used to do things that I haven't signed off on.'*

Models, as marketing tools, are visual reflections of brands, which influence purchasing decisions within consumers. Therefore, for P10, it is important for models to portray realistic images that do not contribute negatively to self-image satisfaction within consumers (Chan et al., 2023):

> *'I think we have a massive responsibility to the consumers, to the generations below us, to be as true to the human form and the socio economic, emotional, environmental needs that those consumers have.'*

Body image and *transparency* are critical issues within the fashion industry and something for which the modelling industry has often been criticised for presenting images of unrealistic beauty. For example, it was only in May 2021 that the ASA (Advertising Standards Agency) introduced new guidance aimed at discouraging the use of misleadingly altered images in advertisements. This includes requirements to disclose when images have been digitally altered in a way that materially changes the appearance of the product or the influencer, especially when it comes to health and beauty products. In the same way, P10 is suggested that these measures still need to apply to digital humans.

5.2.2 Model Value and Perspective

It is important to highlight specific attention to the code **Model Value and Perspective.** Due to the interpretivist approach to the methodology, it emphasises understanding of subjective meaning and experiences of individuals within their social context. For participants, meaning and experience come from the unique perspective of being a fashion model. This code suggests that perspectives from models may differ from those from the scenario-planning workshop with industry experts, as well as limit the finding's applicability to a generalised demographic. Industry experts within the scenario-planning workshop, which will be discussed within the next section, offered a top-down approach to the role of digital models. They discussed the wider implications of digitising humans through avatar creation, 3D scanning and AI, while fashion model participants from the focus groups offered

professional and personal perspectives based upon their individual experiences.

Where perspectives differ most notably is surrounding the value of a physical versus digital version of a fashion model, as well as who should have ownership and control of the digital asset. While brands are currently believed to be adopting digital models for reasons such as cost-effectiveness, P4 argues that the intrinsic value of a model remains unchanged, as it is derived from the model's image, which retains its value whether in physical or digital form. P4 (FG1) suggests that the importance is within the image rather than the labour:

> *'You're not doing as much labour, physically, but our technological stem cells are still being used in this world. No one is doing any real labour in that world anyways, so, technically, it should just be equally translated over... the labour is the same, the usage is the same.'*

From an ethical standpoint, P4 also argues that the image is representative of someone's identity and, therefore, this connection should be treated in a responsible manner, with individuals having autonomy over how they are valued within digital worlds:

> *'Even though it's a digital representation, it's still an individual. We still need to give autonomous humanity to that digital image, because it represents something that does exist.'*

P1, P2 and P4 highlighted the importance for models to show personality, build connections and foster relationships with clients and consumers to gain work. Often models are used by clients to represent the brand's ethos, which is apparent with influencers and celebrities who are used to endorse not only the brand's products but a lifestyle. P4 describes modelling as 'interpersonal', which the dictionary defines as 'existing or occurring within the self or within one's mind' (dictionary.com, 2024). Models require an elevated level of intrapersonal and interpersonal skills to establish individuality, as well as being able to work with multiple teams on an international level and to appeal to a large consumer audience. Therefore, for models to build their professional brand through personality and connection to clients and consumers, it is important for this image to be maintained within their digital representations. Whilst digital models may be 3D forms, they may lack this dimensional substance in the eyes of the participants that reflects the true value of a fashion model.

5.2.3 Benefits

Participants do see interesting benefits and gains from digitising their bodies for fashion modelling purposes, specifically referring to practicality and economic sustainability. The code map (Figure 5.2) below shows the potential benefits derived from the participant

response.

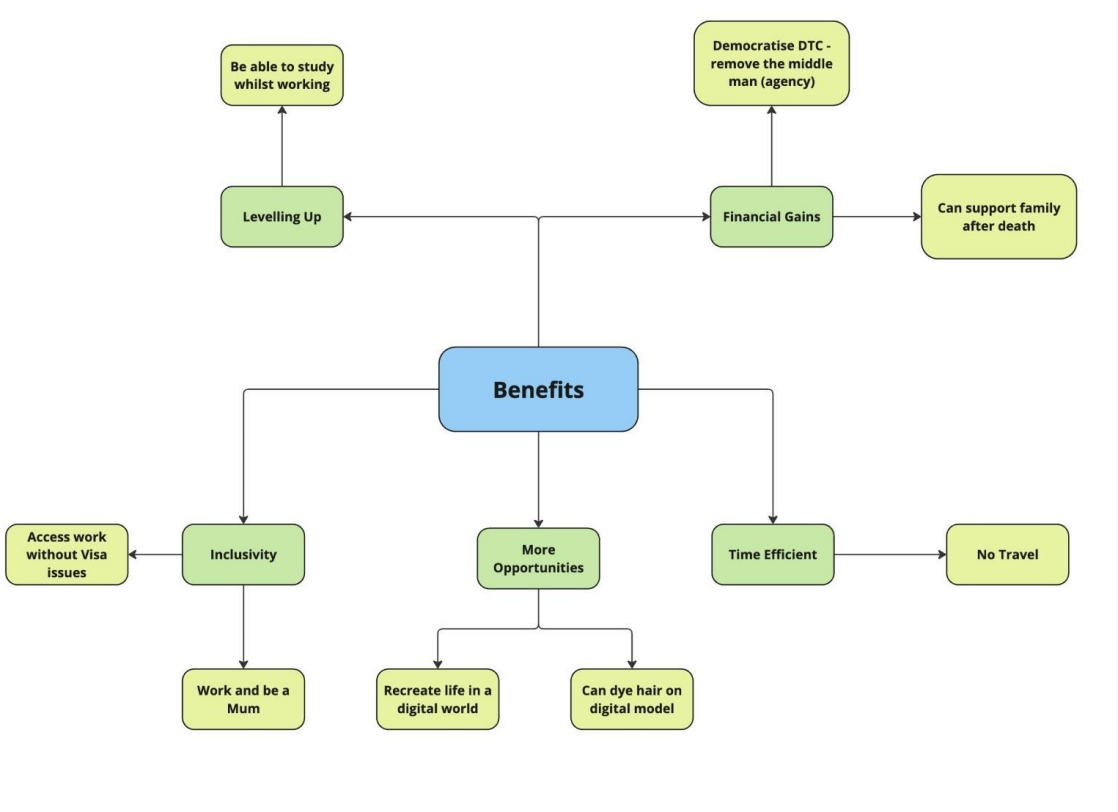


Figure 5.2: Benefits for Model Digitisation

Benefits are seen through the eyes of the model and their professional circumstances. For example, P11 suggests that the benefits of digitising models could allow models to work directly with clients (a *'DTC model'*[9]) without the need for agency intervention. P11 (FG2) suggests this could lead to a democratisation of the traditional model ecosystem, extending the process of disintermediation (Crewe, 2013), which has already begun within social media and is resulting in models' gaining empowerment, increased autonomy and becoming active agents in digital self-creation:

> *'I don't think they'll ever be DTC of model libraries, but then we don't have access to the clients. That's the problem that holds the industry back, but we can democratise it if we want... If there could then be a way to remove as many middle people as possible.'*

P4 suggests the flexibility of digital avatar manipulation could offer more opportunity for jobs, as models are restricted within their human forms. For example, P4 notes that they have lost jobs in the past if they will not dye their hair for a particular client. In fact, P4 can

[9] DTC- Direct to Client.

see a lot of benefits for models to digitise themselves, such as being booked on multiple shows in multiple locations at the same time while levelling up on their education. Models are usually booked at the last moment (sometimes the day before), so it is often difficult for models to have commitments beyond their modelling careers. Or, due to a borderless metaverse, P4 (FG1) suggests that models can work without the need for visas:

> *'I guess the metaverse is accessible where she is from. So, she can make a lot of money without Visa issues. There's a lot of ways where it can help level up a lot of models on a financial level and on a societal level, and that's, like, I guess, a positive.'*

Furthermore, regarding environmental sustainability, the lack of travel for castings in the metaverse, mentioned by P1, is time efficient, according to P4. There is potential to reduce the carbon footprint of the model, minus the energy consumption required to create and maintain these digital worlds and humans.

P1 also likes the idea that one can attend university while continuing to model and notes there is an opportunity to become a mother whilst continuing to have a source of revenue by monetising their digital versions. Beyond modelling, P10 notes that digitising oneself may offer legacy and support for their families beyond their modelling careers and even their physical existence. These benefits relate to diversity and inclusion, which, in turn, can support the development of SDG 10 (Reduced Inequalities). In many ways, many of these benefits could be applied to a speculative future whereby technological advancement and mainstream adoption of digital scanning and avatar creation allow everyone with access to technology to 'level up' (P4, FG 1) on a financial and educational level, contributing to social and economic sustainability.

5.2.4 Control

The importance of control was a major theme that emerged from the findings and relates to the category ***Digital Ethics and Autonomy***, including codes and sub-codes **Ownership** *and* **Legislation, Model Value and Perspective, Representation** and *Future Applications*, and even **Upskilling and Education** due to the lack of knowledge surrounding data protection. There is a sense that control of data will offer the models more autonomy over image rights, as well as general human rights regarding representation and morality.

On a personal level and from a **model perspective**, participants want to have more **control** over how they are represented in their digital form. Suggesting there is an imbalance of power and control already apparent within the modelling culture, P4 (FG1) argues that:

'We shouldn't have less control of our image than we already have.'

P1 suggests that models should set boundaries with clients via their agencies to ensure there is some control over how they are represented, and P4 suggests that parental control needs to be put in place for those models under the age of consent:

'But as long as there's parental control over a minor, even in the metaverse, and that's something that I guess parents need education on as well.'

However, there is a lack of knowledge and uncertainty when introducing suggestions for control throughout the participants. Findings show that all stakeholders within this context, from models, parents, agencies, and clients, need to be educated within this new digital realm of modelling, emphasising the recurring theme of **upskilling and education** and clear guidelines or standards**.** They believe the digitisation of models presents an opportunity to exploit and manipulate their digital assets to drive revenue, placing commodity over moral value. P1 (FG1) also notes that clients 'always try to get away with using images for longer', and agencies have their *agency agenda*. P2 (FG1) feels uncomfortable about the idea of not having control over their digital self and questioned how to avoid the marketing exploitation and overuse of an unaging image:

'What would happen to this 20-year-old version of yourself when you still don't look like that but they're still being used for selling clothes or products?'

Participants speculate about practical *future applications* and ways which may solve some of these ethical issues of control and consider responsibly innovative practices. For example, P10 suggests using a legal watermark (like an Instagram blue tick) that certifies the model's digital version as an authentic and transparent representation. P11 suggests tracking the use and editing of a digital version through notifications, referring to Google Alerts and keywords. P10 also argues the potential benefits of digitising models could restructure the entire modelling industry to empower and support models. Using digital scanning as an example, P10 proposes a novel approach to personal identifiable information, which we will refer to as 'Meta-data'. P10 suggests that through the binarisation, the Meta-data of one's body, such as movement data and the data of one's face, can be separated into files and be monetised as separate entities. For example, clients could potentially use a specific model's movement or eye colour, which relates back to my own experience with digital scanning technology and motion capture, where my movements were used for multiple avatars within a virtual reality experience. Whilst this adds to the complexities of control and ownership, it presents diverse opportunities for models to engage within the digital realm.

5.2.5 Digital Ethics and Autonomy

A significant finding from the thematic analysis was the discovery that codes ultimately relate to one overarching and conclusive category, ***Digital Ethics and Autonomy.*** Ethics and autonomy come hand in hand from the model's perspective. The main point of ethical contention was that those digitally represented (the model, in this instance) should acquire and retain autonomy of representation (representational ethics) and autonomy of data (digital ethics). Furthermore, the act of digitising a human should be handled respectfully, responsibly and ethically, as demonstrated by P1's experience of standing in underwear without being informed of the situation. Overall, participants agree that ownership of data is the only way to gain full control over their digital selves to protect from misrepresentation and data misuse.

Relating to concepts discussed within the literature review, particularly section 3.4.6, what these findings highlight is the importance of autonomy across philosophical, moral, ethical and practical levels. Despite digital models becoming a data asset, they are still tied to the individual and raise the question of who is in control, how they are in control, and what measures need to be taken to ensure this control of digital self representations. As Ball (2022) and Zallio and Clarkson (2023) suggest, it raises the questions of digital ethics as well as concerns for digital well-being (Burr, 2020). It also refers to aspects of digital sustainability (Blazquez, 2022), given that the concept relates to digital tools being used to promote sustainable behaviours. However, as argued previously, digital sustainability must go beyond benefits for environmental sustainability and consider the social and cultural implications of digital tools to foster responsible innovation, to reduce inequalities, and to improve human rights within digital contexts.

The main concern for fashion models was the creation of digital representations of themselves that did not align with their physical appearance or moral values, including their religious beliefs, and were made without their consent. Findings suggest that models see value in their image, both on a professional, ethical and financial level, which should, in turn, be treated in the same way within its digital form. A model image is not only formed on a superficial level but is created through personality and consumer-client connections. Furthermore, participants were worried that their youth could be captured and used in perpetuity (even in death) and third parties could profit from their digital humans without their consent, as expressed by P2 (FG1):

> *'If it's this digital version of you forever that age, what's to say they don't use it indefinitely if they wanted to.'*

What these focus group findings suggest on a macro level is that autonomy of the digital body is an ethical consideration that could be grouped as two points of consideration,

presented within Figure 5.3: 'Legal', the process and procurement of data, and 'Moral', based upon the participant's values, beliefs, and perspective.

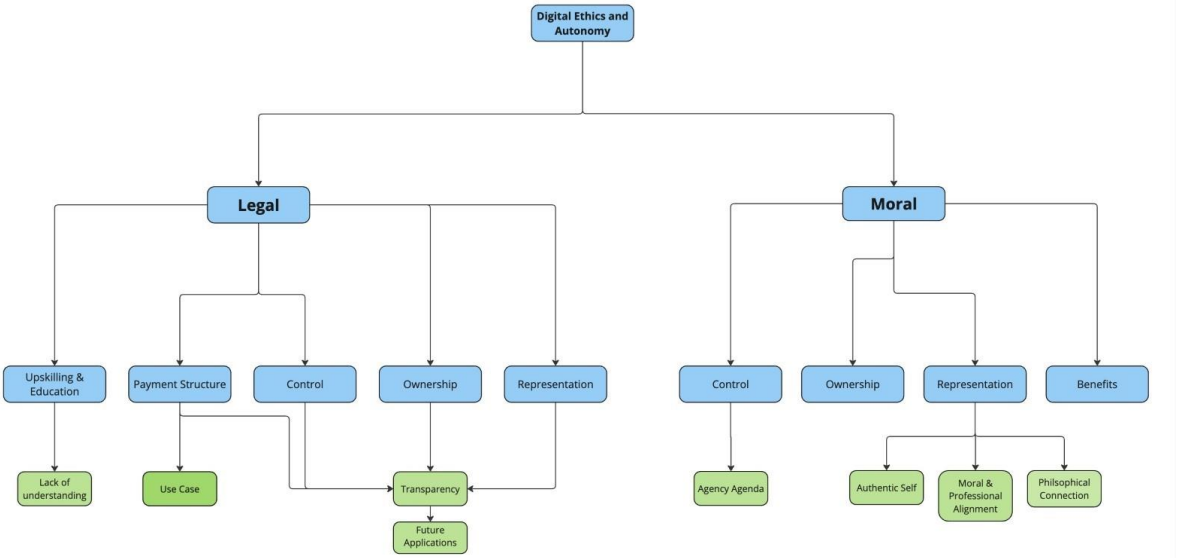


Figure 5.3: Digital Ethics and Autonomy Code map

What is evident through the workshop with industry, which will be discussed in the next section, is that current legal standards and industry perspectives may not align with the model's perspective on autonomy. However, the case for digital ethics is still of importance to industry, which further focuses on the societal implications of digitising humans and its impact on sustainable development.

5.3 SCENARIO PLANNING WORKSHOP

5.3.2 Critical Uncertainties

Adopting the PESTLE analysis tool, the first task required by the industry experts was to highlight critical uncertainties surrounding the process of digitising humans, using fashion models as the benchmark for discussion. Findings from this section of the workshop were grouped and thematically analysed to show a hierarchy of uncertainties within table 5.1 below (refer to Appendix 26 for the full scope of uncertainties highlighted by participants).

Table 5.1: Critical Uncertainties Regarding Digital Humans

Criticality (Order of Importance)	Uncertainty	Concerns
1	Personal Identifiable Information (PII)	Lack of clarity of the data types and definitions of PII captured within digital humans.
2	Human Rights	Lack of legislation for data protection, data ownership and avoiding negative exploitation
3	Lack of Government Understanding	Concerns government lag behind on policies and lack of confidence
4	Well-Being	Concerns the evolution of humans will increase loneliness and contribute to body dysmorphia
5	Sustainability Uncertainty	Unclear on the *digital pollution*, access for inclusive communities, and financial empowerment.

2.2 Plausible Scenarios

Assigning themes from the critical uncertainties to the quadrant axis (see Figure 5.4 for an example), the industry experts were split into two groups to create four speculative futures, which were named by participants. Based upon Börjeson et al.'s explorative scenarios (2006), a 'What can happen?' question was asked to define strategic scenarios. Within each

future, participants speculatively answered the explorative research question: *What can happen if we continue to develop Digital Humans within a fashion context?* Working within the online workspace, Miro, plausible scenarios that may develop in response to the research question were populated using post-it notes within each section, dictated by the axis variables. This activity allows participants to uncover the nuanced ways in which human activities can shape and reshape traditional geographical boundaries (see Figures 5.5 and 5.6 for Group 1 and 2 results).

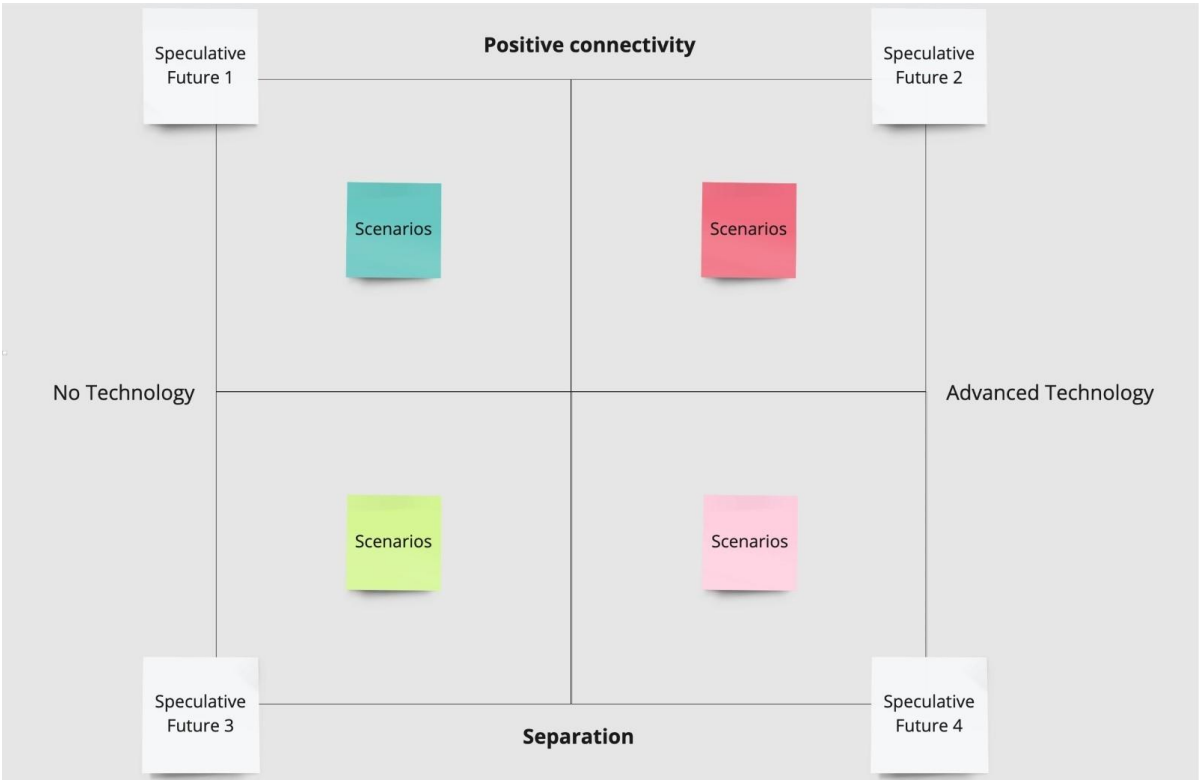


Figure 5.4: Plausible Scenarios Example

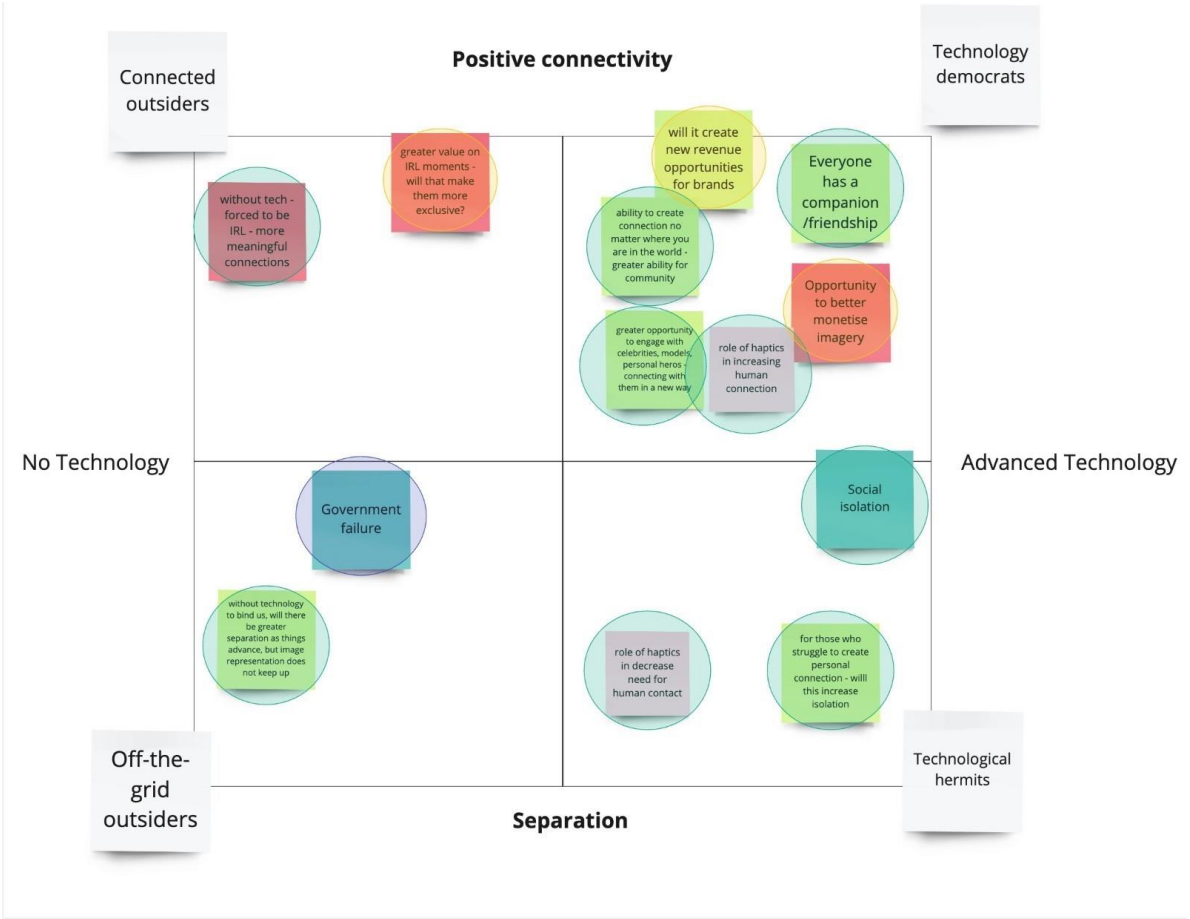


Figure 5.5: Group 1 – Speculative Futures and Plausible Scenarios

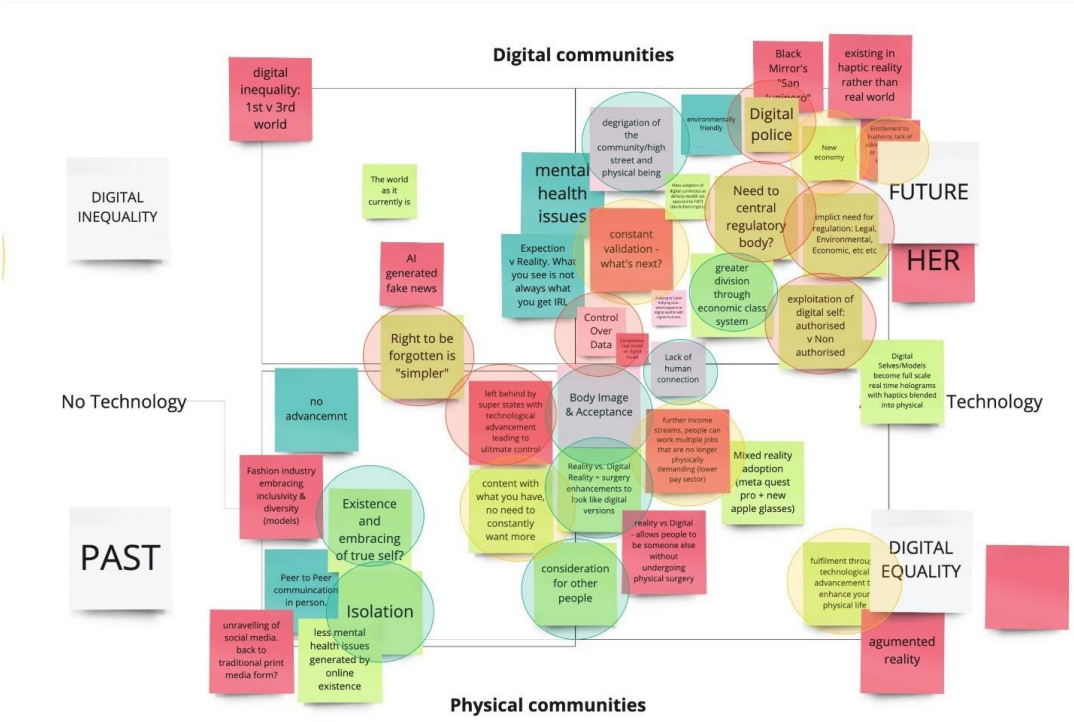


Figure 5.6: Group 2 – Speculative Futures and Plausible Scenarios

Both groups focused on social interaction through connection (group 1) and communities (group 2). Three overarching themes emerged from both groups' discussions that were circled in the prospective colours, as shown within Figure 5.7 below.

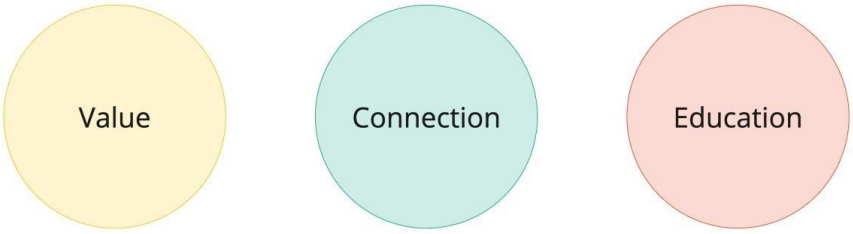


Figure 5.7: Themes and Colour Codes for Speculative Futures

The theme of **value** encompasses both monetary aspects and the emergence of new economies, as well as the potential enhancements that the digitisation of human representations could bring to individuals' offline lives. By enabling one's digital self to operate within the online realm, participants suggested that society might develop a

renewed appreciation and sense of contentment in the physical world.

Connection was a major theme that emerged from the group's discussion, relating to intrapersonal and interpersonal connections. On one hand, participants were concerned that there may be increased loneliness if there was a lack of physical connection and human touch within a society that spends more time online due to advanced technology. Participants within group 2 noted that isolation could even incur from a future that reflected the past, with no technology and too much reliance on physical communities. Group 1 supported this view, arguing that technology helps build community and connection, imagining a future where everyone can have a digital friend and allowing for further engagement with idols and celebrities in new ways. However, they also noted that a future with no technology may force people to make more meaningful connections IRL.

Other concerns surrounding the theme of connection included economic class divisions and degradation of the physical high street, as well as the impact on mental well-being and body image in response to the creation of digital versions of beauty. Group 1 specifically discussed the adoption of haptics, which may result in the lack of physical touch within a world that has advanced technology and increased separation (this future was titled 'Technological Hermits'). However, on the other hand, group 1 suggested that in a world where advanced technology fostered positive connectivity (this future was titled 'Technical Democrats'), then haptics could increase human connection.

Another concern for group 2 was focused on the connection individuals have with their bodies and the potential impact of physical versus digital realities on body image, relating to Chan et al.'s (2023) concern for consumer self-image satisfaction. Findings suggest that participants believe futures without advanced technology within physical communities may foster healthier attitudes towards self. There is concern that the adoption of technology may widen the gap between the real and the unrealistic, encouraging the adoption of plastic surgery, for example, so that humans can mimic their digital representations. In relation to fashion models, the responsibility of models to portray healthier and authentic representations was paramount given past industry criticism and efforts to portray unmanipulated images and unrealistic beauty standards.

Education was another theme which appeared from the plausible scenarios and discussion between participants, showing the need for further knowledge regarding the impact of digitising humans. The researcher observed a knowledge gap between the industries represented within the workshops (fashion, modelling and technology), as well as a lack of trust and confidence in current government action. Whilst models lack trust in model agencies and clients, as suggested by the focus groups (sub-code: *agency agenda*),

agencies lack trust in government, revealing a hierarchical chain of mistrust.

Data protection and ownership was a significant point of contention between stakeholders, adding to the practical and ethical debate put forth by models within the focus groups. Legal, economic and environmental regulation was highlighted as a requirement supporting advancing technology and increasing digital communities. Group 2 questioned the need for a regulatory body, putting forth the concept of 'Digital Police' to govern the creation and use of digital humans. Whilst the industry is aware of these challenges, action is still needed.

5.3.2 Opportunities and Paths for Sustainable Development

Within the next activity, industry participants collectively focused on three concepts that address the critical uncertainties and plausible scenarios, offering suggestions for paths and actions. The three concepts chosen were named 'Power Trip', 'Digital Police' and 'Technical Democracy'. Definitions, suggested paths and actions, and applicable Sustainable Development Goals are summarised within Table 5.2 below (based upon Appendix 26).

Table 5.2: Concepts, Paths and Actions from Industry Experts via Scenario-Planning Workshop

Concept	Definition	Paths and Actions	SDG
Power Trip	Conflict of power between people and government. There is a concern that governments may acquire too much control over data.	- Advocate for individual digital autonomy over personal data. - Bring tech companies/leaders into the legislative process. - Suggest legal impartiality through government legislation that protects personal data in response to the digitisation of humans - Broader government policy on PII, which is "future proof".	

Digital Police	A digital police organisation focused purely on enforcing rights of digital humans and avatars on Web3	- Connect data ownership and biometric data transparency - Enforcing mitigations against bad actors - Protection against unethical exploitation of images and relevant data. - Tracking systems so people can better control their own data - Uphold new payment structures	
Technical Democracy	Access to technology for all	- Responsible innovation and development to ensure everyone has the same technology to increase equality across economic and social opportunities to thrive in IRL and Web3 by reducing barriers to entry. - Ethical measures for image ownership & validation, including the right to be forgotten, still apply to emerging technologies and the ability to remove yourself from the metaverse (or take digital holidays). - Democratise and create new business models and revenues for people's digital selves - Greater education of new tools and production methods	 

5.4 CONCLUSIONS AND SDG CONSIDERATIONS

The conclusions to the findings are summarised in response to the relevant main research questions, RQ1, RQ2 and RQ4.

RQ1 – What are the motivations for fashion models (the 'users') to invest in the creation of their digital selves?

From fashion models' perspective, the main benefit of investing in the creation of their digital selves are for financial gain. As P10 argues, there is an opportunity for the digitisation of models to democratise the model industry and empower individuals to own and monetise their data. There are also holistic opportunities attached to this benefit, with models seeing opportunities to 'level up' within education and supporting their families through parenthood and even in death. However, these benefits come with a responsibility. Participants from the focus groups emphasise the responsibility of the modelling industry to create and utilise authentic representation of human models for personal and consumer mental well-being. This is also highlighted within the industry workshops, whereby experts are concerned for futures that depict unrealistic beauty and body image through the adoption of digital models without ethical guidelines.

Motivations are offset by a lack of trust between models towards agencies and clients and agencies towards government. From a model's perspective, they argue that the value of a model should be translated into its digital equivalent. They are concerned about the lack of control of their personal data and the risk of moral and unethical exploitation. Furthermore, they also highlight that models' intra- and interpersonal value stems beyond superficial images to personality, mannerisms and connections, which cannot be discarded by clients. However, they do suggest e-commerce as a form of modelling that may be appropriate for the use of a digital model. However, the use of digital models within e-commerce must not only be used as a vehicle to sell more products, which is at odds with sustainable development, particularly SDG 12 (Responsible Production and Consumption).

In terms of wider implications for fashion consumers, it is interesting to understand the motivations of both these participant stakeholders (models and industry experts) towards the digital transformation of humans. Whilst a model's perspective may be limiting from a professional perspective, the democratisation of emerging technologies and the disintermediation of digital bodies may empower consumers to exploit their 3D representations in the same way that social media allowed its users to create and monetise

2D content. Industry experts argue that benefits gained within digital worlds should be accessible to all.

RQ2 – How will digital bodies play a role in constructing fashion identity across digital and physical worlds?

For models, the creation of their digital bodies does not construct identity but is seen as a reflection of established identity and as another vehicle for commodification. As P4 argued, the digital representation is an asset or *'an extension of' the model's image'*. Due to the nature of a model's profession, the digital representation is seen as a monetary possession of the 'extended self' within a digital world, as argued by Belk (2013).

However, despite the practical approach, that does not mean models wish for unauthentic representations of self. From a moral and ethical perspective, fashion models wish to gain autonomy over their digital versions to monitor how one is represented and to ensure authenticity (Kondakciu et al., 2021) and moral and professional alignment (Hill, 2013). P11 spoke philosophically, arguing there is little we know of an energetic connection that exists between physical and digital entities to fully understand the impact these relationships may have on individuals and society. There is concern from models that if their identity is misrepresented or misused by others within digital worlds, it may have an impact on their professional image and personal well-being within the physical world, relating to Burr's (2020) concept of digital well-being. Adapting Yee and Bailenson's Proteus Effect (2007), whereby the shaping of our digital self-representations can change behaviours offline, models are concerned that, due to the lack of transparency, ownership and control of their digital selves, behaviours and perceptions by others may change through associating physical models with their digital representations. Therefore, models assert that autonomy over their digital representations is of utmost importance.

However, unalignment between moral autonomy versus legal reality is clear. It is important to highlight that current regulations regarding control and ownership of data do not reside with the human represented but the creator of the image. Not only that, but they also note the responsibility of the modelling industry to portray authentic versions for consumer welfare. For example, the impact on body image was highlighted as a concern by both models and industry experts in response to constructing bodies within digital spaces. This was highlighted as an area for further research by Chan et al. (2023), and findings determine the importance of self-image satisfaction within the creation and dressing of the digital self.

In conclusion, whether through an ethical, philosophical, legal or an economic lens, findings

suggest identity is connected across spatial dimensions, presenting new perspectives, requirements and considerations for responsible innovation and sustainable development. Whilst the digitisation of models provides economic and some environmental benefits to sustainability, the implications on social and cultural sustainability are little known, and therefore, further understanding of these impacts needs to be addressed to implement responsible guidelines and subsequent policies, particularly in the face of emerging technologies such as AI, which can further assist and develop the digitisation of humans.

RQ4 – Using the sustainable development goals framework, what are the sustainable and ethical considerations of constructing digital identities within the DF paradigm?

Holistically, the findings reveal participants' uncertainty and concern about a future where not only the boundaries between the digital and physical worlds become increasingly blurred, but also the distinction between digital technology and human identity. Varying considerations and applications may be needed dependent on the form of digital human and require deeper investigation; for example, CGI or AI could be used to create an avatar, a digital scan could be utilised to scan a human, or even a blend of all technologies could be adopted. However, participants do see the benefit of the digital human evolution, which may foster a better quality of life with equal opportunity.

Building upon table 5.2 and the SDG framework within the literature review, the key concerns and considerations from each method are compared and holistically analysed and presented within table 5.3. The digital transformation of humans is an ethical challenge, where industry experts warn it could impact well-being and human rights. SDG 3 is concerned with good health and well-being; However, indicators for SDG 3 are focused upon the medications, illnesses and the physical body. Either the SDGs need to adapt and include digital well-being (Burr, 2020), or, as shown in table 5.3 below, well-being becomes a significant implication across other goals, including SDG 8, 9, 10 and 12.

Table 5.3: Comparative Analysis of Findings with SDG Framework

SDG	Themes	Concerns, Considerations and Further Questions
	Digital Pollution,	• Energy consumption concern • Update on industry standard and ethical practice

	Digital Ethics	towards data ownership
	Representation, Connection, Well-Being, Transparency	• Concern for lack of representation and consent within the creation digital versions • Impact on body image • Brands should adopt authentic digital representations of humans to drive connections through transparency
	Control, Ownership, Payment Structures	• Positive democratisation of digital human technologies and the potential economic empowerment • Restructure payment systems required which benefit the individual represented.
	Technical Democracy, Upskilling and Education, Well-Being	• Further education between stakeholders to avoid gaps between moral idealism versus the realities of industry and regulation. • Collaboration between domain experts and technical skill-sets. • Retain a borderless metaverse that does not impact workers' rights. • Accessible technology for all. • Providing inclusive access to diverse demographics to gain essential knowledge in digital technologies
	Legislation, Transparency, Digital Ethics, Digital Policing, Well-Being	• Ownership and control over digital representation lies with the creator rather than human represented, making images susceptible to misuse • Findings suggest the industry needs to act quicker than slow government legislation. • Digital policing to track and monitor use of data to protect against negative exploitation that may impact individual or consumer welfare. • Legislation is paramount in advancing ethical

		and law-abiding uses of PII, clarifying IP and data ownership.
	Benefits, Future Applications	• 'Levelling Up' benefits across education, family, well-being, financial stability, and independence.
Additional SDG		
	Digital Well Being	• Further understanding, within a fashion context, 'the impact of digital technologies on what it means to live a life that is *good for* a human being' (Burr et al., 2020: 1).

STUDY TWO

DIGITAL DRESSING:

AN EXPLORATION OF GEN Z CONSUMERS FASHIONING THEIR ONLINE IDENTITIES AND THE RELATIONSHIP TO THE OFFLINE SELF

5.5. INTRODUCTION

The survey conducted produced 159 responses, which were filtered to the 41 participants who matched the relevant criteria (refer to the Methodology chapter). From the 41 participants selected, 18 confirmed their participation. A multi-method approach was utilised, including online-observational interviews supported by netnography across two DF (DF) experiences, DRESSX and Zepeto. The online-observational interviews were semi-structured, including open-ended questions, and conducted in two stages:

DRESSX – Participants were asked to browse the DRESSX website whilst being asked open-ended questions by the researcher. The researcher observed and recorded any significant details in their browsing behaviour, such as their interest in the sustainability section on the DRESSX website (5 out of 18 visited this page). Participants were offered the option to choose a DF item from the DRESSX website to be digitally tailored to an image of themselves (this process takes twenty-four hours on receipt of their image). They were offered the voluntary choice to share the updated image on social media. Follow-up interviews were conducted with participants who acquired a DF item from DRESSX.

ZEPETO – The 18 participants were also asked to use the Zepeto app to create and dress an avatar, followed by questions by the researcher. These different experiences (DRESSX and Zepeto) produced interesting responses from the participants, highlighting the importance of context and utility and the role of the body within the dressing of the digital self, which will be discussed through this chapter of findings.

A comprehensive dataset, comprising 117 documents including transcriptions, videos, images and social media responses from the interviews, has been subjected to thematic analysis using MAXQDA software (excerpts of transcripts and coding summaries can be found within Appendices 27-29). This analysis yielded 1544 codes, focusing on a selected

24 categories; three of these categories are expanded to focus on specific codes, and therefore, 27 code maps are presented and discussed. Given the substantial volume of data, this section will focus on the findings that provide the most relevant insights and effectively address the research questions. Consequently, this chapter will discuss and analyse 22 relevant overarching categories visualised through code maps with some attention to and expansion of specific codes. The four main research questions will be addressed individually, highlighting significant categories, codes and sub-codes that have emerged from the data through thematic analysis. A list of the 27 code maps can be found within Appendix 30.

The survey responses were analysed separately using Google Forms summary function for closed questions, producing pie charts and graphs, and ChatGPT-4 to thematically analyse key themes emerging from the open-ended questions. A full summary of findings can be found within Appendix 31, plus an analysis of open-ended questions via ChatGPT-4 within Appendix 32. Whilst the results of the survey are primarily used as a sampling tool and not fully considered within the research analysis and findings, these can be used as a dataset for future research. The findings from the survey will be referred to in support of or against some of the interview findings to understand whether responses can be applied to a generalised view. However, this will be done cautiously given that the collective responses from the survey include an array of demographics. One of the limitations of the convenience sampling and snowball sampling used to acquire survey responses, as mentioned within the methodology, is the risk of respondents answering the survey who might not fall within the research scope. Therefore, the survey responses do not offer responses that are specifically reflective of the study's target demographic and need to be addressed accordingly.

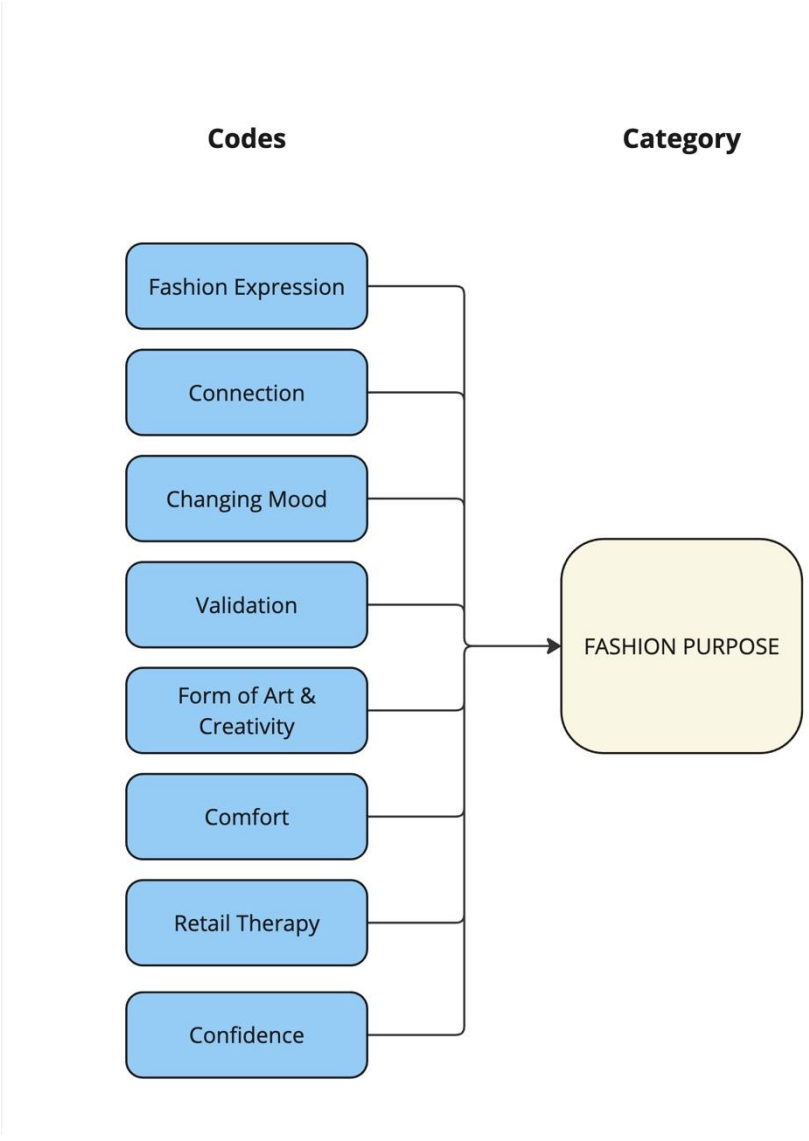
Throughout the text, ***Categories*** will be highlighted in bold and italics, **Codes** in bold and *Sub-codes* in italics. All data for Study Two can be found within Appendices 27-35.

5.6 RQ1: WHAT ARE THE MOTIVATIONS FOR FASHION CONSUMERS TO INVEST IN THE CREATION OF THEIR DIGITAL SELVES?

5.6.1 Digital Self-Expression and Default Style

To understand how the participants will dress themselves for digital worlds and the motivations to use DF, we must first understand the importance of fashion to the

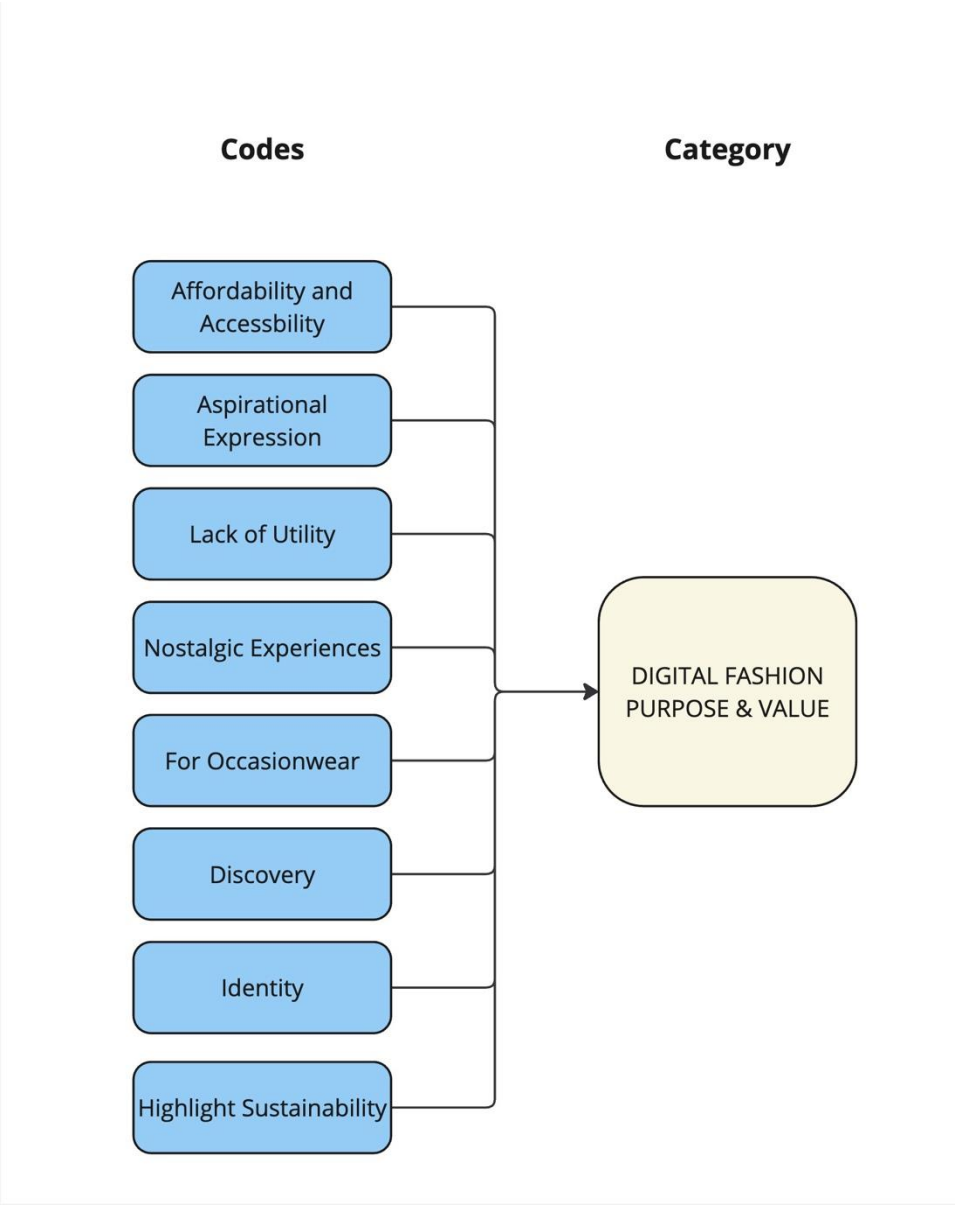
participants. Interviews began by asking the participants how they view fashion's purpose, with a unanimous view that expression was the driving role. The code **fashion expression** was specifically used by 14 out of 18 participants in reference to physical fashion, as presented within code map 1 below, which presents key themes relating to the overarching category, ***Fashion Purpose***. Forms of expression were defined as sub-codes: reflection *of self* (P8, P16)*, visualisation of mindset* (P18) or *changing style* (P9). Other key themes for fashion's purpose included **Connection, Comfort, Showing Off, Retail Therapy, Changing Mood, Validation, Confidence** and **Form of Art and Creativity.**



Code Map 1

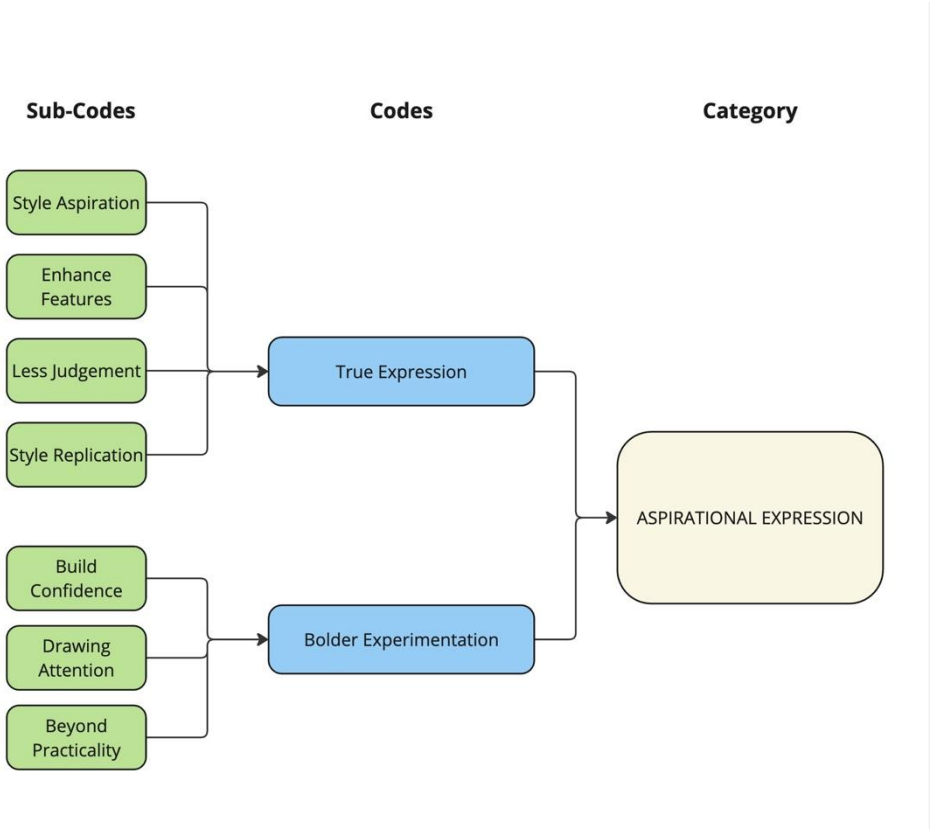
Many of the key themes derived from question 6 of the survey (What does fashion mean to you?) correspond to answers from the interviewees and highlight hedonic consumption motivations (Alba and Williams, 2012), including confidence and empowerment, community

and connection, creativity, comfort and practicality, mood, and career. Ultimately, self-expression was the overarching and most common theme mentioned across the survey and interviews when referring to the fashion as a concept. Whilst this is not new knowledge and supports the theories discussed within the literature review, it underpins the foundation of DF and its potential to thrive within a fashion consumer culture. For consumers to feel motivated to invest in the creation of their digital selves, it is imperative that DF meets the needs of the fashion consumer and how they understand fashion within their lives. Similarly, participants from the interviews suggested that freedom or furthering fashion expression was the key purpose and value for DF (category *Digital Fashion Purpose and Value* in code map 2), achieving the highest code frequency of 65, which has been defined and coded as **aspirational expression**. Findings suggest that expression holds just as much importance to the fashion consumer within digital worlds as it does within the physical world, supporting the research's main assumption. In fact, expression may have more importance due to the lack of utility the participants see in DF, highlighting lack of utility.



Code Map 2

Expanding the code **aspirational expression,** participants highlight differences and reveal nuances between what they define as *True Expression* versus *Bolder experimentation* (code map 3).



Code Map 3

Half of the participants (P1, P2, P3, P4, P5, P6, P8, P12, P15, P18) are seemingly motivated by the freedom to push the boundaries of *bolder experimentation* that extends beyond physical limitations, offering bolder, imaginative versions of self, artistic licence, and less fear of judgement, such as expressed by P1 and P8:

> *'It's allowing me to be bold... It's like giving me my wildest dreams.'* (P1 – Initial Interview, Line 118)

> *'I wouldn't really be able to wear them in day-to-day life, so, like, experimenting could be cool because I'm quite boring in what I choose to wear.'* (P8 – Initial Interview, Line 50)

DF exposed to some participants how 'boring' or safe their offline selves were, revealing much about their sense of style but also their levels of confidence. Survey responses agreed with this notion of the unimaginable and bolder self, with 42.1% stating the benefits of DF allow expression in ways that cannot be achieved IRL. P7 also stated that bolder expression allows you '*to draw attention'* (P7 – Initial Interview, Line 118) within a social media context, which they see as a positive benefit.

Despite participants seeing DF as an opportunity for **bolder experimentation**, the actuality of their DF choices using DRESSX is style replication or achieving their **true expression**, which, in nuanced terms, means reaching their full style potential that could not be achieved within the physical world. P14 noted that her behaviour contradicted her initials thoughts towards DF's purpose, as she ended up choosing something that would exist and be bought in real life, as shown within Figure 5.8 (contradictions, as a key theme, will be discussed more within later sections.)



Figure 5.8: P14 Before/After_DRESSX

Within DRESSX, participants primarily chose elevated and aspirational versions of their real-life style. For example, P3 prefers catsuits offline as they flatter her figure. Figure. Therefore, she chose a DF catsuit, but one which was enhanced in terms of patterns and colour. P10 and P12 generally opt for items in black but chose something they would wear IRL but in another colour. A full collection of before and after DRESSX images can be found within Appendix 33.

As shown in Figure 5.9 below, P16 chose a matrix-style leather jacket they have been seeking IRL but cannot afford.



Figure 5.9: P16 Before/After_DRESSX

P13 basically replicated the same dress in a slightly different style from their original image (Figure 5.10). P8 did try a bolder statement but the reality of the DF item left her feeling uncomfortable, realising, on reflection, it is perhaps too revealing for her style (Figure 5.11). She also used an older image from her fashion modelling days, as she felt too uncomfortable to send in a current image.

PARTICIPANT 13



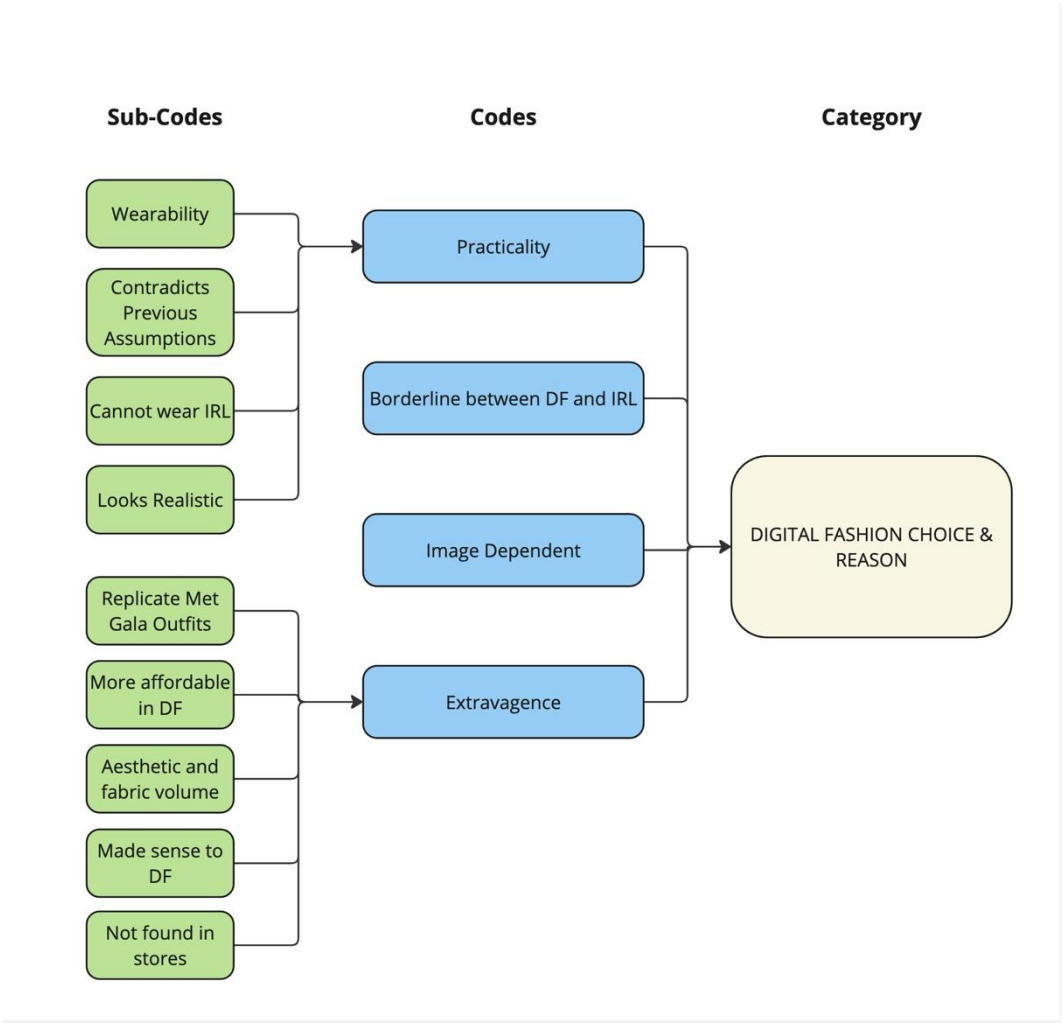
BEFORE **AFTER**

Figure 5.10: P13 Before/After_DRESSX



Figure 11: P8 Before/After_DRESSX

When asked to reflect on the reason for their DRESSX DF item, as shown within code map 4, the findings revealed four main codes: **Borderline, Extravagance, Image Dependent** and **Practicality**. The participant's reason was not exclusive to one code but often referred to a combination of codes. For some participants (P1, P2, P8, P10, P14, P15), DF items from DRESSX bridge the gap (borderline) between offline style reality and style aspiration; for some (P1, P2, P5, P14, P15, P17), it was a chance to achieve extravagance through more couture-style items that made more sense to the concept of DF due to its affordability and ability to create the unreal. P5 and P15 were aware of the image they needed and where it would be shared, such as on social media, which affected their decision-making, which was image-dependent.



Code Map 4

Most notably, the participants refer to practicality and what they perceive as wearable to them (P2, P3, P5, P7, P11, P13, P14, P16, P17). **Practicality** refers to DF items that do not have utility within IRL, suitability. while sub-code *wearability* refers to its suitability; For example, P2 (Figure 5.12) discusses the wearability of her DF choice, as it is, in her eyes, more commercial:

> *I loved the sort of extravagant pieces, but, for me, I thought that would be a bit more suitable and a bit more commercial maybe.* (P2 – Follow-up Interview, Line 4)



Figure 5.12: P2 Before/After_DRESSX

What becomes apparent throughout the primary research is that participants, specifically P1, P7, P8, P13 and P14, wish to use DF to achieve a sense of **true expression**. Whilst not straying too far away from their sense of style offline, they either replicate their style or dress in a way they feel is a deeper reflection of their style aspirations. This is achieved because DF offers items that enhance their offline style by providing pieces that are either unavailable or unsuitable for everyday life. For example, P1 chose a Met Gala-inspired dress for Valentine's Day (Figure 5.13).

> *'I think DF is allowing you to express yourself like the way you really would want to dress up every day.'* (P1 – Initial Interview, Line 118)



Figure 5.13: P1 Before/After_DRESSX

The context of the digital world suddenly allows certain types of fashion to be more acceptable but only if they can get past that barrier, as P12 notes:

> *'So, I think it's not too crazy. It's wearable digitally, but would I wear it physically? Probably not. Yeah, it's kind of like on that bridge.'* (P12_Initial Interview, Line 149)

As P1, P7, P12 and P14 suggest, there is a fear of judgement from others or lack of confidence within the physical world that suggests consumers do not dress in a way that is a true reflection of themselves. This relates to Simmel's psychological dualism (1957) and Von Busch's (2020: 81) concept of interdividualism, which argues 'we exist as relational beings, caught in a net of imitations, comparisons, and rivalries.' The findings suggest that the digital world removes the societal norms that fashion consumers are usually influenced by. For example, P7 and P14 agree with P1 and suggest that within a digital world, they would be allowed to dress however they liked:

> *'... Probably just be me and not care what anyone thinks, whereas I care too much what people think.' (P7 – Initial Interview, Line 90)*

> *'Get out of your comfort zone and dress yourself as identities you wouldn't do in person or in real life for many reasons. Maybe fear of being judged.'* (P14 – Initial Interview, Line 24)

However, adding to the consumer complexity, P7 could not get past their own insecurities despite the benefits they saw DF offering them and did not go through with acquiring a DF item, creating a block in the DF consumer journey concerning self-image satisfaction:

> *'I just don't feel confident in the photos, and I don't have any existing ones.'* (7 - Explanation, Line 1)

The findings suggest that participants have instinctive traits and beliefs that influence the way in which they will dress themselves or influence their DF choices, which are habit and confidence. Habit becomes the subconscious act in which they will dress themselves, while their level of confidence will influence the level in which they will experiment. Perceived social norms associated with fashion also impact the confidence and habits of the participants. Overall, the findings suggest DF items from DRESSX sit on the borderline, creating a bridge between the gap between offline style reality and style aspiration. Participants are motivated to mimic items they would wear IRL for **practicality** and *wearability*, yet ones that are 'elevated' (P8, 9, 16, 17), 'edgier' versions (P12), or to try new colour variations (P10). Due to the nascent nature of the DF within these participants' lives, their consumer habits override their ability to envision themselves beyond physicality, and they do not express themselves in a way that is too far from their default style.

In terms of sustainable consumption, there is a clear conflict and blocker between perception of self and dominant habits in the physical world and the fruits of self-actualisation in the digital world, revealing a considerable blocker in the DF consumer process. The difficulty in transitioning from typical subjective norms suggests that DF will not help to close the attitude-behaviour gap needed to encourage and action more sustainable consumption behaviour.

Furthermore, within the gaming platform, Zepeto, participants subconsciously lean towards creating default replicas of their style and create a 'little me' (P11 – Initial Interview, Line 276). This may be due to a keen sense of style and authenticity or habitual consumer behaviour to choose items that they feel confident wearing IRL. Or, as will be discussed in responses within the section 'Authenticity and Default Extended Self', motivations to create one's digital self are inherently linked with the desire for authentic representation. These motivations differ from a gamer's motivation, which is discussed in the section 'Relatable

Realism and Context'.

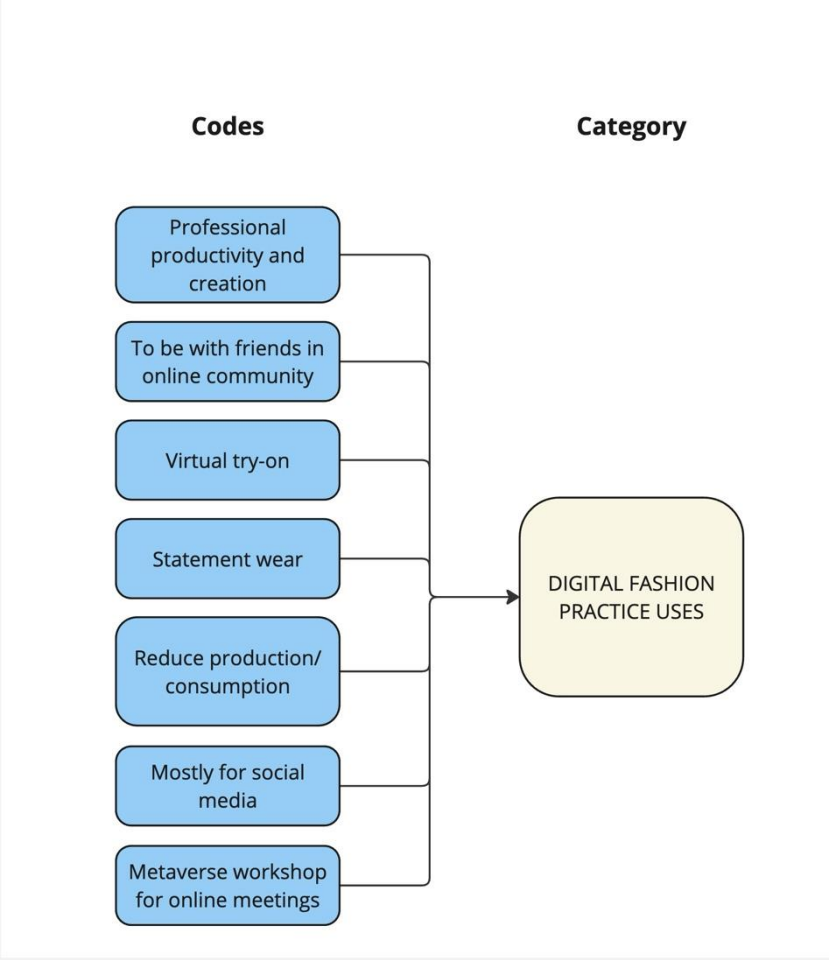
5.6.2 Utility and Perceived Value

5.6.2.1 Utility

In response to physical fashion, utility is rarely mentioned. If it is mentioned, it is as a by-product of expression, as described by P9:

> *'I kind of buy fashion items for functionality. Well, there's two aspects, I think, functionality and self-expression' – (P9 – Initial* Interview, Line 12)

P11 describes the purpose of clothing as a necessity determined by circumstances. However, he is aware that they do not need to buy fashion purely for necessity, which is a privilege. Clothing is not the leading driver to consume, and, therefore, 'physical clothing' and the concept of 'fashion expression' become two very separate entities. The lack of utility over expression and enjoyment exposes a hedonic consumer behaviour, explored by academics from Hirschman and Holbrook (1982) to Pham (1998), Batra and Ahtola (1991), and Alba and Williams (2012). It supports Jackson's (2005) view that consumption is implicated in identity formation, social distinction, and identification, meaning creation and hedonic 'dreaming'. In this respect, the future of DF looks promising. Given that fashion consumers do not put utility high up on their list and the codes presented are predominantly hedonic and emotive, one would presume the lack of materiality and utility for DF would not deter the consumer. They are motivated by DF due to its freedom and furthering of expression, as explored within the earlier section. However, when it comes to DF use cases, it is predominantly practical (code map 5).



Code Map 5

Overall, the idea of being able to try on clothes within this digital setting supports existing literature regarding DF as a tool. This was expressed in many ways by participants 38 times, being referred to as a 'styling tool' (P17) or 'changing room' (P3). The participants suggest that the benefit of the try-on/styling tool may help reduce overproduction, overconsumption and returns and is, therefore, a sustainable option. However, it is important to note that some of these suggestions were speculative and proposed as something they may consider being of use in the future. For example, P11, who is a footwear designer, could see the potential for DF to help prototype his creations within the sampling and marketing stages, furthering Crewe's process of 'disintermediation' and Toffler's concept of 'prosumers'.

As an end product, participants could also see the value of DF accessories, in particular, to enhance or elevate their offline style (again bridging the gap between offline and online style). When creating their avatars in Zepeto, accessories were used frequently, and participants spent a lot of time accessorising their avatars. Generally, P5 is 'a big believer in accessorising' (Part 1- Initial Interview, Line 90), and P17 and P4 agree that DF

accessories serve more purpose and do not need the tactility of clothing:

> *'If it is just for, like, hair clips or some earrings, then I think it will be fine. It will be fine to just, like, post on social media and it doesn't need to, like, touch it or feel it.' (P4 - Part 1 – Initial Interview Line 58)*

> *'I guess maybe it would be kind of cool to have, like, accessories and stuff that you could kind of layer on to photos and things like that.' (P17 – Initial Interview, Line 32)*

The lack of utility for DF is mentioned often as a significant blocker, which is somewhat ironic given participants hardly mentioned utility as a leading purpose for physical fashion (mentioned 4 times). For example, P4, despite seeing the suitability of accessories for DF, contradicts oneself by arguing that sunglasses lose their function in digital form:

> *'For example... sunglasses. If it is a digital one, then it may not like protect the eyes from the sun... it has lost the function.'* (P4 - Part 1 - Initial Interview, Line 54)

This may suggest that participants, as representatives of Gen Z fashion consumers, may take the utilitarian aspect of fashion for granted within our disposable culture. Without utility, the item loses function and value, becoming an object that is only a luxury or for hedonic purposes, as P2 suggests:

> *'I think [DF] is an absolute luxury. I don't see it as a necessity. I just think it wouldn't necessarily be the wisest decision to spend money on.'* (P2 – Initial Interview, Line 211)

However, for most participants (P2, P3, P4, P5, P8, P15, P16), they do not see DF for the 'everyday consumer' and only for gamers due to the lack of practical utility. Whilst DF is a driver for gamers, for fashion consumers DF as an end product still lacks a role. P16 summarises the overall sentiment of the participants by saying:

> *'I'm not a gamer... For example, my little brother loves to play video games... He's an avid Fortnite player, so he has bought many things, like skins on Fortnite. But in my life, it hasn't come to a point where the need for purchasing a fashion item digitally has come into my place*.' (P16 – Initial Interview, Line 32)

5.6.2.2 Value

P18 sees the value of DF in highlighting sustainability, allowing consumers to own more clothing, save money and be more sustainable in their consumption choices. However, whether this is a motivation to try DF P18 is unclear. The messaging around DF presents a

juxtaposition or paradox in how it is marketed versus how it is understood by participants. The idea of “owning more” while being “more sustainable” reflects a common assumption about DF, but this perception is not yet supported by concrete evidence.

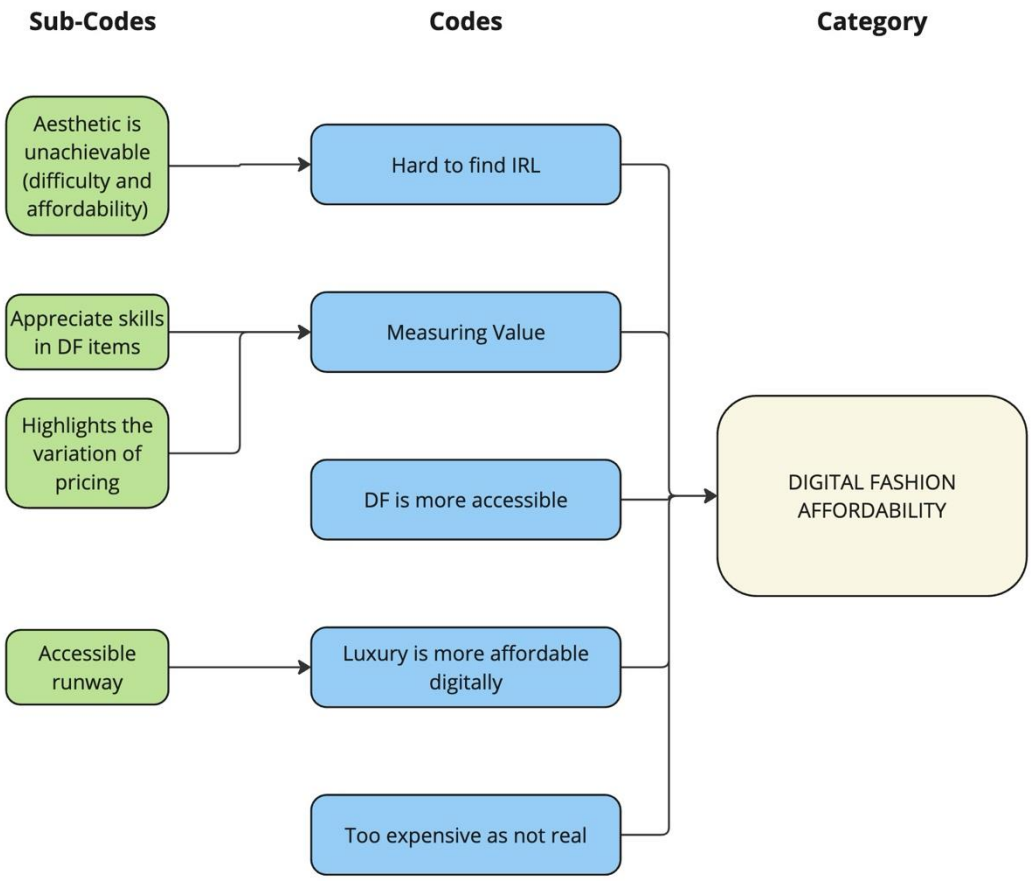
Furthermore, there is some debate between participants regarding brand importance and social value. For P16, brands do not hold the same level of status, value and materiality within a digital world and, therefore, are not the main motivational driver. Rather, they see the value in DF as a concept and the artistic licence it presents:

> *‘I don't feel like it's about what designers you're wearing or what logos you have on. It's more about the conceptual look of your digital self. I'm not going to pay attention to anybody wearing a Gucci belt in the digital world. I'm going to pay attention to the people who have really cool outfits.’* (P16 – Initial Interview, Line 105)

However, P9 argues the inclusion of designers, specifically within Zepeto, transforms the gaming experience to a fashion experience, as it makes more sense to a fashion consumer:

> *‘It didn't feel fashion-y at all until I saw certain items that I'd recognise from fashion brands, like the big red boots or a Balenciaga hoodie. Then I was like, okay, this is kind of like making more sense.’* (P9 – Initial Interview, Line 137)

Affordability and accessibility to luxury play a huge factor as participants state that DF allows them to try items they could not necessarily afford or are unachievable in real life (see code map 6 below). Within the survey results, 37.7% stated that the benefit of buying DF is to buy designer items that are cheaper in digital form. On the other hand, 40 responses (26.4%) stated that there were no benefits at all.



Code Map 6

These findings bring into question the influence of brand status within digital worlds and how conspicuous consumption may not play the same role within a digital world. Brand status differs for some participants, and therefore, it is difficult to determine what 'status' means for fashion consumers within the context of digital worlds. It is important to note that participants were financially restricted within this research due to the platforms chosen by the researcher and the limited amount to spend in DRESSX (up to $100). Further research may be needed to establish conspicuous consumption factors surrounding DF without the financial constraints.

However, it does highlight the question around **measuring value**. Whilst some participants noted DF allowed them to buy items they could not afford in real life, there was an uncertainty on how to measure the monetary value of DF items. This was particularly unclear on DRESSX, perhaps due to the fact that DF were relatable to physical items with a varying range of prices which participants could not quite understand. A quote from P3 typifies the response from participants:

> *'I also thought that the prices vary quite wildly... I thought some things were quite cheap for what they were, and some things were expensive for what they were. And I thought, well that's interesting. Like, I wonder what is being reflected in those prices?'* (P3 – Follow-Up Interview, Line 64)

There is a lack of guidance and measurement of price when it comes from DF, something which is primarily dictated by the DF designer or platform. From a participant perspective, it is unclear what variables reflect the price on DRESSX, which is different from physical clothing that deals with materiality and different forms of labour across the supply and value chain. A level of transparency needs to be considered from the DF designer or platform so that consumers understand value for money within a DF context.

When referring to DF's general value for money, there is consensus throughout the dataset that participants would not buy DF in favour of physical items (P1, 2, 7, 10, 12, 15, 17). Often participants compared DF's value for money to physical fashion, using physical fashion pricing as a benchmark for understanding DF value. This ultimately prevented them from understanding why they would spend money on a DF item if it were not real or knowing that they would not spend that type of money on a physical item. For P10 and P15, they would not spend $40 or $60 on a physical item, which was the price of their DRESSX item. They (P8, P14, P18) might buy DF if they were more affordable than physical items or, as P15 states, if they were an influencer and DF had more utility for their profession. However, they also expressed a concern that purchasing DF might encourage further consumption in physical life, supporting Crewe's (2013) concern that access to virtual goods may encourage further consumption.

Despite current limitations, including confusion regarding the value (monetary and status) and the lack of utility, there was optimism about the future role of DF in personal expression and sustainability. Participants expressed a willingness to explore DF further dependent on factors such as product type, as well as context and user, which will be explored within the next section.

5.6.3 Relatable Realism and Context

5.6.3.1 Relatable Realism

The user and context impact how the participant may dress and their motivations to adopt DF. For gamers (the user), the context is understood and familiar. As King and Krywinska (2006) argue, players see games through 'a picture frame' and are aware that games are unrealistic. For fashion consumers, ***relatable realism*** is important. In fact, the terms 'real', which was mentioned 387 times across 20 documents, and 'realistic', which was used 74

times across 20 documents, highlight the importance of addressing realism across the fashion-centric participants. For participants, there is a belief that digital equals unreal and physical equals real. This is clearly understood through their preference and responses to digital worlds, which dictate the level of realism for digital bodies and digital fashion. Within the interviews, the participants were presented six different variations of DF, digital bodies and digital worlds, ranging from fantastical characters wearing extreme DF in gaming-style worlds to a real-world context with a physical model wearing a DF item, which is presented below in Figure 5.14.

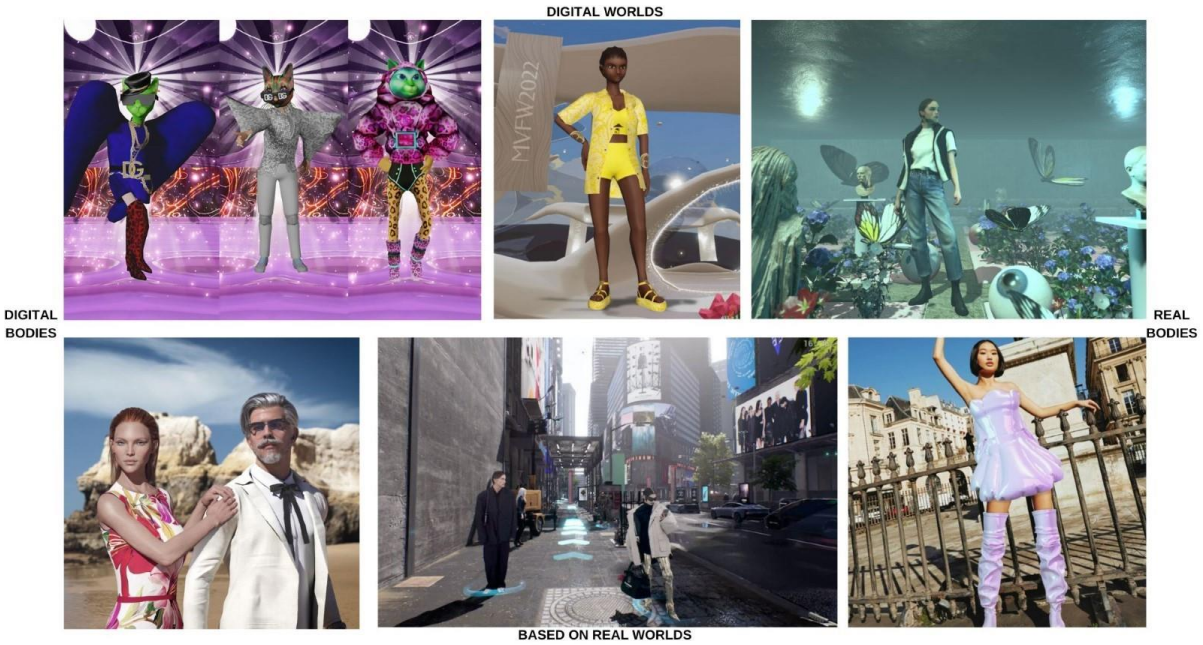


Figure 5.14: Digital World Examples

Image 1 (top left): Cat avatars in virtual world

Image 2 (top middle): Avatar in metaverse platform, Decentraland

Image 3 (top right): Digital scan in an underwater world

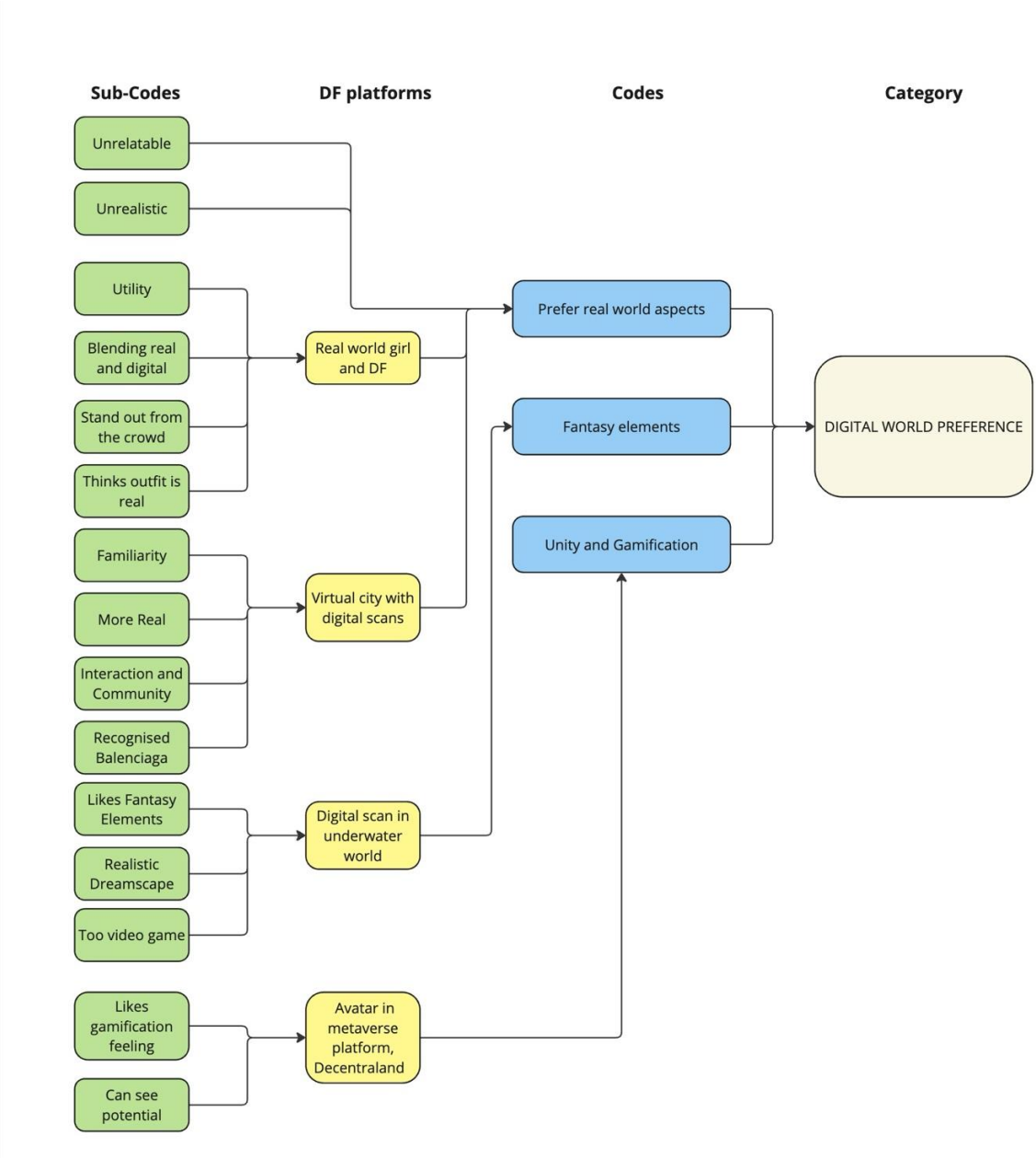
Image 4 (bottom left): Uncanny valley avatars

Image 5 (bottom middle): Virtual city with digital scans

Image 6: (bottom right): Real world girl and DF

Three significant codes appeared from the responses to their ***Digital World Preference***

(see code map 7 below) and how they viewed each of the worlds: **Utility and Gamification**, which was mentioned in relation to image 2; **Fantasy Elements** which referred to Image 3; and **Prefers real world aspects,** which referred to images 5 and 6.



Code map 7

The preferred image 6, chosen by half the participants, presents a physical model set in the real world wearing a DF item, similar to what you might find on DRESSX's website. The reasoning for this was specifically related to the realism of the image and its aspirational quality. Participants saw the utility in the image and how they could use DF, such as photoshoots or standing out from the crowd. They could relate to the girl and, as P7 states, aspire to *be* the confident girl in the photo, encouraging self-confidence and positive

perceptions:



'She just doesn't really care about anything going on. And I think that's how I'd like to sort of perceive myself.' (P7 – Initial Interview Line 246)

Furthermore, participants are drawn to image 6 due to the blending of the real and digital but also the uncanny familiarity mixed with the unreal, expressed by P2:

'Perhaps there is a sense of realism that resounds with me... I feel like that is an interpretation of an actual physical outfit that could be recreated. I feel like it's kind of a marriage of the two worlds rather than just one over the other.' (P2 – Initial Interview, Line 170)

For the same reason, participants (P1, P4, P8, P9, P11, P17) liked image 5 (Virtual City with Digital Scan) as it looks *'a bit more real'* (P14). Some participants noticed the image was from the Balenciaga campaign, and this made it *'cool'* (P4). For P17, they could see themselves exploring the city landscape and interacting with people within it; Fashion becomes an essential element for them within this context. Similarly, P8 clearly prefers this digital world due to its sense of familiarity with a metropolitan landscape which speaks to her more:



'...It is like a metropolitan landscape, and that's what I'm used to. And having some form of avatar that lives in, like, a digital version of my world speaks to me more.'

(P9 - Initial Interview, Line 116)

On the other hand, participants, such as P2 and P11, like image 3 due to *'the contrast of the digital and the sort of real world'* (P11 – Initial Interview, Line 231). The combination and juxtaposition of the digital and physical aesthetics relate to the uncanny valley feeling (Mori, 1970), which is shared amongst most of the participants who find the blending of fantasy elements with a realistic digital human familiar and interesting. However, the level of juxtaposition is dependent on the participant's preference.

Another example of blending the real and unreal is the focus on fabrics. Whilst some participants seek accurate representation of fabrics, others appreciate the opportunity the digital world brings to fabric, allowing imaginations to run wild with fabric blends and combinations that cannot be achieved IRL, such as *'glitter rain'* effects (P4 - Part 1 - Initial Interview, Line 110). The attitude of P11 typifies the sentiment shared amongst the participants regarding the level of realness and its importance:

> *'I quite like the idea that you can sort of just about tell that it's not a real item. I don't know if I'd want it to look completely realistic.'* (P11, Initial Interview, Line 141)

Despite the appeal of fantastical elements, there appears to be a consistent need for a degree of reality to anchor participants within their own lived experiences. As P5 reflects:

> *"I can understand having a digital world. Logically, that makes sense to me. But when looking at the images, I prefer those set in more real-life scenarios."* (P5, Initial Interview, Line 134)

While P5 acknowledges the logic behind adopting fantastical, unreal worlds, their preference leans towards real-world settings. Similarly, P11 emphasises the importance of retaining elements of reality while still pushing creative boundaries. Ultimately, although the digital world may seem like a logical space for unrealism, participants express a preference for familiarity and real-life references, suggesting that fashion consumers still require a connection to reality in digital spaces.

This is further supported by strong negative attitudes to image 1 with the cat avatars; Terms such as 'creepy' (P9), 'too much of a cartoon' (P15), and 'not for me' (P16) were used in response to this image of the cat avatars. There was a unanimous decision between all participants that the image with the cat avatar was not an environment that they would like to explore DF within. P14 explains why the cat avatars are *unrelatable* to her and prevent her from taking part in their world:



'I find it funny, but I can't project myself into it. I would watch it and I would laugh at it and I would like to be interested but it wouldn't give me the desire to take part of it.' (P14 – Initial Interview, Line 108)

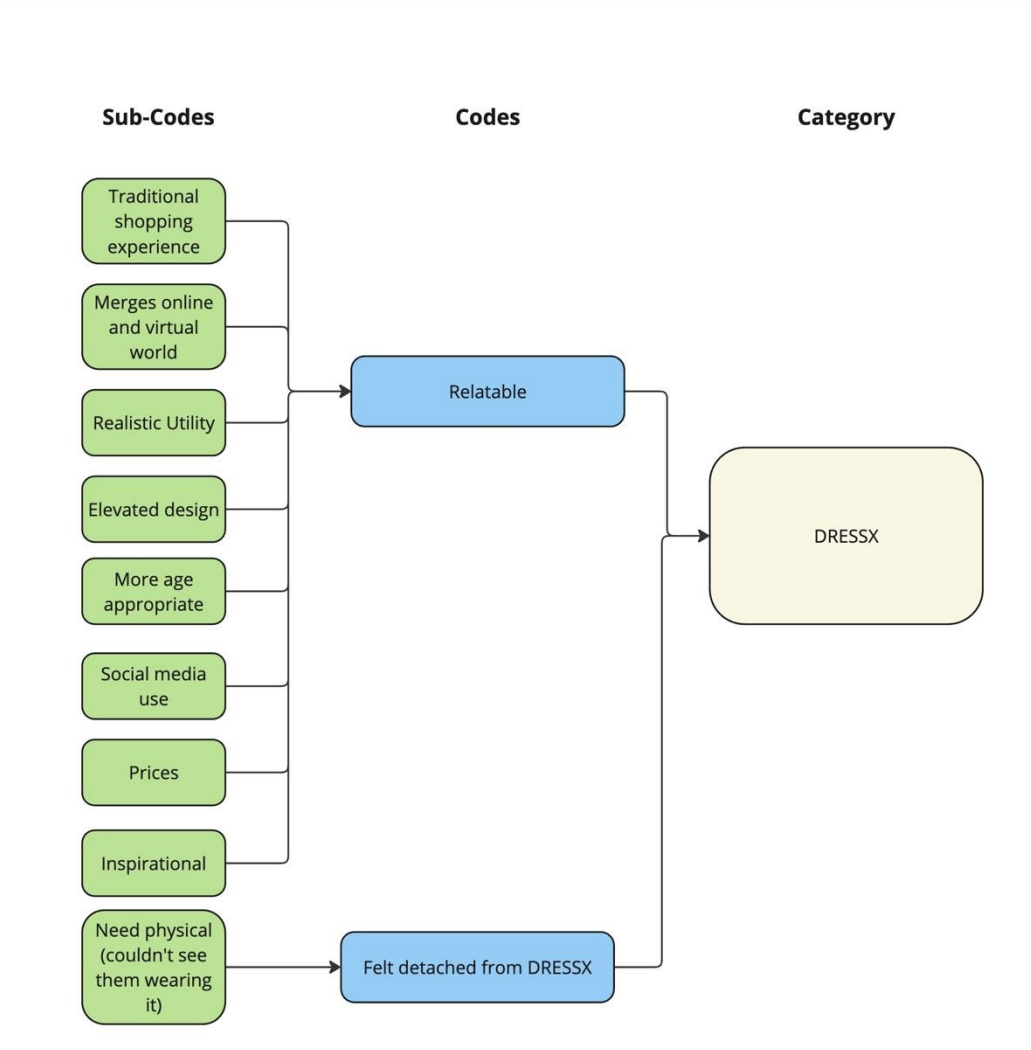
She explains that the cat avatars create a distance, knowing they are not real people, supporting the concepts of 'relatability' and 'realism' that emerge as key factors for the participants.

5.6.3.2 Context (DRESSX v Zepeto)

The different experiences offered by DRESSX and Zepeto changed the way participants perceived how they would digitally dress, and it also changed attitudes towards expected levels of realism. Despite the platform preferences, the overarching view was that DRESSX felt like a familiar fashion commerce experience, whilst Zepeto felt like a game with fashion elements. With this perspective, the concept and use of DF changed and revealed an interesting juxtaposition between preference versus utility of DF.

DRESSX was referred to as bringing more 'realistic'. This sense of familiarity was dictated by price similarity, website design and offering inspirational fashion choices. P16 said it reminded them of other fashion e-commerce sites, such as Mytheresa or Zalando. Also, the increased realistic quality of DRESSX meant that participants could understand and envision the utility of the DF items for social media. P11's view is that you can 'take it more seriously', and DRESSX is 'a little bit more legit', and P16 said that DRESSX merges aspects of the virtual (metaverse) and online (e-commerce).

The sub-code *more age appropriate* (see code map 8) is significant throughout the primary research as it arises in various ways across the participant responses. There is a sense that DRESSX is more age-appropriate than Zepeto, due to Zepeto's game-like quality and playfulness.

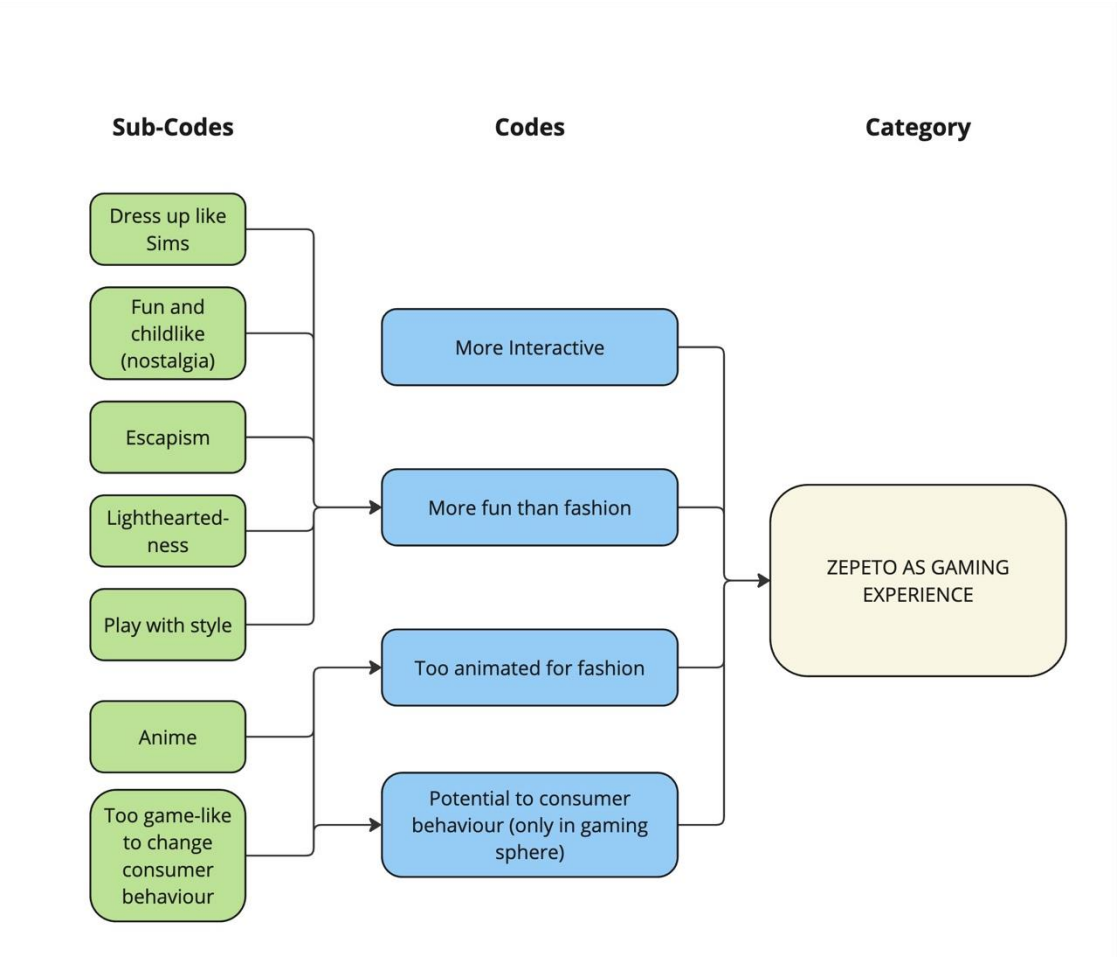


Code Map 8

While DRESSX is perceived as a retail touchpoint, Zepeto is regarded as an experiential platform. However, participants are divided regarding the nature of the experience offered by Zepeto, debating whether it is primarily a gaming, fashion, or a hybrid experience. For some participants, such as P10, Zepeto is a nostalgic experience for those who remember playing games (The Sims, specifically) when they were younger:

> *'I used to play Sims when I was younger. It reminds you about dressing a Sim; I used to love it.'* (P10 –Initial Interview, Line 139)

Interestingly, the participants were never made aware that Zepeto was a game. Their responses came from their preconceived notions of the gaming aesthetic, which they refer to as **too animated for fashion**, with descriptive subcodes *anime* or *eastern aesthetic*, which they associate with gaming (code map 9).



Code Map 9

Playing and buying skins within The Sims in their childhood is mentioned 15 times throughout the documents across nine participants (P3, P6, P8, P9, P10, P11, P14, P16, P17). These responses can be interpreted in opposing ways: It shows that participants have bought DF in the past for their Sims characters and, therefore, shows evidence and potential for future DF consumers if they returned to a gaming context. For example, P10 states that purchasing items on The Sims 'put me in debt'. (P10 – Initial Interview, Line 139). On the other hand, the responses reveal a sense of 'growing out of' these types of games. Relating back to the DF value, DF does not offer as much value to participants within their current everyday lives, as they are no longer playing games. However, as P6 notes, if placed within a gaming setting, such as The Sims, there is potential to change their consumer behaviour because of their addictive personality:

> *'I think it would only impact my consumer behaviour if it was in the gaming sphere because I have an addictive personality. If these were all on Sims to buy and I was going through a Sims phase, I could see myself racking up a hefty bill. You know,*

for, like, some of the more avant garde pieces for my Sim.' (P6- Initial Interview, Line 86)

However, we must take note that these responses are speculative, and the participants show no evidence of going back to gaming or trying The Sims in their adult life. They still see the potential for DF to change their consumer habits to lie within the gaming realm. Furthermore, the mention of addictive personality is a human trait to consider if we are to use DF to reduce overconsumption.

The response to Zepeto is quite challenging to untangle, as the participants offer contradictory attitudes towards the platform. Despite DRESSX being defined as a more fashion experience and Zepeto being more of a gaming experience, it did not mean that the participants did not see Zepeto as a fashion experience also. The experience was referred to as 'dress-up' (P3, P6, P8, P10, P15) or having a fun experience to play with style. Comments on the variety of options were mentioned often (nine times), and this was a positive for participants to experience unlimited style choices without the commitment to buy. Surprisingly, over half the participants (P2, P3, P6, P7, P9, P10, P13, P15, P16, P17) preferred Zepeto's interactivity and experience, which was described as 'fun' and a form of escapism. This was unexpected given the importance of realism so deeply expressed by the participants throughout the interviews. Through a critical lens, this may be due to the context and very nature of Zepeto's game-like quality that allowed the participants to step into an experience without the pressure of the real world, offering a form of escapism. As P9 notes, by default this experience may lead to fashion purposes:

'I wouldn't use it for fashion purposes. I would use it more for gaming purposes when I'm bored and then maybe from that, it's almost like a twofold: use it as a game and then maybe be inspired rather than using it for fashion purposes.' (P9 – Initial Interview, Line 157)

Despite fashion not being the initial driver for Zepeto users, P9 argues that subconsciously fashion within Zepeto may have an impact on their offline behaviours. This 'twofold' effect relates very much to Yee and Bailenson's (2007) Proteus Effect, whereby behavioural changes within a virtual environment may be expected to carry over to the offline, physical world. However, from a responsible consumption perspective, this may not be the most beneficial outcome and may increase the likelihood to purchase offline.

Ultimately, these findings suggest that for the fashion consumer, the environment (as well as the users' online body) is of extreme importance to how they will dress themselves for digital worlds. The environment presents a context or story in which the participants can envision themselves taking part, not only as consumers but also on a social level. Without

it, they struggle to 'think digitally' in the way DF requires. This is highlighted further when asked where they would like to wear DF items, as participants struggled to imagine it and answer the question, suggesting a 'digital book club' or 'met gala'. In truth, their ability to imagine lacks lustre, and they could not see past the physical, despite some participants understanding that the digital world was unbound by physical restrictions. There was an element of uncertainty within their answers, revealing they did not really understand what a digital world could be (P1) or what the metaverse was (P10). P1 encapsulates the participants' uncertainties, revealing confusion over context and reason:

> *'... Where would I wear this DF?... Who's going to be seeing this community?... Why would I spend, like, $40? There must be some sort of reason as to why I am purchasing it... Because I love it, and it's all really nice, but just to show off on social media? I don't think it's enough. There has to be more of a stronger digital platform that would allow me to wear this.'* (P1 – Initial Interview, Line 134-138)

Ultimately, without games, fashion consumers do not know where to wear DF. On the other hand, they do not want to play games. So, for the fashion consumer, DF is at a crossroads.

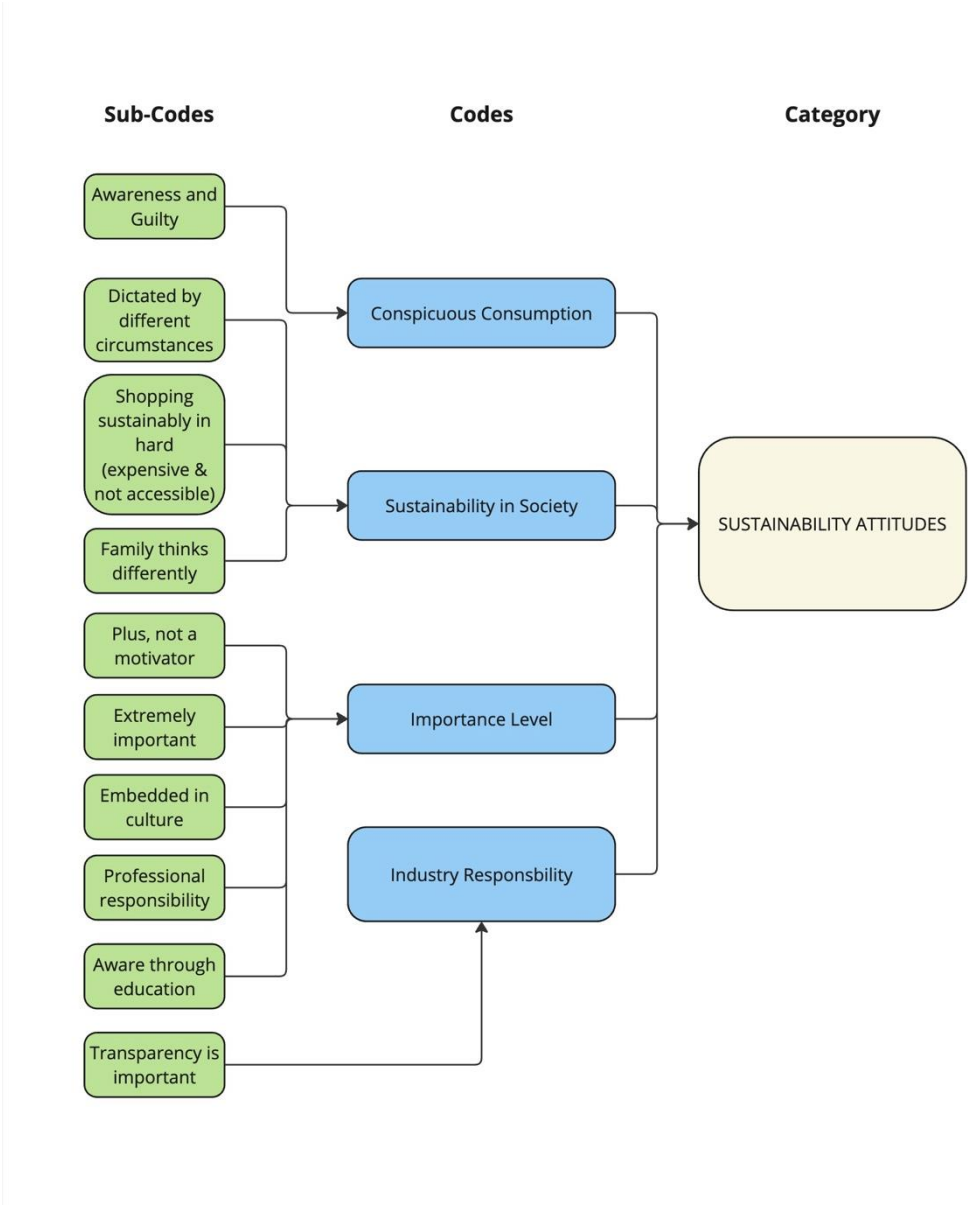
DF's influence on the way they consume is still speculative, and environments for DF consumers are not established. It may be up to the fashion industry to take the lead and imagine and create worlds in which their fashion-centric customers would like to take part and dress for the occasion. However, the industry must consider the elements of realism, bringing in familiar concepts that fashion consumers can relate to and, as P14 described, 'project' themselves within it.

5.6.4 Sustainability Motivations

5.6.4.1 Current Attitudes vs Behaviours for Physical Fashion Consumption

To understand sustainability as a driver for fashion consumers to invest in DF, it was essential to understand participants' attitudes and behaviours towards sustainability within fashion, which are interconnected. The participants imply varying levels of importance placed on sustainability in fashion, ranging from subtle to significant, as presented within code map 10. Overall, they show a consciousness towards sustainability. As P6 points out, sustainability is so embedded within current fashion culture, through consumerism, education, or profession:

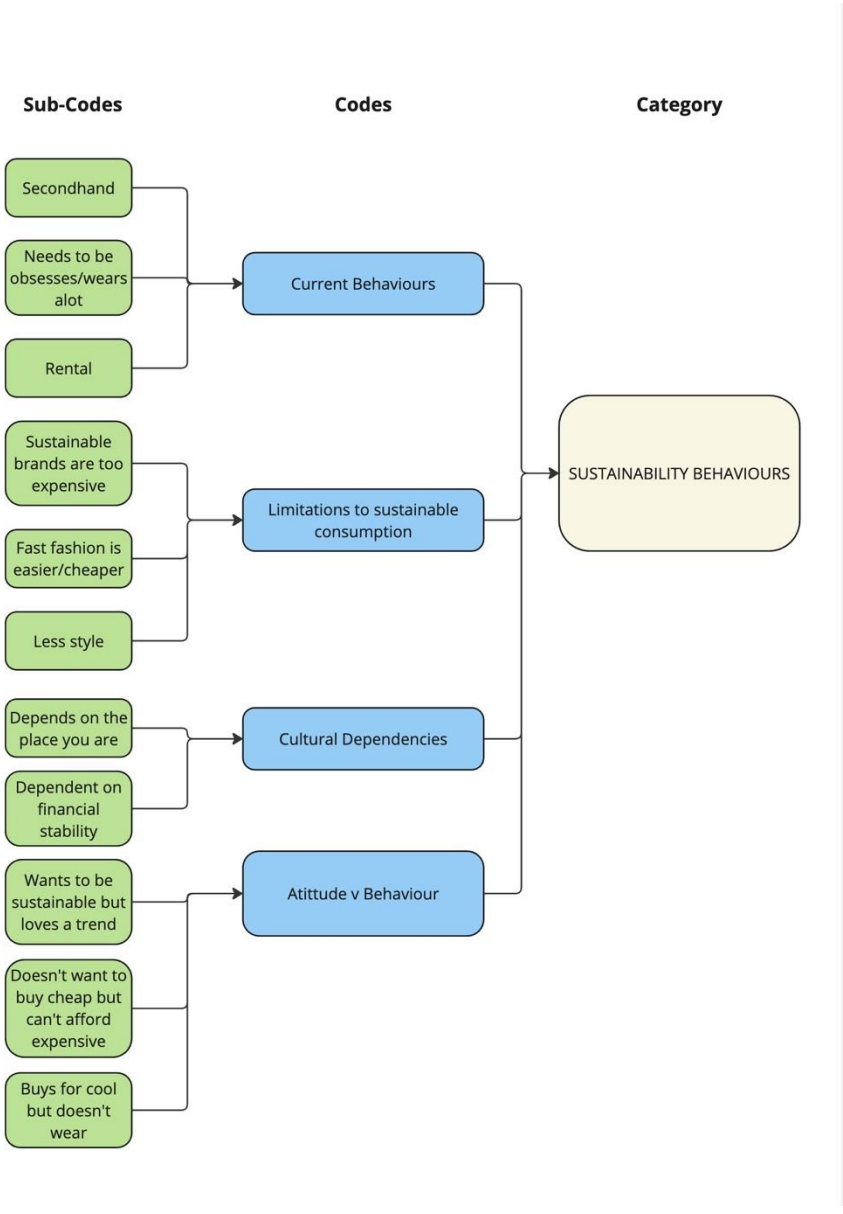
> *'If you're in fashion in any shape, or form, if you're not hearing about sustainability, I feel like you're living under a rock*.' (P6- Initial Interview, Line 14)



Code Map 10

Some participants mentioned the importance of sustainability differs depending on personal attitudes and situations. The code of **sustainability in society** refers to the diverse ways in which participants measure the importance of sustainability by others, which is dictated through different mindsets, priorities of sustainability, financial circumstances, environment and where they grew up, or perceived beliefs that shopping sustainably is difficult. Interestingly, they shared some of the same feelings and difficulties shared by society, despite seeing them as the 'other' views. For example, '*my family think differently',* as expressed by P1. The case of sustainable fashion being too expensive was an instance where attitudes and behaviours aligned. Beyond attitudes, **cultural dependencies** impact behaviours and the ability to choose sustainable options (see code map 11 below). This

code shares similar characteristics with **sustainability in society** but refers more to action and behaviour rather than perceived attitudes. Participants noted that their sustainable behaviours are dictated by their current situation, including their financial stability (P17) and where they live (P9, P16), as they note that it is easier to shop sustainably in larger cities such as London.



Code Map 11

Participants note other limitations to sustainable consumption within physical settings which include high cost, less style, lack of transparency from brands and the competitiveness of fast fashion, which is easier, cheaper and quicker to access. However, most of the participants mentioned thrifting or using Vinted as their current behaviours, and, in that

respect, it was easy to shop sustainably. There was a collective agreement between participants that buying second-hand was embedded into the Gen Z culture. However, their sustainable consumption behaviour was not motivated by sustainability *per se*, but primarily by cost and the ability to access more individual items through second-hand shopping. Sustainability is a *plus, not a motivator,* as suggested by P9 and P14 attitudes.

Sometimes attitudes do not result in their intended behaviours, referring to Loi and Hassan's (2016) attitude-behaviour gap in Gen Z sustainable consumption behaviours. Whilst participants may wish to be sustainable, their consumption choices are still dictated by the frugality of their generation or by the fact that fast fashion is still so prevalent in their lives, revealed by P3's frankness:

> *'Speaking honestly about it, there is a gap. I would love to be more sustainable, but I think it's hard to, you know, what we see on Instagram. I love a trend. I think it's easier said than done to not follow a trend. In my mind, a trend sort of makes you purchase more, and I do find a lot of enjoyment out of buying clothes as well... I try my best but I'm very aware that I could be a lot more conscious about it.'* (P3 – Initial Interview, Line 18)

Despite most of the participants stating sustainability had a level of importance in their consumer habits, when observing the participants on the DRESSX website, only 6 out of the 18 participants visited the sustainability section of the website. Reflecting on the semantics of the participants' responses, those who visited the sustainability section on the DRESSX website had emphasised or expressed a higher level of importance on sustainability importance. They used words of emphasis, including 'extremely', 'incredibly', 'really' and 'very'. 'quite important' or just something that they do anyway through their second-hand purchases. A record of quotations, along with timestamps indicating whether participants viewed the sustainability page on DRESSX, can be found in Appendix 34.

These findings are inconclusive given that the participants were being asked a series of questions by the researcher whilst browsing the DRESSX website for the first time. Therefore, they may have been distracted or unaware of the page dedicated to sustainability. Had the participants had time to browse in their own time, this may have resulted in more participants visiting the sustainability page. This is speculative, yet it is still a significant insight into the actual behaviours of participants to understand their own level of sustainability due diligence.

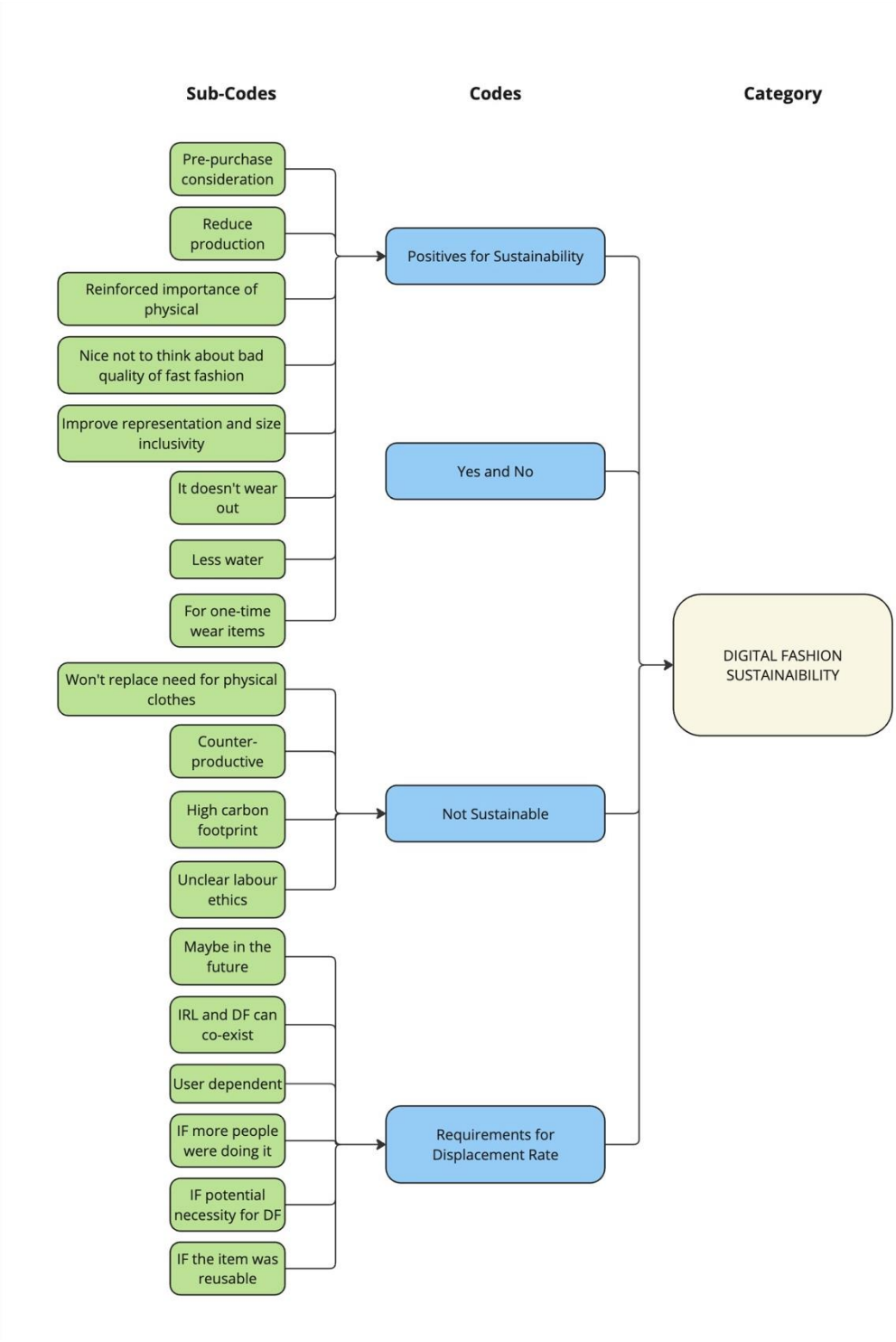
5.6.4.2 Sustainability Uncertainty in Digital Fashion

Participants are seeking more ways to shop sustainably whilst getting their fashion fix and

aligning attitudes and behaviours. Therefore, DF becomes desirable and sustainable in theory. Respondents of the survey results state that improving sustainability in the fashion industry is the second highest priority for encouraging them to purchase DF over physical items (28.9%). However, in practice, there are mixed attitudes towards DF as a sustainable alternative to physical fashion, and a level of criticality and uncertainty was revealed regarding the role of DF to influence more sustainable practices. Within the survey responses, 56% of 159 responses were unsure if DF was more sustainable than physical fashion. Within the interviews, there were also mixed feelings, with some believing DF was more sustainable than physical fashion (P7, P16), some were not sure (P11, P14), and some thought DF may be counterproductive to sustainable development from an environmental and ethical standpoint, such as P9:

> *'I kind of wonder about the carbon footprint of how much it takes to make a piece of digital clothing... Like the fashion industry has its issues in terms of ethics and greenwashing, but I don't know how many hours or how much time it takes to build these things.... You're still using energy and electricity and all that kind of stuff. I get it that they live online; you're not using, like, water or labour... I just think that, in a sense, it's counterproductive... I don't know anything about ethics within DF. Like, I don't know what the working conditions are like for the 3D developer. So, I can't really like, say that it's better or worse.'* (P9 – Initial Interview, Line 112)

The code map (12) below shows four key codes relating to ***DF Sustainability***, including **Positives for Sustainability**, **Yes and No** (referring to the sustainability paradox of DF, which will be discussed in response to RQ3), **Not Sustainable** and **Requirements for Displacement Rate**. Participants were critical of sustainability claims made by industry regarding DF, and attitudes came from their own perceived notions. It could be argued that scepticism comes from general attitudes towards fashion's sustainability, which has been created by a lack of transparency and greenwashing claims by the industry (refer to code map 10: code **Industry Responsibility**).



Code Map 12

Within code **Positives for Sustainability**, participants note a range of positives for DF regarding sustainability including an *improvement in representation and size inclusivity* (P5), *less water use* (P11), *reduce production* of physical garments (P3, P10, P13, P17) and, most notably, assist the consumer in their *pre-purchase considerations* through try-on (P3, P5, P8, P10, P12, P13, P14, P16, P18) and experimentation of *one-time wears* (P5, P7, P8, P9, P10, P16), which may reduce returns (P8). However, the benefits were met with

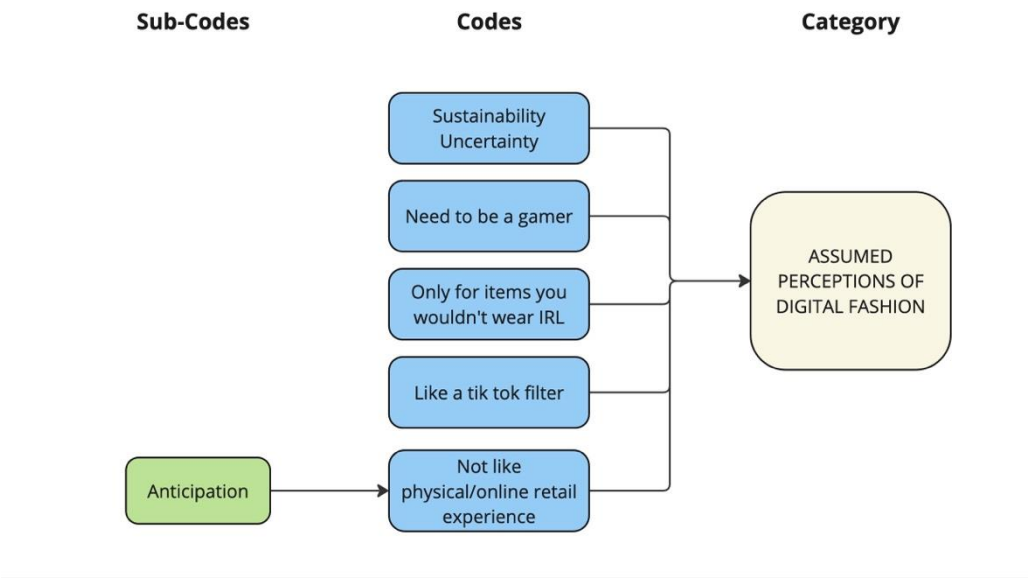
opposing and *counterproductive* concerns regarding social and environmental sustainability, such as *unclear labour ethics*, *carbon footprint* and, overall, not seeing the current benefit of DF to their lives, which weakened initial motivations and resulted in DF being **Not Sustainable.**

Referring to code **Requirements for Displacement Rate,** in order to displace the need for physical clothing or achieve DRESSX's 'Displacement Rate' (2022), they used the word 'if' often: 'If more people were doing it' (P2); 'If it was a necessity' due to lack of environmental resources (P18); 'If the [DF] item was reusable' (P7). Those participants who acquired a DRESSX item still noted the relevance and *reinforced importance of physical clothing* in their lives (P2, P5, P11, P13, P15). P10, P11 and P14 suggested physical (IRL) and DF could co-exist, which may be at odds with sustainability.

Overall, whilst sustainability is mentioned, it does not seem to be the driving motivation for participants to adopt DF unless sustainability is of extreme importance to them. Clarity of DF's sustainability is required by the industry to alleviate limitations and increase motivations for fashion consumers to try DF. This is particularly important for effective sustainability communications if brands adopt DF and metaverses for digital sustainability; otherwise, there is concern that DF sustainability claims are a case of digital greenwashing.

5.6.3 Assumptions and Contradictions

Participant responses on how they will dress themselves using DF were laced with contradictions, as presented within code map 13.



Code Map 13

Like attitudes towards sustainability, sentiment towards DF came from a place of uncertainty, scepticism or a lack of understanding and experience. Within the survey results, 40.9% of respondents were also confused and lacked knowledge regarding DF. Some, like P2, were unable to imagine fashion beyond its physicality and lacked the ability to think digitally:

> *'I can imagine it physically rather than digitally... I'm not into that realm where you can imagine it like the gaming scene. (P2 - Follow-Up Interview, Line 40)*

The main assumption from participants regarding DF is that it is only for gamers and does not apply to the everyday consumer, and therefore, there is a lack of motivation from participants to fully immerse themselves within the DF realm. Survey responses supported these preconceptions and cynicism, with 29.6% of respondents stating they would only buy DF for a video game and 29.6% stating they would never purchase a DF item (the highest scoring answers).

Participants (P3, P4, P6, P12, P18) also assumed the experience of buying a DF item wouldn't be the same as buying in physical stores or online. For example, the sub-code a*nticipation* refers to the excitement of waiting for online purchase to arrive, which they assumed would be missing from the DF experience. However, for P8, who acquired a DRESSX item, the anticipation of receiving an email remained:

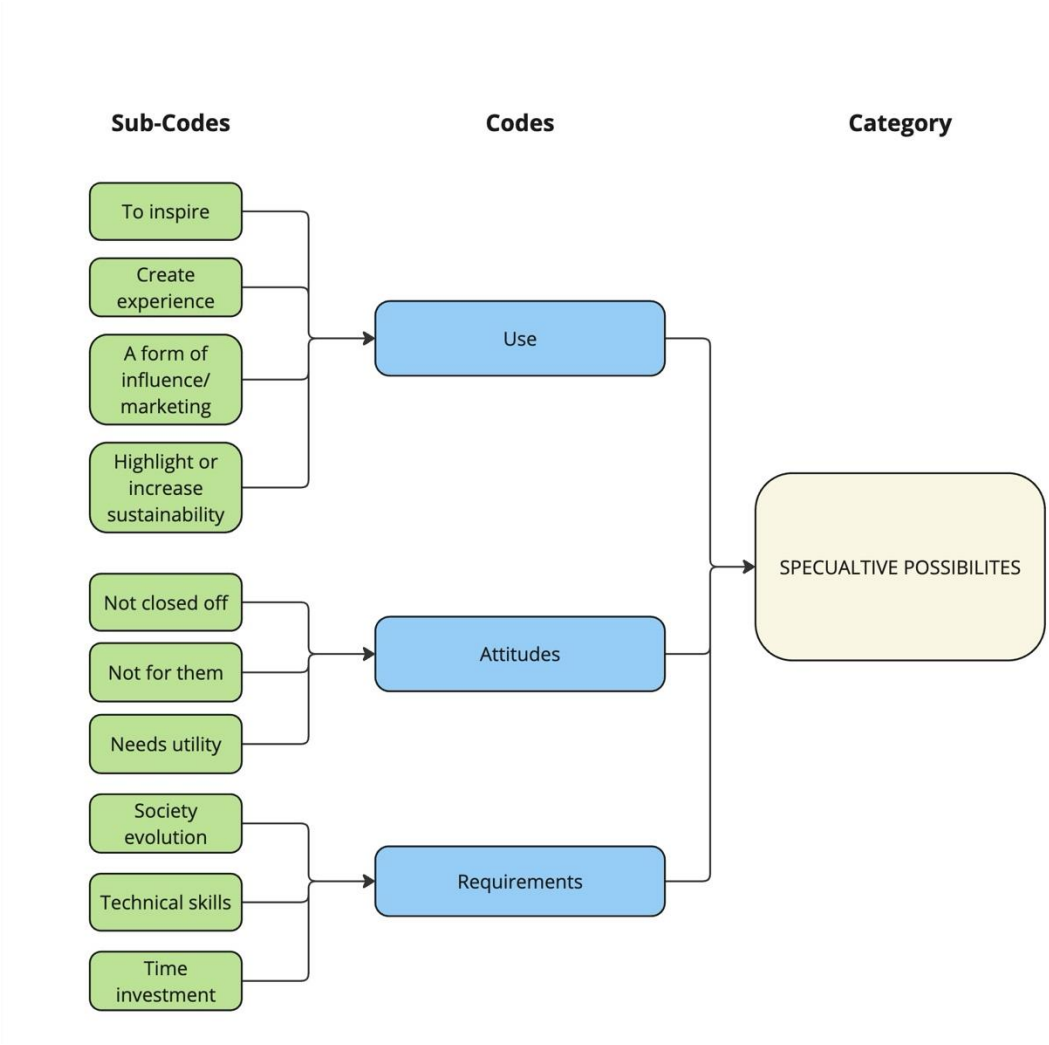
> *'... Before I received the image, I was like, oh my god, I can't wait to see what it looks like. So, I guess in that sense, I think that we spoke a little bit about this in the first conversation about kind of the rush you get from doing an online shop... I guess you still kind of get that, which I wasn't expecting.'* (P8 – Follow-Up Interview, Line 16)

Despite the overall initial scepticism, there was an underlining curiosity throughout the participants and an openness to try DF. On reflection, for the participants to engage with this study, one might suggest curiosity was the driving force given that participants selected from the survey were not video gamers but participants who clearly cherish and consume physical fashion and are open to discovering more ways to express themselves through fashion within a digital world. Of the 18 participants interviewed, 12 were fashion students, so their curiosity may have arisen from both their educational background and their consumer-driven tendencies.

What is evident is that the experience was important in changing preconceived perceptions and attitudes of DF. The research led the participants through the different forms of DF consumption, allowing them to gain first-hand experience of the process and outcomes which highlighted contradictions and reflective thought in their own attitudes and uses of DF. In the case of P14 (Figure 5.9), the experience contradicted their own preconceived notions of how they would dress digitally, suggesting that Gen Z's attitude-behaviour gap has crossed over into the digital realm:

> *'It contradicts what I said in my first interview, because at the beginning, I was like, Oh, if I were to go for a digital item, I think I would go for something that I wouldn't wear in real life. Then I found myself more comfortable wearing something that actually I might wear, and I found this coat very pretty, and I really liked it. If it exist in real life, I would buy it, to be honest.'* (P14 - Follow-Up Interview - Line 4)

In terms of the wider impact of DF changing consumer behaviour, participant attitudes were *not closed off* but speculative (code map 13: ***Speculative Possibilities***), which, again, may come from a lack of understanding or experience of using DF and digital worlds. Three of the highest-used words used throughout the participants were 'maybe', which was used 407 times; 'probably' (291 times); and 'guess' (245 times). If we refer to Davis et al.'s (2023) idea of Societal Readiness Level (SRL), which refers to the readiness by society to adopt emerging technologies, there will be a low level of readiness. A collective feeling of uncertainty mixed with positive potential was the overarching sentiment.



Code Map 14

As code map 14 shows, there is a contrast in attitudes, but participants also see potential for DF *to inspire* through styling and expression, *a form of influence* through innovative marketing media, *create experiences* and *highlight or increase sustainability*, which supports existing literature within marketing, retail and consumer experience (Noris et al., 2020; Alexander and Blazquez Cano, 2020; Periyasamy and Periyasami, 2023; Alexander, 2024; Blazquez, 2024). P1 sees it as 'the future, I believe' (P1 - Follow up, Line 45). However, requirements are needed for these possibilities to arise and for DF to become of value to everyday fashion consumers. For instance, technology needs to advance to offer higher levels of realism and quality; Society and consumer mindsets need to evolve to break the mould of how they see fashion and identity through preconceived control behaviours and subjective norms that exist within the physical worlds. Consumers also need to increase their effort and time within digital worlds to invest in fashioning their digital selves. Many participants do not currently invest time in their social presence and, therefore, do not see

the point in DF so far. P8 response encapsulates the feeling of struggle and opportunity towards changing consumer mindsets:

> *'...If I got past the point of being like, I could never wear that... and just being like, that's cool... I definitely would click on it because I'm not thinking about how I physically would look in it or how other people in my day-to-day life might perceive me in it. So now I'm moving past that into I just really like how this looks.'* (P8 - Initial Interview - Line 86).

How fashion consumers will dress themselves for the metaverse, or any digital platform, is still evolving. Through experience and experimentation with DF, consumers may break down barriers and influence consumer practice with unexpected and contradictory occurrences. Whilst findings from the research further knowledge, extended longitudinal studies are suggested to fully understand these potential shifts.

5.7 RQ2: HOW WILL THE CREATION OF DIGITAL BODIES PLAY A ROLE IN CONSTRUCTING FASHION IDENTITY ACROSS DIGITAL AND PHYSICAL WORLDS?

5.7.1 Authenticity and the Default Extended Self

5.7.1.1 It is Me

If we refer to the survey results first, over half the respondents state that creating a digital body before dressing in DF is 4-5/5 in level of importance, showing that digital bodies are a significant factor within the DF consumer experience. Within the observational interviews, the impact of creating digital bodies was more visible within the Zepeto experience since the experience required the participants to create digital avatars, shown within Figure 9. Findings revealed key category, ***Extension of Identity***, with two further categories ***Importance of Authentic/Honest Representation*** and ***Avatar Re-embodiment as Aspiration and Embodiment*** which dive deeper into the expectations and implications of creating the digital self.

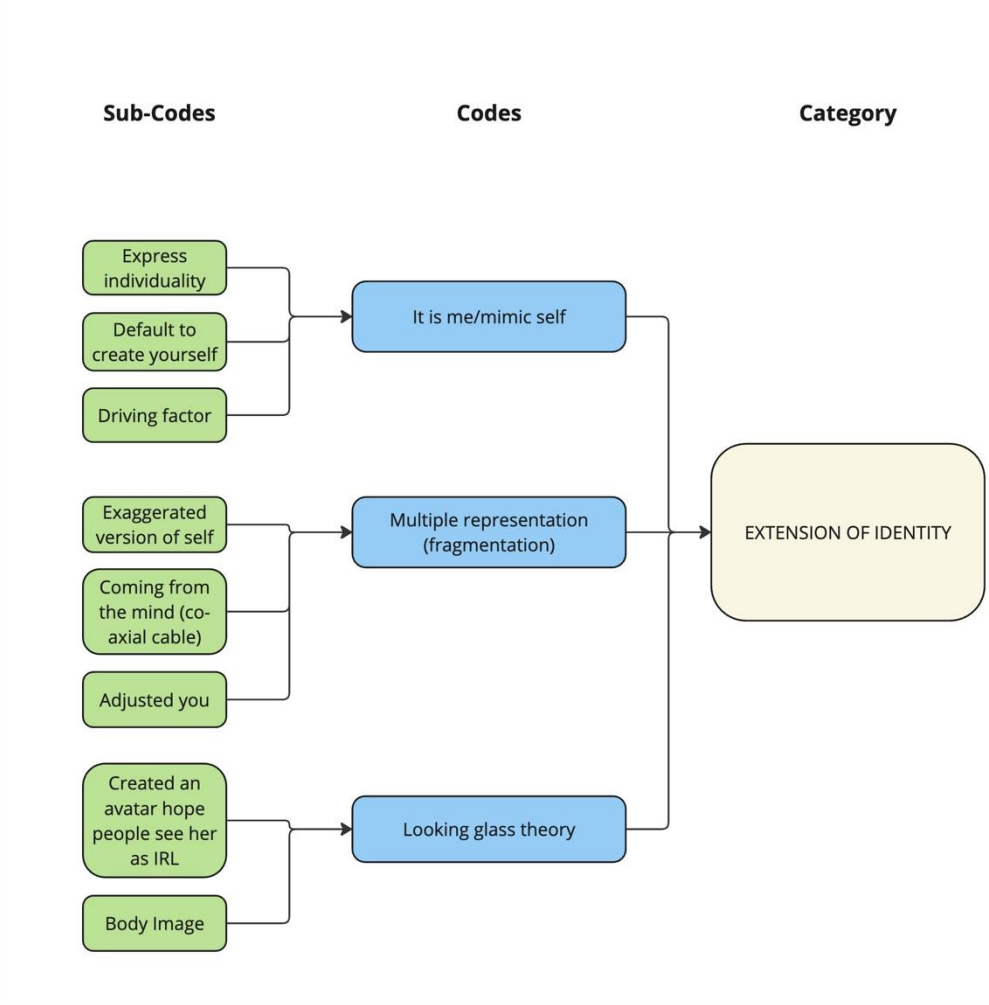
Focusing on the styled avatars from Zepeto (Figure 5.15), the 'default' for most of the participants is to create real-life replicas of themselves dressed in duplicates or elevated versions of items they would wear IRL. Despite the opportunities for unlimited expression and bold experimentation, most of the avatars were dressed in styles which could be found on the physical high street. Only two participants, P6 and P15, created completely new characters that did not look or dress anything like them. Therefore, participants generally replicated their style identity in digital contexts, blending online and offline worlds.



Figure 5.15: Zepeto avatars created by participants

For example, P8's understanding of DF purpose and value is to '*try things that are new and different to what I usually do'* (Initial Interview, Line 62), yet she dresses her Zepeto avatar in her default offline style. This could suggest her sense of style is fixed and ingrained within her identity and an example of the attitude-behaviour gap within consumers.

Beyond style replication, the representation of self was a significant factor for the participants, as it offered an ***Extension of Identity*** through three different perspectives or codes presented within code map 15: **It is Me/Mimic Self and Multiple Representations** (which refers to the concept of fragmentation (El Kamel, 2008; Hillis, 1999; Belk, 2013) and **Looking Glass Theory**. The connection between digital self-expression through style and offline identity are inherently connected.



Code Map 15

P1, P3, P4, P9, P10, P11, P16 and P18 explicitly express the desire to create avatars that were a close version of themselves or, as the code and P9 suggest, 'It's basically me' (Initial Interview, Line 133) and P11 states:



'I sort of made a little [P11 name].' (P11 – Initial Interview, Line 276)

As well as the concept of re-embodiment (Kozinets and Kedzior, 2009; Belk, 2013), this code also relates to Blow's theory of 'proxied embodiment', whereby identity extends to some kind of proxy, inhabiting it and making it part of one's own body: "My guy" becomes "Me" (Swink, 2009: 28). As P16 suggests, their avatar holds a part of them but cannot be fully them, so it becomes another form of replication:



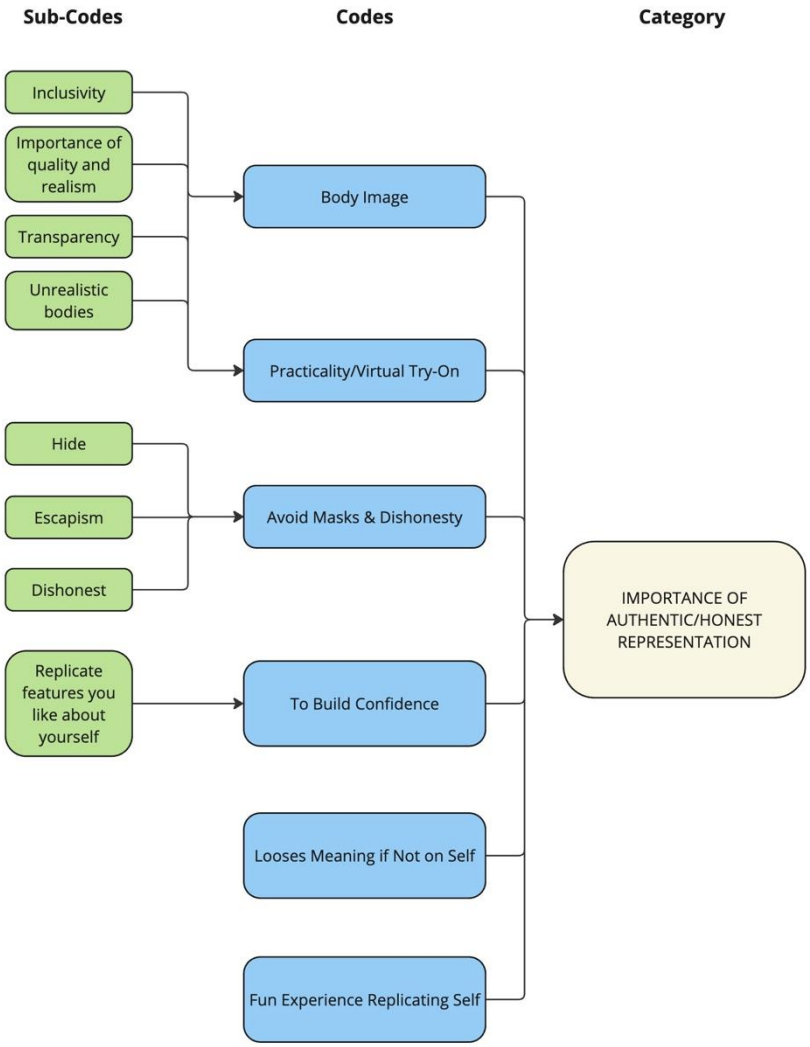
'I'm a person who, when I create my avatar I want to mimic myself, but obviously there are some things that you can do to avatar that you can't do to yourself, but I really like for my avatar to feel like a part of who I am.' (P16 – Initial Interview, Line 44)

Similarly, P18 noted that representing oneself was the driving factor even if the outcome could not be achieved. P14 even expressed frustration if they could not totally replicate themselves:



*‘It was important for it to be as close as I can to myself... It was frustrating when I couldn't find things that would represent me.’ (*P14_Initial Interview, Line 143)

Overall, it was the default response for participants to achieve the highest level of identification and embodiment to express their individuality. The ***Importance of Authentic/Honest Representation*** is a key category throughout the findings, which is presented within code map 16 below. Kondakciu et al. (2021) argued that there is a desire for millennial users to craft and perform their “authentic self” within social media, and findings show that Gen Z users also craft authentic versions within DF experiences.



Code Map 16

Participants argue several reasons for the importance of authentic and honest representation. Factors varied from being practical for the purpose of VTO to being a fun experience to more philosophical and personal factors. P2 argues how authenticity is important to oneself but also how one portrays oneself to others:

> *'I think I'd be happiest looking just like myself, to be honest... I try to show up exactly who I am and be honest with that so I wouldn't want that to be any different in the digital world.'* (P2 – Initial Interview, Line 138)

The representation and issue of body image is also a major consideration for participants,

which will be discussed further within the next section, as it relates not only to practicality for VTO but also to ethics and self-image satisfaction.

Participants speak of dishonesty and the ethical implications of hiding behind an avatar mask. Participants expressed ethical concerns that avatars may create a mask and lead to inauthentic images (code: **Avoid Masks & Dishonesty**), which they associate with *dishonesty, hide* and *escapism*. For example, in reference to dishonesty, P9 says:

> *'I wanted it to be something that was more me, as opposed to creating something that felt a bit like... I guess the word is, like, dishonest.'* (P9 – Initial Interview Line 145)

P1 and P2 note the ease of using digital identities and worlds to hide and escape, which may come across as dishonest representation:

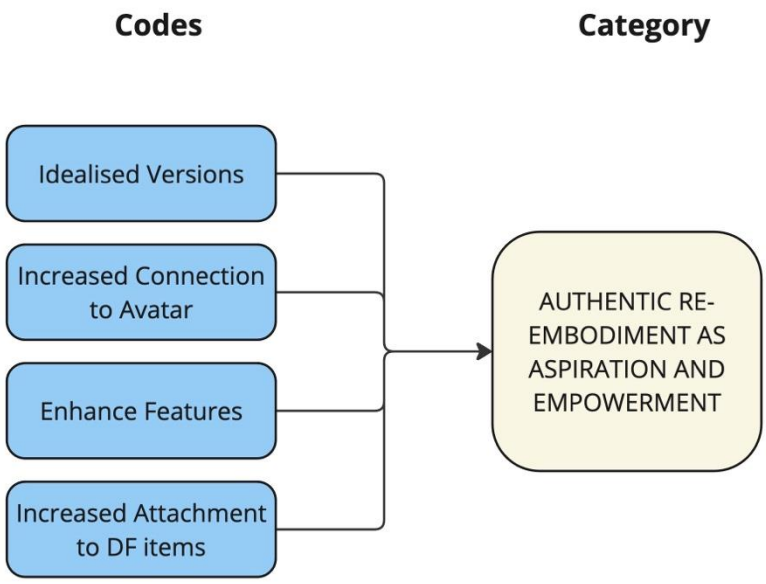
> '*... I wish I could be as bold as this in real life. And it's almost easier to express yourself through social media... and digitally than it is in person. Because you don't know who the person is*.' (P1 – Initial Interview, Line 54)

> *'People use a digital realm as a form of escapism and I think the purpose of that is a lot of people need to not be themselves.'* (P2 – Initial Interview, Line 142)

Furthermore, P2 and P9 argue that the act of creating a digital version of oneself loses meaning if not based upon the real self. For P1 and P4, it empowered her to highlight and focus on the features that they liked, which helped to build confidence and self-appreciation. P1 stated:

> *'I mean, I like my eyebrows. I like my facial features. So, it's something that I tried to replicate on her.*' (P1 – Initial Interview, Line 203)

Focusing on the avatar, this also highlights another significant category which notes the ***Avatar Re-embodiment as Aspiration and Empowerment*** (code map 17).



Code Map 17

Creating an avatar enhances the desire for aspirational expression, allowing users to create idealised versions and enhance features. For example, P7 and P13 create similar looking avatars and choose to wear a ball-gown as an enhancement of the style (Figure 5.16), with P7 explaining that: *'I just like princessy things and I think that's a reflection of me.'* (Initial Interview, Line 282).



Figure 5.16: P7 (left) and P13 (right) Zepeto avatars

In this sense, the act of fashioning our digital self in avatar form goes beyond an item of DF or creating digital bodies; It empowers us to reflect the innermost understandings of self that do not feel possible IRL.

Some participants expressed increased connection due to the experience of avatar creation (P1, P6, P7, P8, P9) and increased attachment to DF items (P17). Within the act of re-embodiment, the participants were happy to spend time investing in their avatar to mimic themselves without thinking of the gaming context. Within Zepeto, participants will even spend time replicating and enhancing their features as part of fashioning their digital self, which would have no impact on gameplay. The researcher often had to give the participants more time to create their avatar, as they became so immersed in perfecting the versions of themselves. MacCallum-Stewart and Parsler (2008) argued that this form of immersion and connection to an avatar can involve a loss of self by the player, who then "becomes" their character. However, this was not true for all participants. P16 noted that the avatar helped foster attachment to DF items, but physical items are still preferred; P2 noted that, in comparison to DRESSX experience, they viewed the avatar *'like a separate person'* (P2 - Follow up, Line 68).

5.7.1.2 Multiple Representations

The role of the researcher was to understand the participant as much as possible as they constructed their digital selves to uncover any relationship between their identity online and offline. Engaging with the participants throughout the interviews, I was able to establish a clearer understanding of how the participant dressed and their personal style preference, which became visually manifested through the creation of their avatar. This was also true within the DRESSX. Aesthetically, DF items chosen from DRESSX look bolder in comparison to Zepeto avatars, which was ironic considering participants see Zepeto as more of a form of escapism and for gameplay which is beyond realism and familiarity. However, it was important to consider the participants individually to notice a connection between how their offline style preference dictated their DRESSX DF choices.

P6 and P15 were the only two participants that created a characterised or visually disconnected avatar (Figure 5.17). It could be argued that these examples relate to Kozinets and Kedzior's 'multiphrenic nature' (2008), Belk's 'multiplicity' (2013) and El Kamel's

'fragmentation' (2008), whereby one expresses oneself in multiple ways through multiple personalities.



Figure 5.17: P6 (left) and P15 (right) Zepeto Avatar

Whilst the connection between P15 and their Zepeto avatar is not obvious, they do speak about a love of sci-fi throughout the interview, which had an impact on the way they created their avatar. Similarly, P6 stated that their *'whole graduate collection colour the scheme is red, white and blue. And it's ironic that made her hair blue.'* (Follow-Up Interview, Line 215); Even P6 notices the connection between her offline preferences transferring over to her avatar style. Whilst philosopher Žižek (1999) argues that a representation of ourselves for virtual interaction (an avatar) can never fully represent us, P6 still sees the connection between their own anchor of expression and their Zepeto avatar:

> *'It is a representation of my style in a different form and my preferences in a different form. I want to make sure my avatar looks good, so I think it's representing that, but it's not a direct, like, this is me.'* (P6- Initial Interview, Line 231)

In support, the survey results show that most respondents stated that the benefits of DF were so that consumers could express themselves in ways they could not in real life (42.1%). For P6 and P15, their offline interests and preferences become subconsciously reflected in their avatar, and the avatar, in turn, becomes part of their extended self within digital worlds (Belk, 2013). It could be argued that these examples refer to Hillis's co-axial cable (1999), whereby the virtual self gazes back at the participant, highlighting aspects of

identity to the participants.

Findings suggest that the fashion consumer will create a representation of the extended self despite any visual disconnection observed by the viewer. As Kozinets and Kedzior (2008: 22) argued: 'freedom of transformation opens up an internal mirror through which we can gaze and interpret with self-realisation.' Unlike P6 and P15, most participants opted for authenticity and created mini versions of self (code: It is Me). The freedom of transformation was used to interpret offline identities rather than establishing an entirely new digital identity.

5.7.1.3 Looking Glass Theory

Last but not least, the code **Looking Glass Theory** was an interesting observation revealed within some of the participant responses. The theory of the looking glass, as developed by Charles Horton Cooley in 1902, was not explored within the literature review and was an unexpected finding. The looking glass theory is described as our reflection of how we think we appear to others. Within the context of this study, some participants (P1, P2 and P14) were aware they were creating avatars that may reflect how they wish others would see them:

> *'I feel like it's a pretty close representation, but at the same time, I don't know if I see myself the same way other people do... Maybe if I asked someone that knew me to represent me, they wouldn't have represented me that way.'* (P14 – Initial interview, Line 148-149)

> *'You're creating a character, aren't you, I suppose? How you want to be perceived.'* (P2 – Initial Interview, Line 82)

This relates back to Basar et al.'s (2015: 69) perceptive statement that, 'Every technology allows us to learn something new about ourselves' and Bartle's (2004: 161) argument: 'Virtual worlds let you find out who you are by letting you be who you want to be.' Due to the iterative nature of research, it is important to refer to previous literature to add context to these findings. The looking glass theory has been explored by academic research in the context of the digital self within video games and fashion contexts, from Martey and Consalvo's (2011) exploration of avatar appearance and group identity in Second Life to more recent research such as Varini's (2024) 'Fashion through the Looking Glass: The new circle of production of imaginaries within the Digital World'. As discussed within the literature, avatars and digital representations may reveal parts of ourselves we did not know or see due to our fixed perspectives. The theory of the looking glass and the attempts to re-embody authentic representations of self are also prevalent when participants refer to the choice of online body shape, which will be discussed within the next section.

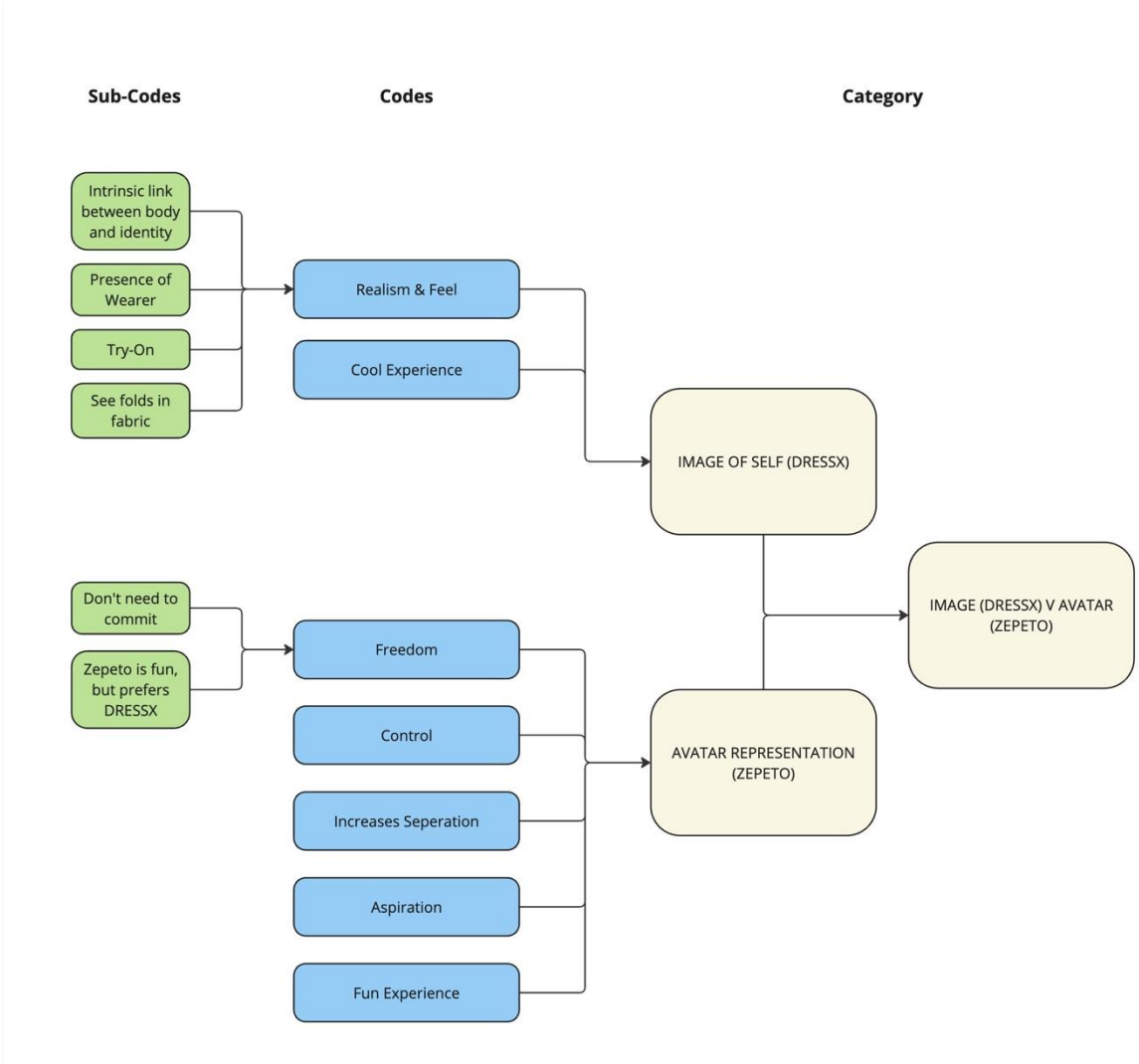
5.7.2 Authenticity and Body Dissonance

5.7.2.1 Body Preference via interfaces (DRESSX v Zepeto)

As previously discussed, findings suggest that participants place authenticity and honesty as key factors when constructing their digital selves, with a desire and drive to create realistic and representative versions. In line with Kondakciu et al.'s (2021) perspective, authenticity is the link which connects the online and offline selves, despite any fragmentation or multiple representations which may be constructed. There was an overarching sentiment among participants of a sense of duty to create these authentic representations, supporting Hills's (1999) argument that the moral obligation of users is to present images of themselves and interact in a way that is ethically considerate.

The difference between the DRESSX experience and Zepeto was that, as P15 suggested, Zepeto offered empowerment and control over their body and, therefore, offers freedom to create extreme and characterised versions. However, as findings suggest, that control was not exploited as much as expected, and only two out of eighteen participants (P6 and P15) exercised that freedom. P1, P2 and P3 specifically said they wanted an exact body replica even within the Zepeto avatar experience. However, as other participants noted, it was often difficult or caused frustration (P14) when trying to achieve an exact replica, as it depended upon the platform's options. In many respects, the participants present the act of creating an avatar as a verb; An action or state of being whereby creating an avatar is to choose a new bodily form to represent him or herself.

Differences in responses to both experiences are summarised within code map 18 below within two categories, showing the importance of the interface utilised by the end user: *Image of self* (DRESSX) or *Avatar Representation* (Zepeto).



Code Map 18

When asked how they would like to wear their DF items, participants unanimously agreed they would like to wear them on an image of themselves, despite noting the positives of creating avatars, such as increased **freedom, control, aspiration** and being a **fun experience**. This agreement was reinforced by those participants who experienced the DRESSX customer journey and, therefore, could compare both experiences. For example, for P14, the DRESSX experience confirmed the importance of seeing DF on themselves rather than an avatar version:

> *'I discovered during this process that I prefer seeing it on myself or, at least, on a more realistic digital self. Because when you design an avatar of yourself, I think as much as you try, I wouldn't represent myself as real as in real life.'* (Follow-Up Interview, Line 49)

Whilst Zepeto is seen as a fun escapist experience, DRESSX is seen as a cool experience

more in alignment with fashion and feels realistic to participants due to the *presence of the wearer* (code **Realism & Feel*)***. For P11, wearing the DF on their image brings the garment to life, as you can *see the folds in the fabric*, which is important to fashion-centric participants. For P16, it is important to wear within the image to establish a connection with the DF item. With reflection, P2 states that Zepeto avatars increase separation in comparison to the DRESSX experience, which affected the way they would dress:

> *'When I was creating the Zepeto [avatar], it felt almost like a separate person. Like, you know, I was maybe making it a bit like how I wanted it to look, but this [DRESSX] felt a lot more real.'* (Follow-Up Interviews, Line 68)

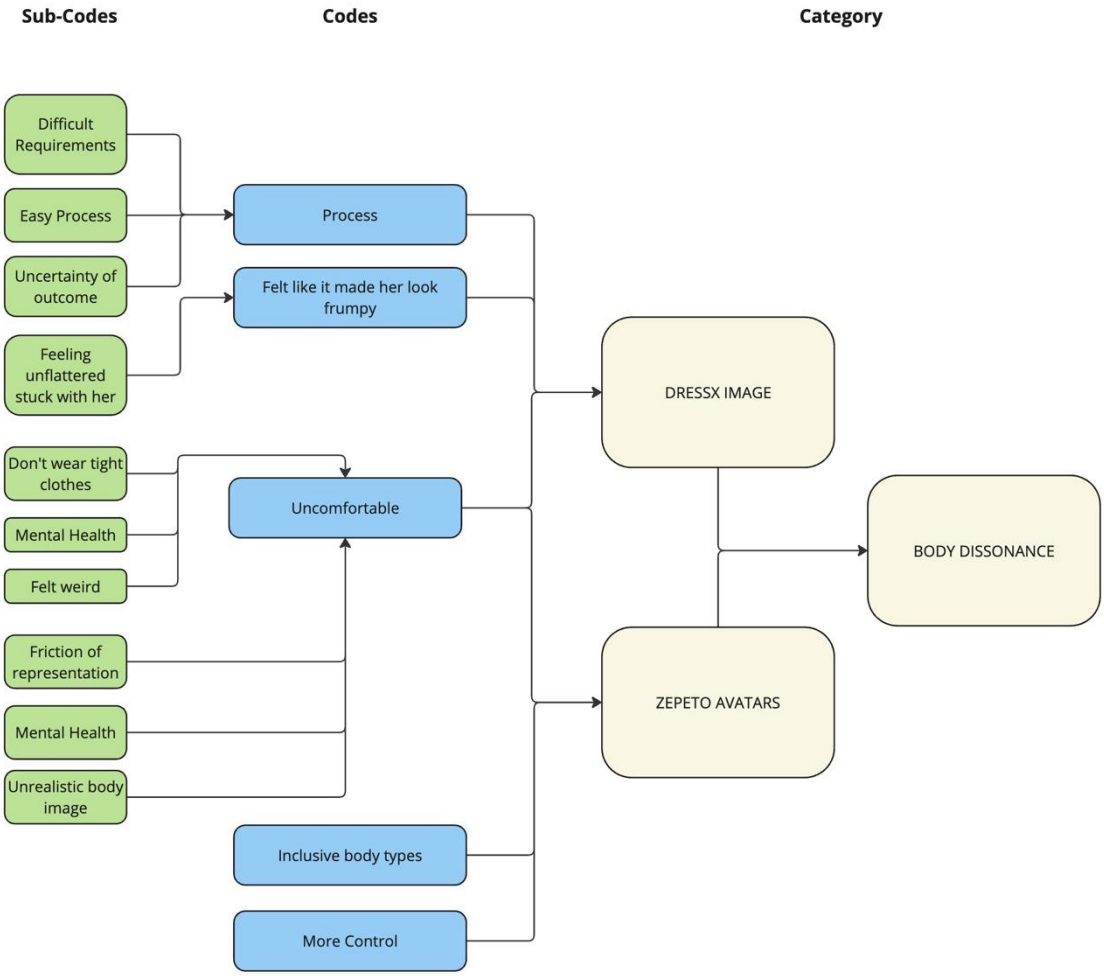
Overall, responses are positive towards DRESSX for the fashion consumer. However, one must note the limitations and blockers for adoption, which will be discussed within section 5.8.3. Unless fashion consumers push past the blockers for adoption, then generalisation of findings is limited.

5.7.2.2 Body Dissonance

P3 notes that even within digital realms, consumer behaviour is 'so intrinsically linked with your identity and your relationship to yourself and your body' (follow-up interview, Line 85). However, findings suggest this relationship between body and digital identity can create *Body Dissonance* between physical and digital body satisfaction.

The body was referred to many times throughout the participants' interviews and follow-up interviews (a word frequency of 118 times), revealing a connection and dissonance between participants' physical and online bodies. Introduced via the code **Body Image** within the category ***Importance of Authentic/Honest Representation****,* ethical implications were highlighted due to digital body creation. In many ways, the desire for authentic embodiment by participants suggested an importance to foster self-confidence by facing the reality of their physical bodies.

A further category titled ***Body Dissonance*** was required to expand upon the comparisons between creating avatar bodies in Zepeto or using photographs of the participants within DRESSX (code map 19). The term 'Body dissonance' refers to a state of conflict or inconsistency between a participant's physical body and their perception, experience or sense of identity whilst creating their digital version. This term could be used within psychological or sociological settings to describe situations where a person's digital body image does not align with their internal self-concept, leading to discomfort, distress or dissatisfaction.



Code Map 19

Both experiences revealed the code **Uncomfortable**, which related to sub-codes *mental health* and *friction of representation,* for significant yet varied reasons. For example, P3 and P7 used the control (expressed by P8 and P15) over their avatar creation within Zepeto as an opportunity to create thinner versions of themselves. As Turkle (2015), Crewe (2013) and Holt (2002: 87) suggest, the notion that embodying oneself within digital worlds can offer users empowerment and increased autonomy through disintermediated geographies, becoming authors of their own lives. However, if honest and authentic representation is the driving factor, P1 expresses the uncomfortable feeling they experienced when choosing an avatar body. The looking glass theory is presented again here through P1's response, showing that her own belief of self may not face the reality of how others perceive her:

> *'I also felt slightly uncomfortable choosing what I would look like in my body because you don't really know how you look. You will never see yourself the way others see*

you... You can only see yourself through the mirror or through photos... It's kind of like you're trying to face this reality that you don't want to face. You look bigger than you look, or you look smaller.' (P1 - Initial Interview, Line 195)

P3 admits that subconsciously she made her avatar body normal but on the thinner side, which she believes a lot of other people would naturally do:

'As far as the body shape, I just sort of kept it pretty normal. If I was being true to myself, it will probably have to be a bit of a bigger avatar, but it's a subconscious thing that I probably do and probably a lot of people do.' (P3 – Initial Interview, Line 194)

The impact on mental health and the experience of being uncomfortable are also mentioned in reference to the DRESSX experience. Findings suggest that DRESSX's use of photographs offers more utility to the fashion consumer participant, as they can see themselves wearing the items, increasing the level of connection and ownership through a 'feeling' of wearing the item, as expressed by P2, P4, P11, P13, P14 and P17. This sense of 'DF Feel' resembles Swink's 'game feel' (2009), which refers to the effect interactions with virtual items can have on the real-life player. The achievement of great game feeling relies on the attachment to virtual items, much like the participants' attachment to DF items, which has been enhanced by seeing themselves in the image. However, the connection to their physical bodies through photographic images also reveals further issues regarding self-image satisfaction (Chan et al., 2023).

For instance, all participants were offered the chance to acquire a DRESSX item from the website to be digitally tailored onto their image. Participants were offered instructions on how to take the best picture that met the requirements of the DRESSX's DF items, from the best lighting to wearing tight-fitting clothing. However, throughout the research, there was a significant decrease in participation. Out of the 18 participants, 17 participants said that they would like a DF item from DRESSX and signed their consent forms accordingly. In fact, some of the participants (P2, P7, P15) changed their initial answers from 'NO' to 'YES' during the interview, which may imply that the DRESSX website and items changed their attitudes and desire for DF items in a positive way. However, throughout the process of attaining a DF item, numbers dropped from 17 to 12 participants, and only six participants were happy to share their image on social media beyond their close circle of friends and family. This was due to four reasons of attrition related to code **Process** and sub-code *Difficult Requirements* within code map 19: *Lack of time, loss of interest, difficulty in the process* and *lack of confidence*. P7 lacked the confidence to share an image of themselves with DRESSX, and P2, P8, P10 and P11 did not feel confident enough to share on their social media feeds. The requirement to wear tight-fitting clothes was a significant blocker

for participants, mentioned specifically by P1, P3 and P8 as something they do not usually wear; five participants overall dropped out of the research at this stage. Table 5.4 below shows the number of participants involved in each stage and the rate of attrition throughout the process.

Table 5.4: Number of participants at each stage

Survey	Interview	Confirmed Participation	Consent to acquire DF item	Acquired a DF item	Shared to Social Media	Shared to Close Circle
159	**41**	**18**	**17**	**12**	**6**	**4**
			P1, P2, P3, P4, P5, P6, P7, P8, P10, P11, P12, P13, P14, P15, P16, 17	**P1, P2, P3, P5, P8, P10, P11, P13, P14, P15, P16, P17**	**P1, P3, P5, P11, P13, P16, P17**	**P2, P8, P10, P11**

Only the 12 participants that completed the DRESSX experience gave their full account and offered further insights towards using their own image, rather than creating an avatar in Zepeto. The remaining participants could only offer speculative attitudes. However, it was important to understand the blockers that participants experienced through DRESSX's DF experience and process. For P3, the experience revealed a lot about themselves. They sent the researcher a reflective statement which revealed further insights into their internal feelings about the experience, which is important to highlight:

> *'It was a unique experience taking this photo, as I knew which style of garment I wanted beforehand and, therefore, tried to capture myself in the right way to best present the garment and myself (whilst trying to imagine the outcome!). I don't typically take full-body shots of myself, and this process revealed at times some uncomfortable emotions. When reviewing the images of myself, I immediately felt self-critical, and it reminded me of why I don't often do this! Retrospectively, to be able to take body shots wearing tight-fitting clothing requires a level of self-*

> *confidence and further confidence to then post the picture once dressed! This revealed to me an observation of the identity of the person who might feel able to participate in semi-real DF and how some may feel unable to do so.* (P3 - Explanation, Line 5-6)

P3's articulate reflection is shared by other participants but in subversive ways. For example, P8 used an old photograph from when she was a fashion model instead of taking a new image, as she was conscious that she had put on weight. As mentioned previously, P7 lacked the confidence to share an image of herself for DRESSX; She also created an avatar in Zepeto that was a different body shape.

Ironically, whilst DRESSX requires an image of the customer, it may not be as inclusive as the Zepeto experience given the lack of control one may have over their digital representation. As P3 suggests, the DRESSX experience requires a certain level of confidence to participate and share an image of themselves wearing tight clothes, and there is an uncertainty about what the outcome may be. Participants who found the process of DRESSX easy (P2, P10, P11, P14, P16) showed a higher level of confidence throughout the interviews based upon my own observations. Most of these participants had images of themselves suitable for the DRESSX experience that they could use, suggesting that they already feel comfortable wearing tight clothes and taking images of themselves for social media. Furthermore, the same participants created avatars that were the default body and style.

The relationship between self-confidence and body image is quite clear. These findings support Silva and Bonetti's (2021) quantitative study on consumer attitudes towards avatars that state consumers prefer avatars who are not identical but have a similar body shape. Not all participants may wish to see their bodies digitalised and staring back at them as an identical digital twin, despite suggesting they prefer realistic images of themselves within a digital context. In further support, the survey responses suggest that fashion consumers want their digital version to be representative (defined as 'looks like you but not you, such as an avatar' – 38.4% of 159 respondents) over an exact digital replication (defined as 'looks exactly like you, such as a digital human' – 20.8% of 159 respondents). These nuances are important to consider.

Through insight into consumer attitudes and feelings, this qualitative study offers deeper insight beyond statistical analysis. Brands must be careful navigating the space between reality, fit and aspiration, with consumer mental health as an essential indicator. These findings are important to consider by brands if offering consumer tools to construct or present digital bodies for e-commerce purposes or VTO, for example, as it can impact the consumer's relationship with their bodies, which they may not be prepared for. To drive DF

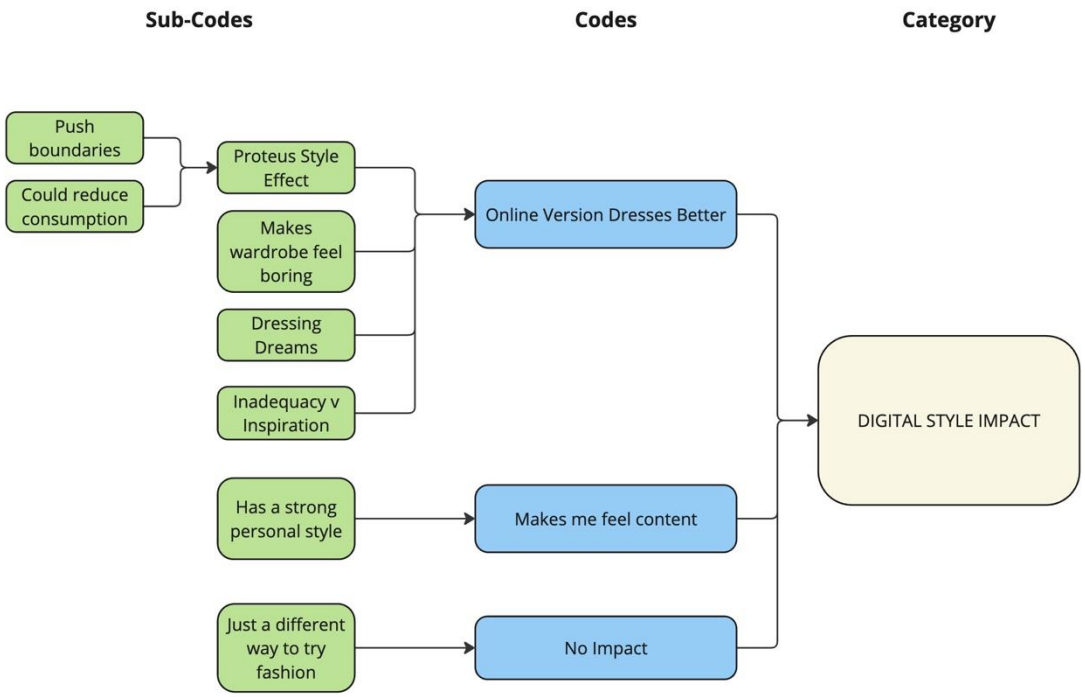
adoption, brands must consider confidence-building experiences to drive consumer acceptance of their bodies through digital representations or specifically understand their target users and their preferences, including digital body tools.

5.7.3 Confidence Backlash and Proteus Effect

The findings suggest that the creation of the digital body, either through avatar creation or photographic versions, can present both positive and negative effects on the physical individual. For P1, they stated that the DF experience builds confidence:

> *'I think that that would be like the best part about DFs – that it builds confidence. And maybe that translates in real life.'* (P1 - Initial Interview, Line 247)

The act of constructing a digital body as a process within the digital self can have, in some cases, a feedback loop and allow them to learn more about themselves through constructing visual representations. As presented in code map 17, findings suggest that the avatar re-embodiment serves as an act of aspiration or empowerment, supporting Nardi's argument that virtual worlds allow 'a release of creativity and a sense of empowerment in conditions of autonomy, sociality and positive reward' (cited by Yee, 2014: 4). As Crewe also suggests, through the process of disintermediation, the lines between the digital and physical increasingly blend, and participants become active agents in digital self-creation. However, as presented in the code map 20 below, the effect of digital style presents conflicting responses dependent on the user, their circumstances, and their sense of style.



Code Map 20

For P6 and P11, the online experiences revealed no impact on their sense of self and style but became just another way to express themselves in a different medium. For P16, empowerment came from acknowledging their strong sense of style that they could easily translate into a digital version (code: **Makes me feel content**).

Over half of the participants (ten participants) suggested that their online style could influence their style offline because their online versions dress better than their physical selves. Online versions of self can inspire the participants to act, causing a Proteus effect, as developed by Yee and Bailenson (2007), by pushing their own existing boundaries and inspiring them to be more like their avatar. For example, P13 said:

> *'I feel like it really inspires me more to be, like, showing my personality through something a bit different.'* (P13- Initial Interview, Line 88)

P7 and P1 even expressed a desire to be their avatar, with P1 claiming, *'I would love that to be me in real life.'* (P1 – Initial Interview, Line 219). Another form of the Proteus effect, suggested by P18 (and supported by P12), is that alongside pushing boundaries, online style has the potential to have a positive impact on overconsumption, as it allows them to make more informed choices through experimentation, which will be discussed further in

response to research question 3.

Whilst these idealised versions offer inspiration for the participants, there are darker implications that emerge from the responses showing a feeling of inadequacy. Yee (2014: 5) advises that 'we need to be vigilant about whether these new environments are fulfilling their promises of freedom and reinvention, and if they're not, we need to find a way to change them.' The experiences made P8, P11 and P14 see their offline style as boring or basic in comparison. However, instead of inspiring the participant, P2 claims that it made them feel sad about their reality:

> *'... That makes me feel a bit sad because there's this disconnect between my reality and my avatars 's reality, and it almost seems like my avatar is dressing better than I am.'* (P2 – Initial Interview, Line 259)

Idealised versions of self through avatar creation are compared to participants' real lives, and these versions are seen as being more confident, cooler/fun versions, idealised body shapes, or more inspirational and creative; They view these attributes as unachievable in real life due to physical restriction or lack of confidence. The avatar, therefore, has what the participant wants and is living their 'dressing dreams'.

When referring to the photographed body as the interface, this highlighted further issues with self-image satisfaction and self-confidence. For P3, the experience had a significant impact on their behaviour and perceptions of self, which demands specific attention and will be continued within the next section.

5.7.3.1 The Case of P3

P3 shows the Proteus effect in action, highlighting many of the codes referred to within this chapter. P3 notes the uncomfortable feeling associated with taking an image for DRESSX in tight-fitting clothes (Figure 5.18). She specifically states that she did not want to feel 'frumpy' and chose a catsuit for her DF item because she always felt catsuits flattered her figure:

> *'I thought the catsuit would look more flattering than it did... I felt like I looked a bit frumpy. And I tried really hard in the picture that I sent to not feel that way because it is one of my insecurities.'* (P3 – Follow-Up Interview, Line 52)

PARTICIPANT 3



BEFORE **AFTER**

Figure 5.18: P3 Before/After_DRESSX

Her DF choice relates to her own body consciousness as well as relating to aspirational expression, sitting on the borderline of what she would wear IRL and an elevated version through pattern and colour. However, instead of a positive outcome, her aspirational attempt resulted in a dampening of confidence and body dissonance. The disappointment in her image further impacted her behaviour outside the boundaries of the interviews, making her question her choices offline. She claimed that the feeling of looking 'unflattered' stuck with her on her next shopping trip and informed her choices:

> *'... I purposely picked out a couple of items from my new job that I thought were going to look really flattering on me, and I know, for a fact, will. I wonder if, inadvertently, because I wasn't happy with the outcome, I self-soothed by buying something else.'* (P3 – follow-up interview, Line 72)

A confidence backlash has resulted from the DF experience and encouraged the participant

to seek validation from physical retail therapy. As P3 questions, this might be an exception, and if the outcome were different, it may have resulted in a different behavioural outcome:

> *'It is a fine line. If I had a thought that I looked flattering, would I then be more inclined to buy the garment physically because it's something that I could invest in, and, therefore, justify because I liked the way I looked in a digitally?'* (P3 - Follow-Up Interview, Line 80)

The research period is not long enough to understand the full behavioural impact of all the participants, and therefore, as P3 suggests, it leaves more questions than answers. Yet this glimpse into its potential and the link between body image, identity and DF consumption is important to consider and applies to RQ3.

5.8. RQ3: CAN DRESSING THE DIGITAL SELF INFLUENCE CONSUMER BEHAVIOUR OFFLINE, REPLACING THE DESIRE FOR PHYSICAL FASHION FOR THE FASHION CONSUMER?

For this section of the findings, the focus is upon the responses of those participants who underwent the DRESSX experience, given that responses were based on informed experience over speculation. It was apparent when discussing ***Assumptions of DF*** (code map 13) and the contradictions it exposed that the participant's lack of knowledge of DF meant that some responses were based on assumed beliefs towards DF at the beginning of the research process. The survey results also show that respondents do not believe that DF can change their consumer habits, with only 10.7% stating it could (61% said NO, 28.3% said MAYBE). However, survey respondents had not completed the DRESSX experience within the scope of this research, and only 13.2% stated they had bought a DF item previously, with one participant noting it was from DRESSX. Therefore, genuine insight into how DF might influence consumer behaviour can only be assessed through actual experience, rather than speculative assumptions. After the DRESSX experience, the interviewed participants' perceptions of DF had often changed or been challenged, providing experience-based responses that enriched the validity of findings.

5.8.1 Changing Mindsets and Reciprocal Effects

The findings show that offline style affects online style. For example, participants habitually refer to default style or achieving their aspirational expression; they extend their identity as

authentically as possible through avatar creation; they elevate their offline style by dressing their image on DRESSX. There is potential and some evidence to show the reverse impact (Proteus effect), whereby online impacts offline style. The example of P3 in section 5.7.3.1 is a significant finding which revealed the DRESSX experience had a lasting effect on their consumption choices due to a negative DF experience. Despite stating that the experience would not impact her shopping habits, P10 does admit she was inspired to try more colour options when she next went shopping after a positive DRESSX experience. P11, P15 and P16 said the DRESSX experience is 'eye-opening', and, alongside P14, they now see DF as another source of inspiration, much like Pinterest or Instagram and creating fashion moodboards.

A key variable that affects consumer behaviour within this context is confidence, relating to participants' confidence in their body image, their sense of style, their confidence to try bolder styles and less fear of judgement by others. Through this reciprocal loop, much like the Proteus effect, some participants show potential for the complementary and interchangeable effects of online style affecting offline. For example, as P3 noted, it affected their confidence when trying styles offline. However, P2, P8, P11, P12 and P14 express how the online experience with DRESSX and Zepeto made them realise how boring or simple their style was offline and encouraged them to push boundaries and feel inspired to achieve **Aspirational Expression** (code map 3).

Particularly after the DRESSX experience, responses were contradictory to earlier sceptical attitudes towards DF. P15 and P17 were 'wary' and 'unsure'; P16 were 'hesitant' and unclear who the consumer was; P11 thought it was 'ridiculous', and P1 thought it was too 'technical'. After taking part in the study, participants' mindsets shifted; They can see the appeal and the potential beyond video games and are open to using it again in the future. P5 could envision DF's potential, and P14 could see how she could be part of the DF community, which was not only for gamers. Overall, they are less sceptical about DF and the experience increased societal readiness level (Davis et al., 2023). P16 typifies this change of mindset by saying:

> *'I thought, who would purchase this?... It wasn't something that I would have purchased. But now being on the receiving end and having a picture of me with digital clothing, it's something that I'll most definitely redo in the future.'* (P16 - follow-up interview, Line 16).

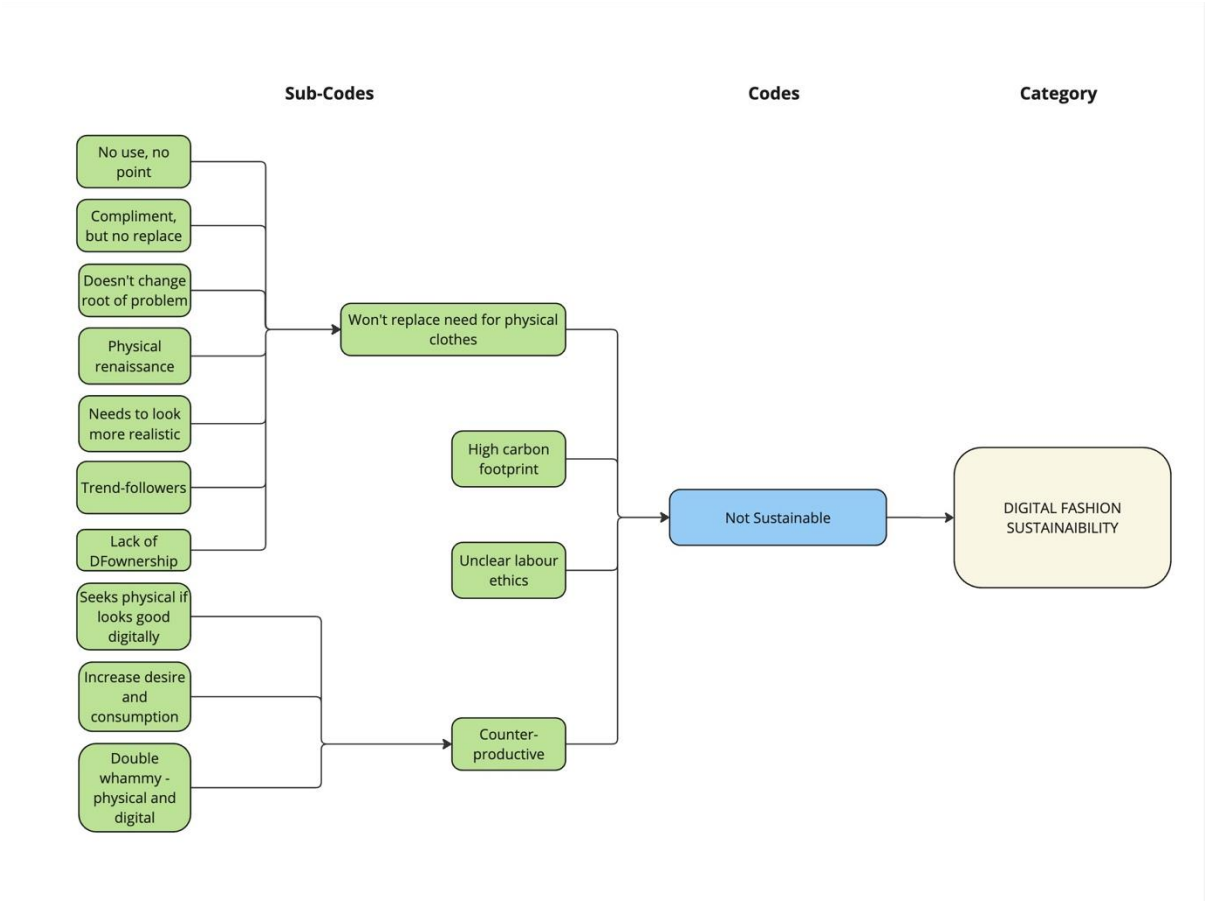
Therefore, experience is essential to increase the potential for reciprocal, Proteus-like effects. However, whilst dressing the digital self may influence attitudes, the use cases for DF and the impact on sustainable consumer practices are less clear, as discussed in the next section.

5.8.2 Sustainability Paradox

Relating back to the category and code map ***DF Sustainability*** (refer to section 'Sustainability Motivations'), participants spoke about the potential for DF to replace the need for physical fashion across four separate codes. The code **Yes and No** refers to the conflict expressed by participants' when trying to understand if DF would replace the need for physical clothes. P14 typifies their attitude toward the reality of DF's sustainability:

> *'I would say yes or no. Yes, in the way that I discovered I could picture clothes that I don't need in real life... For example, I would buy clothes because I find them so cool, and then I would never wear them because they're too original... So, in that way I was like, oh, I could spend more, consume less and still buy those clothes that I could see myself wearing... So, in that way, yes, you change, but am I going to reduce a lot my physical consumption now? No... Since I'm not a very social media person, it's going to take time and physical clothes are still important for me.'* (P14 - Follow up, Line 57)

P5 suggests DF could be a solution or alternative to overconsuming fast fashion. However, out of the 18 participants, only 11 assertively said the DF could replace their need for physical fashion. Others were not sure unless they spent more time on social media, and DF items had more utility, or, as P5, P3 and P14 suggest, maybe they could see it being used in the future. Moreover, the highest proportion of survey respondents (34.6%) indicated that no factors would motivate them to substitute physical items with DF, reflecting a significant resistance towards adopting DF as an alternative.



Code Map 21: Not Sustainable/Category: DF Sustainability

The code map 21 above expands the code **Not Sustainable** from the category ***DF Sustainability***, referring to participants attitudes towards DF being a sustainable alternative to physical items. P1, P2, P5, P8, P14, and P15 discuss, in their own way, that DF *won't replace the need for physical clothes,* as they are either, as stated by participants, 'too attached to the physical', DF 'needs to be more realistic', or 'no use, no point'. For P17 and P14, it reinforced the importance of physical fashion; the sub-code *Physical Renaissance* refers to P17's belief that consumers demand physicality, particularly after the pandemic:

> *'Overall, I can't imagine it having a huge impact on day-to-day sustainability and buying physical items. Unless we have a huge kind of shift in society where we aren't really going out and seeing each other and doing things virtually instead, but I don't see that happening for quite a while, especially after COVID.'* (P17 – Initial Interview, Line 58)

Others imply that there is a risk of DF increasing the rate of physical consumption and being *counterproductive.* Participants (P1, P3, P4, P6, P11, P12 and P14) express a desire to seek out the physical items because they liked them digitally (through the DRESSX

experience), or they wanted their offline wardrobes to match their Zepeto avatars wardrobes (P1, P3, P7, P8, P9, P10, P11, P13, P14). In this way, as P11 suggests, you end up buying both physical and digital:

> *'So, I wouldn't say that it would be more sustainable because it's like a double whammy... I wouldn't just wear the digital item for the event because otherwise I wouldn't have anything to wear.'* (P11 - Follow-Up - Interview, Line 136)

For P8, the physical will always be the priority purchase:

> *'I think that if I were to go down the digital route, then I would be spending essentially double the money on the item to see what it looks like and then also just to physically purchase it.'* (P8 – Follow-Up – Interview, Line 68)

Within existing literature, Wiedmann et al. (2020: 7) state that: 'While digitalisation is already a key driving force in societal transformation, it has so far led to more consumption and inequality and remained coupled with the indirect use of energy and materials, therefore sustaining resource-intensive and greenhouse-gas growth patterns at the macro-economic level.' Findings suggest DF may suffer the same fate. As P17 shows, there is a risk that some consumers will only desire digital if it comes within a physical item too:

> *'In regard to DF, if the digital item came along with a physical item of the same style or whatever, then that would potentially be something that would be interesting to me.'* (P17 – Initial Interview, Line 101).

Ultimately, there is concern that DF does not solve the root of sustainability's wicked problem within fashion (Charter et al., 2024). As P2 argued:

> *'It doesn't change the mindset and the root of the problem of overconsumption. You are simply redirecting the need to buy something new. It doesn't actually fix the, the capitalist mindset of more is better.'* (P2 - Initial Interview, Line 114)

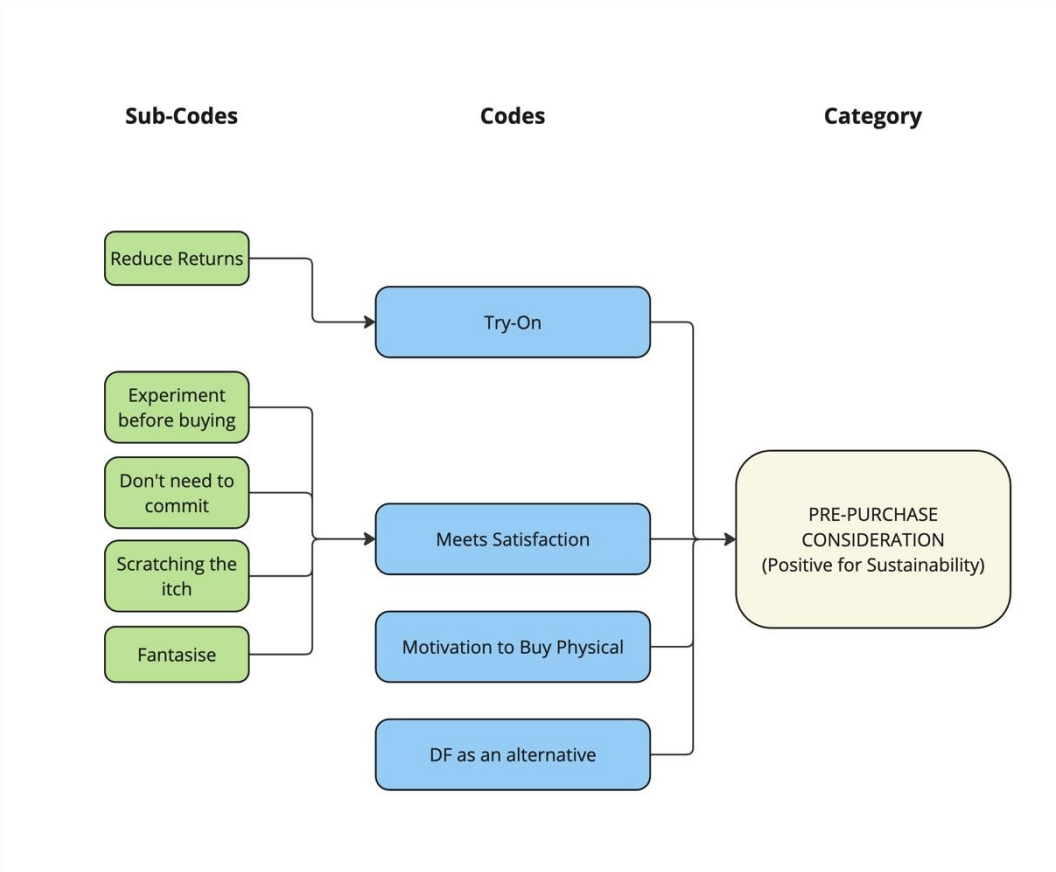
Supported by P11, participants suggest that if DF cannot replace or displace the need for physical items, then it cannot be sustainable. It is important to note that during this study, participants did not need to purchase the DF item using their own money. Had they needed to use their own money, they might not have undergone the experience, and responses may have been impacted. In fact, when participants were told the prices of the DF items, none of the participants said they would have used their own money, which, again, enforces the argument that DF does not hold the same enduring appeal as physical garments.

DF may not be able to replace physical fashion, but, in the best scenario, it could

complement it. The next section will discuss how DF can offer a period of consideration with potential for implicit effects on consumption.

5.8.2.1 Pre-purchase Consideration

In terms of how DF could help sustainability and potentially reduce the need for physical items, findings suggest this could be achieved through indirect occurrences at the pre-purchase stage. Whilst not all participants specifically made the connection between pre-purchase consideration and reducing consumption and returns of physical items, findings support DF as a pre-purchase tool to achieve a degree of consumer satisfaction. Expanding and recategorising the sub-code ***Pre-Purchase Consideration***, the benefits and risks to DF offering pre-purchase consideration are shown.



Code Map 22: Pre-Purchase Consideration

Participants did suggest that dressing oneself through DRESSX or Zepeto offers an alternative but, most importantly, allows time to try on and consider purchase (P4). It also meets consumer satisfaction by allowing participants to fantasise about wearing (P9) through an *experiment before buying*, *don't need to commit to purchase*, *to fantasise* or help

scratching an itch (P8 - Initial Interview, Line 129). For example, P1 believes that DF augments the physical fashion experience:

> *'[DF] could complement it [Physical Fashion], but I don't think it could replace it. I think it would be great if we could try on the DF items. And if we like the way it looks, then we can buy it.'* (P1 - Follow-Up Interview, Line 49)

This perspective supports Crewe (2013) and Smitheran's (2015) view that the embodied and virtual elements of dematerialised fashion present an opportunity to consume more sustainably without the feeling of 'need' for physical items. However, for P16, the feeling of satisfaction is fleeting and the try-on experience increased their motivation to buy physical version:

> *'Actually, that image made me more thirsty for a latex coat because that's been on my radar... but it costs like £4000, so it's definitely not in the budget right now. It filled the satisfaction for now.'* (P16 - Initial Interview, Line 60-61)

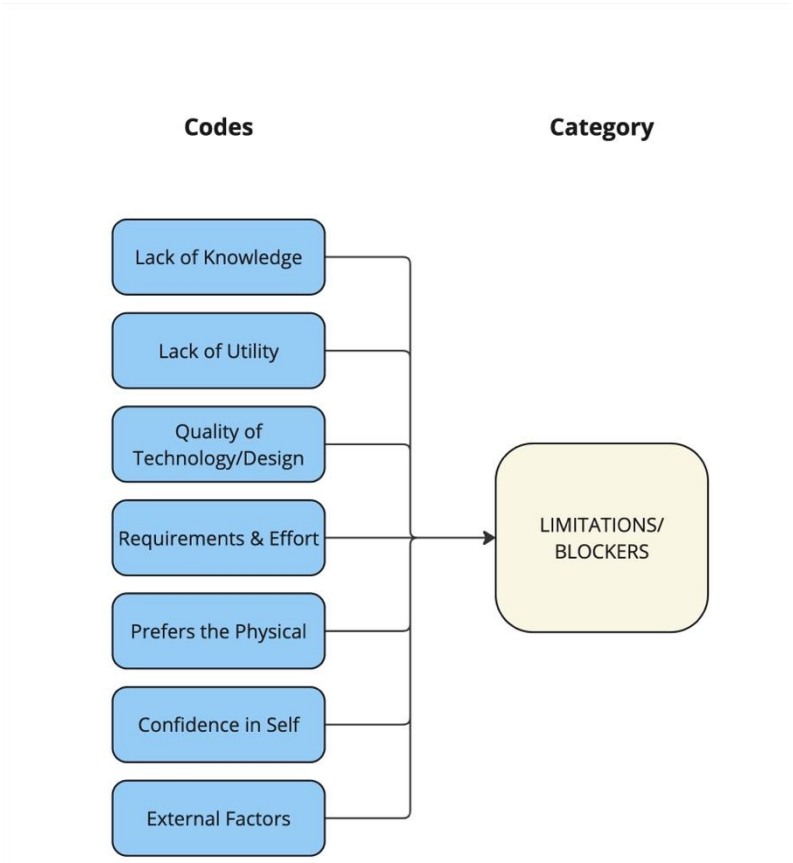
This emotive connection between self-image satisfaction and consumption is further highlighted by participants. They suggest that if consumers feel they look good in the digital version, then this may have the potential to increase their desire to make that purchase offline. For example, P1 suggests:

> *'If it looks really good on me, I'm going to be bolder with my fashion. So, I'm probably going to go buy more... I can be more fashionable in real life and be celebrated.'* (P1 – Initial Interview, Line 243)

Dependent on perspective, these findings could be understood in both positive and negative light in terms of sustainable consumer behaviour. In terms of consumption, the findings reinforce DF as an effective try-on tool for digital sustainability (Blazquez 2022; 2024). As an end product (Chan et al., 2023), DF does present an opportunity for experimentation and some temporary satisfaction by positively complementing the physical fashion experience. DF is unlikely to replace the desire for physical fashion, yet it could slow down the act of buying so we may step off Hammond et al.'s positional treadmill (2019), with the potential to reduce production, consumption and returns. However, the reality of DF as a sustainable alternative is overly idealistic (Belk, 2013) and relies too heavily on speculation and potential. Whilst participants note the experience of DRESSX felt akin to traditional online retail, the feeling of satisfaction is temporary and not as heightened as the physical experience. Despite digital clothing brands claiming DF is a more sustainable alternative, participants are sceptical and mostly agree that DF can only be sustainable if it replaces the need for physical items. Findings suggest DF will increase the motivation to purchase physical items and could, in reality, lead to increasing overconsumption.

5.8.3 Blockers

There are limitations and blockers that affect the motivation and adoption of DF from a fashion consumer perspective, which must be considered by the industry if seeking to increase adoption and understand changes to consumer behaviour. There are six key codes which the findings suggest as limitations or blockers, as presented within code map 23: **Lack of Knowledge, Lack of Utility, Confidence in Self, External Factors, Prefers the physical** and **Quality of technology/design.**

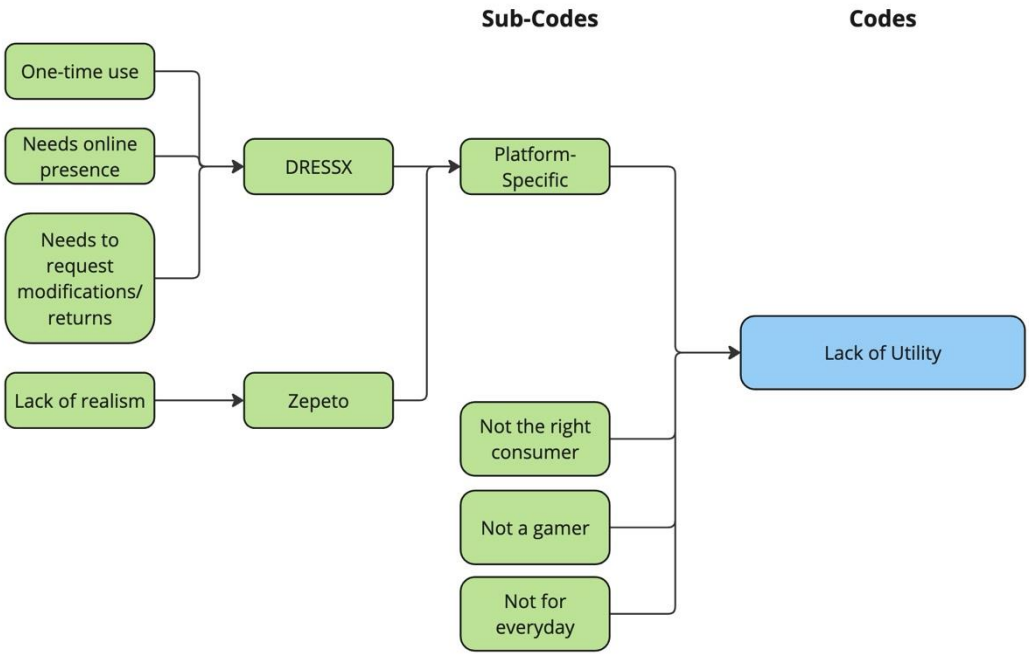


Code Map 23

In summary, participants prefer the physical, referring to their attachment to physical clothing which is difficult to replace. External factors refer to the cost of living and participants not seeing the monetary value of DF currently given the economic circumstances within the UK. Due to their lack of interest, awareness, and knowledge about DF and the metaverse, there is a clear information barrier that disconnects the fashion

consumer participant from the realm of DF, referring to the code lack of knowledge. This is one area that is currently being addressed by the fashion industry through partnerships and marketing campaigns between gaming and fashion brands.

Lack of [DF] utility has already been mentioned throughout the findings, particularly within the section 'Utility and Perceived Value'. Expanding upon this code as a significant blocker (see code map 24 below), the lack of utility is mainly due to the fact that the participants, self-described as the 'everyday person' (P17 - Initial Interview, Line 28), do not see themselves as *not the right consumers,* as it is *not for everyday* use. The survey results also reveal this to be the most significant blocker for DF, with 62.3% stating that there is nowhere to wear DF. However, there are participants, such as P14 and P16, who do see themselves as potential consumers after the experience of DRESSX, emphasising the importance of experience and context.



Code Map 24: Lack of Utility (Category – Limitations/Blockers)

The question of utility is determined by the type of DF experience and *platform-specific*

limitations within DRESSX or Zepeto. The primary reason for Zepeto's lack of utility is due to its *lack of realism* and game-like quality, as expressed by P14:

> *'To be honest, I liked the Zepeto experience, but, for me, it was not realistic enough. I discovered during this process that I prefer seeing it on myself, or at least on a more realistic digital self.'* (P14 – Follow-up Interview, Line 49)

Participants see Zepeto as a fun experience that they would use if bored. However, they do note that Zepeto is a fun styling tool which, if invested in like The Sims, may have an impact on the consumer's behaviour. For DRESSX, one of the main limitations to using DRESSX is, for most participants, they do not have an active social presence and, therefore, would see no value in buying DF for their image if they weren't going to share it with anyone. Participants compare DRESSX to traditional e-commerce websites selling physical clothes, leading to a comparison in service such as resale, customisation and wanting more use out of the DF other than one static image. For example, P5 suggests:

> *'I think it would be interesting to know if there was an option with DRESSX, for example, you don't quite like how the item has been tailored to you... If you can request modifications or that kind of thing.'* (P5 – follow-up interview, Line 24)

Ironically, DRESSX offers a one-time use which duplicates the same issue of overconsuming disposable, 'wear-it-once' garments (Rocamora, 2014; Press, 2017; Mair, 2018; Siegle, 2018). The commitment and uncertainty of what the image will look like are also highlighted as a blocker for consumers, particularly if it cannot be returned.

As previously discussed, confidence in self is a determining factor that may limit participants from adopting DF. P12 and P14 express a desire to use DF but are 'not brave enough' to be trailblazers; P2 and P15 state they are trend-followers, not trendsetters. Some participants found it difficult to get a good photo of themselves that they would like to share on social media. In fact, only four participants shared on their Instagram feed as a permanent post, and two shared on their stories. The remaining five participants shared with their close circle of friends and family, or not at all. P15 didn't like the photo she originally sent to DREESX and, therefore, wouldn't share the image on social media despite liking the DF item. P2 and P10 wouldn't share on their social media feed because Instagram gave them anxiety. P11 showed a higher level of confidence by taking an image specifically for DRESSX in tight-fitting clothes but then sandwiched the DRESSX image in a carousel because they felt it was 'too posey' for their feed. Participants see social media as an extension of themselves, and therefore, the importance of curation becomes significant. In the same way Rocamora (2017) puts forth within her concept of mediatization, whereby designers are designing with social media in mind, DF consumers of DRESSX are thinking

about what clothes are going to look like on social media rather than how they feel when worn.

The **Quality of Technology/Design** was also mentioned as a limitation for adoption. This relates to the importance of DF looking and feeling real. Whilst the uncanny valley (Mori, 1970) combination of digital and physical aesthetics is liked by some participants, there was still a responsibility on the designer to ensure quality and fit for the fashion consumer, as well as an expectation of the technology company to create photorealistic digital humans and fabric representation. On viewing DF items on the DRESSX website, P9 was disappointed and did not go through with acquiring their own DRESSX item:

> *'Yes, but it just looks digital. It doesn't necessarily look like it's fully moulded to the body.'* (P9 - Initial Interview, Line 32)

P15, on the other hand, was positively surprised on receipt of their DRESSX item and image:

> *'It actually looked good. It looks really professional and real. So, there was, you know, a quality to the garment.'* (P15 - Follow-Up Interview, Line 14)

Overall, the advancement of DF is essential to the uptake and adoption by fashion consumers, as suggested by the participants of this study. Unlike gamers, fashion consumers are less forgiving when exploring alternative options for fashion consumption, particularly in the areas of fabric representation. King and Krywinska (2006) argue that gamers are fully aware of the boundaries of a video game. The fictional narrative of games contextualises the capabilities and behaviour of players (Tronstad, 2008). However, for fashion consumers, it is about finding relevant environments and daily use cases, reaching realism, authentic representation, high quality and understanding DF in the context of real-world values.

5.9. RQ4: USING THE SUSTAINABLE DEVELOPMENT GOALS FRAMEWORK, WHAT ARE THE SUSTAINABLE AND ETHICAL CONSIDERATIONS OF CONSTRUCTING DIGITAL IDENTITIES WITHIN THE DF PARADIGM?

In response to this research question, this section seeks to answer to the questions associated with SDG 12 (Responsible Production and Development) and SDG 10 (Reduced Inequalities), adopting the SDG research framework from the literature review (Tables 3.1a and b). Guiding questions will be adopted per SDG to organise and navigate the discussion

of findings.

5.9.1 Responsible Consumption and Production



For SD9 12, the three key sub-questions in the framework are:

a. *How can the option of DF increase the displacement rate of physical fashion or provide another source of overconsumption?*
b. *In what ways do the users' key demands for digital fashion items and services encourage sustainable practices?*
c. *How do digital fashion experiences/services encourage healthier consumption habits, considering digital representation and transparency?*

5.9.1a How can the option of DF increase the displacement rate of physical fashion or provide another source of overconsumption?

As discussed in response to RQ2 and RQ3, findings suggest the answer to this question is not linear. One could see the use of DF as augmentative: to offer consideration, to slow down and potentially reduce the need for consumers to purchase the physical item over time. However, there was no evidence to suggest this from the participants other than speculation. There were some changes in behaviour that occurred after the DF experience, such as P3's conscious decision within her physical shopping experience, P10's consideration of buying colour over black items, and P15's increased curiosity in the metaverse. Overall, participants' attitudes were positively changed; they became less sceptical and more open to the possibilities of DF from a fashion consumer perspective. P17 also expressed renewed appreciation for physical clothing, which in some respects is a positive given we currently live in a consumerist culture of disposable fashion items.

However, none of these behaviours and attitudes suggested a literal replacement for physical fashion. In fact, participants show no evidence of buying DF over physical items, as the possession of physical items is still particularly important. Participants expressed concerns that DF could increase the motivation to buy physical versions of the DF items and, therefore, increase consumption through the digital augmentation of physical fashion experiences. Participants wanted to dress like their avatars and even become their avatars, suggesting a conflict of feelings between empowerment and inspiration versus inadequacy.

Supporting P2, P1 argued it does not change the root of the problem of overconsumption:

> *'I think, if anything, it almost contributes more to the problem.'* (P1 - Initial Interview, Line 94)

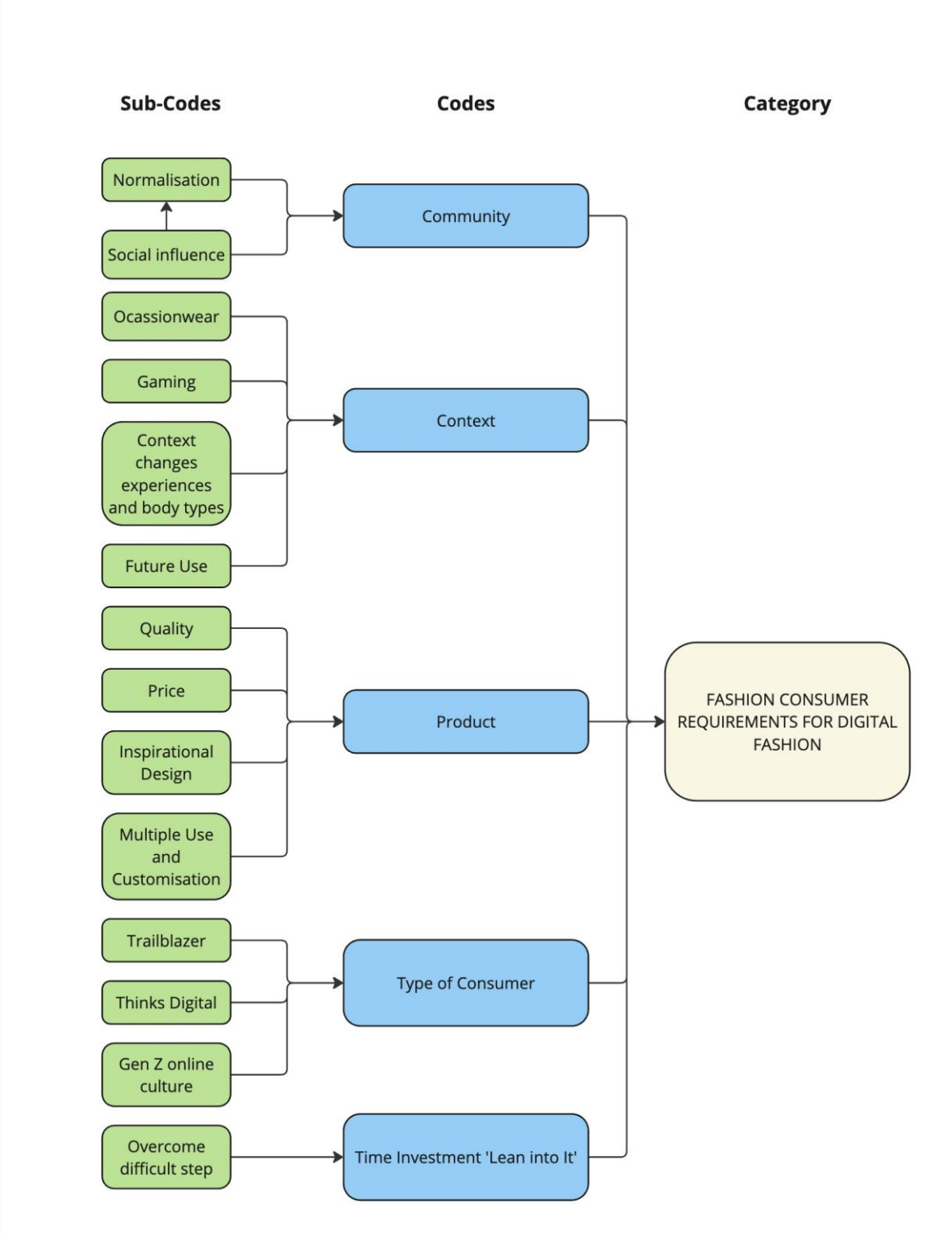
On a positive note, The Gen Z participants, who were selected as avid fashion consumers, suggest that the availability of DF could highlight sustainability, offer more purchase consideration and be used as aspirational expression. Rather than seeking the displacement rate (DRESSX, 2022), 'Augmentation' would be an appropriate focus and term as participants convey the idea of DF adding to, enhancing or complementing the physical fashion value chain, rather than removing or displacing the original. In terms of production, over half the participants (P3, P4, P6, P9, P10, P11, P13, P14, P17) see the utility of DF to augment the design process and drive sustainability by allowing them to create prototypes, experiment with designs and assist the consumer through experimentation and try-on. As P17 argues, 'It also could save companies a lot of money.' (Initial Interview, Line 72).

Within the production stage, P11 claims that DF requires less water over a physical garment. Interestingly, P11 was the only participant that visited DRESSX's sustainability page on their website twice, which specifically claims that the production of a DF item, on average, saves 3300 litres of water per item. However, a critical approach needs to be applied to the validity of results, as Davis et al. (2023) suggest there is limited information on hidden energy impact. DRESSX uses the quick guide by Ericsson (2020) to digital carbon footprint as the basis for their calculations of the carbon emissions during the digital garments production phase, but even Ericsson understands the complexity of estimating carbon emissions. On their website they mention the constantly evolving nature of the ICT [Information and Communication Technology] sector, which can be challenging to keep its carbon footprint information up to date in terms of usage, equipment and improvements in energy efficiency, often leading to overexaggerated data and further confusion. P11 response may suggest the effectiveness and influence of sustainability communications through DF, which can have both positive and negative impact through potential misinformation. When presenting such statements as fact, brands must ensure there is a constant update of data and verification through partial third parties. As Ericsson's report also suggests, DRESSX must further consider indirect emissions and societal impact. They use the 'apples and oranges' comparison analogy to suggest that the whole life cycle impact of DF is measured rather than just the electricity use alone. Whilst quantifying energy impact is out of scope of this research, one encourages further exploration within this area to construct tools that can assist in creating valid and reliable data across the DF supply chain to avoid misinformation and potential greenwashing.

Furthermore, P8, P13, P16 and P17 argue it is more sustainable for brands to adopt DF for influencer gifting to reduce the production and shipping of one-wear items. P3 states that influencers could normalise DF for the fashion consumer. However, as questioned by P1 and P2, does gifting influencers in this way change the root of the problem of overconsumption due to their influential nature on consumerism? It is stated that 90% of fashion's environmental impact occurs within the manufacturing stage (Roberts-Islam, 2024), and therefore, there is potential for DF to significantly contribute to sustainable development for responsible production. However, as an end product, there is still concern that DF contributes to the continuation and even condonement of irresponsible overconsumption. When considering the attitude-behaviour gap, Magwegwe and Shaik (2024) suggest that sustainability needs to shift beyond raising awareness and remove barriers to action. However, due to the difficulty in using DF, particularly within the DRESSX experience, alongside the paradoxes considered within this section, more needs to be done to reduce friction to entry and result in an increase of the displacement rate.

5.9.1b In what ways do the users' key demands for digital fashion items and services encourage sustainable practices?

Findings suggest that for fashion consumers to adopt DF, there are 5 key requirements, including codes **Product, Community, Type of Consumer, Context** and **Lean into it/Time investment,** summarised within code map 25 below, which have been drawn from previous discussions on motivations, attitudes, beliefs and experiences.



Code Map 25

In summary, the sub-codes for **Product** refer to desirable *Price*, which offers DF value for money; *Inspirational Design* which is accessible and pushes the consumer out of their comfort zone; *Multiple Use and Customisation* offering more tools for creation through disintermediation and innovation. **Context,** which, due to the lack of interoperability, has an impact on experience, product, and digital bodies. Participants denote that DF is suitable to replace one-time *occasion-wear* but not for everyday purchase. They also suggest that DF

environments need to foster communities for fashion consumers to feel the desire to enter digital worlds and try DF products. The code **Community** is essential for normalising DF, comparing physical fashion communities that are based on connection and validation from others; sub-code *Social and societal* influence is needed to drive DF adoption, which, in turn, may impact social and cultural sustainability.

The code **Time Investment** supports Lehdonvirta's (2009) concept of 'time aristocracy' over 'money aristocracy' (Belk, 2013), who argue this case that attachment to virtual goods is simply due to the amount of work involved in acquiring them through long hours spent in the digital world. However, as suggested in the literature review and indicated by the findings, fashion consumers are less likely to invest time in the online presence than gamers. Therefore, the fashion-tech industry must provide drivers or services which motivate fashion consumers to invest their time beyond video games.

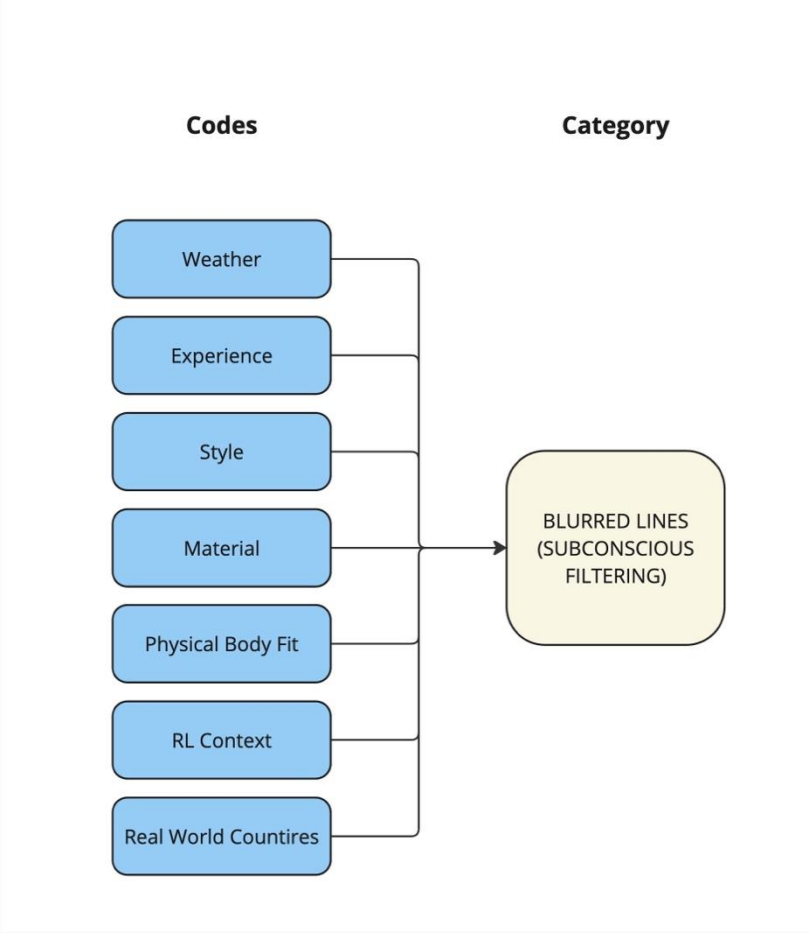
Finally, the **Type of Consumer** suggests a particular type of consumer will be more susceptible to adopting DF, such as *trailblazers* (P4, P5, P12, P15, P17) and Gen Z, who are actively online. Furthermore, the sub-code *think digital* refers to how participants approach DF with a physical fashion mindset, lacking the ability to think of fashion beyond its materiality but also beyond their own bodies. This default way of approaching fashion is shown through P18's response:

> *'I guess I was thinking about me in real life, but I guess I would wear it in a digital sense.'* (P18- Initial Interview, Line 100)

Regarding sustainability, P13 argues that:

> *'I think it's important that we do start to look at things more digitally.'* (P13- Initial Interview, Line 104)

Similarly, another category, ***Blurred Lines,*** emerged from the participants' responses as they consider physical factors that, within digital spaces, are not relevant (code map 26); These include **Weather, Experience, Style, Material, Fit, RL context** and **Real-World Countries**.



Code Map 26

For example, P7 thinks of the physical weather when thinking about where she would wear her DF item:

> *'I probably wear that somewhere hot or a nice restaurant. Or you could wear it to a club or something.'* (P7 – Initial Interview, Line 182)

P8 is only concerned with looking for digital versions of shoes because of her physical height, which contrasts with the typical requirements or purpose of DF:

> *'If you can find cool shoes in DF, that's really cool... because I'm so short, so my trousers are too long for me.'* (P5- Part 1- Initial Interview, Line 30)

One could argue that the lack of thinking digitally also results in participants reverting to default styles and avatars.

As the code **Time Investment** (code map 25) suggests, more time is needed for participants to push beyond their existing zones of habit and begin to think of fashion beyond its physical form. P13 suggests that consumers need to break the mould of current consumer mindsets and utilise the benefits of DF for experimentation, but P14 believes this is a difficult step to

overcome for consumer culture. However, consumerism has evolved and responded to the digital transformation from physical retail to online e-commerce at rapid speed. In support, Rocamora and Smelik (2016) argue that fashion is a paradigm of modernity and its changing temporality. Over time and through increased DF experience, it is possible a change of consumer mindset can occur. In fact, at the end of this study, P11 stated: *'I'm thinking about it completely differently now.'* (Initial Interview, Line 49)

5.9.1c How do digital fashion experiences/services encourage sustainable consumption habits, considering digital well-being and transparency?

Findings indicate that DF provides more use to designers, influencers, students, stylists, brands, and gamers rather than the 'everyday' fashion consumer (P5, P6, P17). It is suggested that DF can be used by designers in the creation and production stages (P3, P4, P6, P9, P11), influencers can reduce consumption of items for social media, students can use DF for projects such as editorials, stylists can use DF as a styling tool (P2, P8, P10, P12, P16, P17), brands can gift influencers items using DF versions (P10, P16) and understand consumer preferences (P4), and gamers can purchase DF for their avatars for gameplay (particularly The Sims) (P3, P4, P6, P8, P10). For these stakeholders, the digitisation of fashion devolves authority through Crewe's notion of 'disintermediation' from brands to creators. Right now, it may not transform the way we consume within this generation, but the way we create, providing inclusive tools for creation and development – if one has a connection to the internet.

However, in preparation for further adoption of DF, there are factors for industry (and government) to consider about representation and transparency that can encourage healthier consumption habits. As discussed, participants note a sense of empowerment and freedom through avatar embodiment and freedom to further expression through DF. Authentic digital representation and realism are desired by participants with a natural tendency to recreate default versions of self through avatar embodiment. Nevertheless, finding a balance between self-image satisfaction and authenticity equates to body dissonance, with participants revealing personal feelings towards their bodies through negative DF experiences and by subconsciously creating thinner, idealised digital versions. The re-embodiment within digital worlds created through avatars, digital scanning or AI requires the consumer to face the realities of the bodies which they may not be equipped for, referring to the conflict between empowerment and inadequacy as discussed within RQ3. There is concern from the participants that this unlimited possibility can lead to unethical versions 'hiding behind a screen' (P1 - Initial Interview, Line 54), relating to issues surrounding transparency within DF. Therefore, whilst DF has been shown to inspire and achieve aspirational expression, it has the potential to negatively impact well-being and self-

image. DF services need to responsibly consider the creation of digital bodies for fashion consumption due to its impact on self-body satisfaction, highlighted by Chan et al. (2023).

Transparency, in particular, was an interesting concept to consider within DF as a consumer end product. The concept was mainly referred to when participants shared their image on social media. The four participants who shared their DRESSX image on social media expressed conflicting thoughts on whether they wanted their followers to know the DF item was 'real' or not. Appendix 35 summarises the netnographic findings from the participants' social media, alongside quotes from interviews, which relate to the theme of transparency. Observation of their social media curation and followers' comments, alongside participants' interview responses, decisions to be transparent about their DF item depended heavily on the quality of the DF item and image. P1, for example, would only share the image on temporary Instagram stories, as it did not look real enough. P5 was curious about her followers' awareness towards DF but was also eager to show they were trailblazers of DF. P17 'wanted to be transparent about it.' (Follow-Up Interview, Line 38) so highlighted DRESSX in the caption. As for P16 (Figure 5.19), it was important for the item to look as real as possible, as they did not want their followers to know that they didn't own the coat:

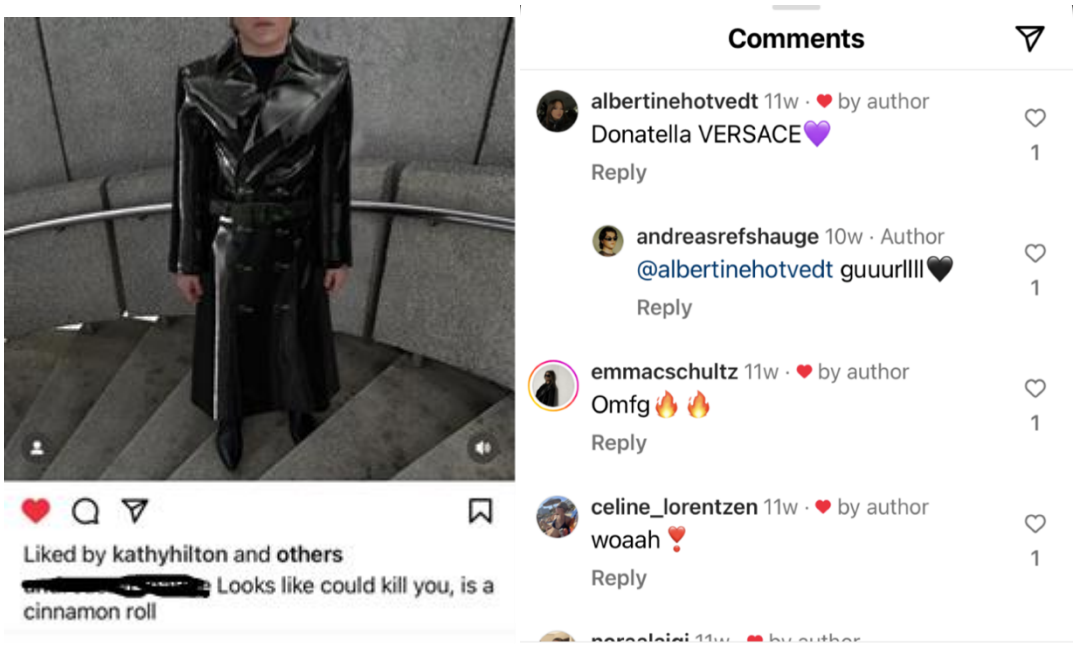


Figure 5.19: P16 Instagram Feed and Comments

> *'I didn't want people to look at the image and see the caption and be like, Oh, this is fake, so I wanted to not say this is DF, but I still tagged DRESSX. I didn't get any comments from like anyone saying this is fake and you don't own this coat.'* (P16 - Follow-Up Interview, Line 44)

Observing the comments, followers did not reveal any indication that followers knew the item was real or not. For P17, their comments were more complimentary of the person rather than the actual DF item. Participants who shared their image received positive responses, which influenced their perceptions of DF and encouraged them to consider trying it again.

In terms of transparency, it does highlight the question as to whether consumers using social media need to know that the DF is only digital. P13 questioned if DF would encourage further forms of conspicuous consumption whereby consumers are influenced by DF items without the informed knowledge of their immateriality. For P16 it was important that their followers did not know it was a DF item, and their DF experience also encouraged them to seek the latex coat IRL. In discussion with their peers, P13 discussed the potential negative impact from the adoption of DF:

> *'Would [DF] have a negative impact?... So, say if I had an expensive brand... for example, Gucci, and then someone else came along... and didn't realise it's DF. They see it as quite realistic, and they're like, why do I not have what she's got? I can't afford those accessories and those garments. So, then it can also have, like, a negative impact... it can become, I don't know what you kind of call it but a competition socially.'* (P13 - Follow Up Interview, Line 54)

The importance of transparency within DF has further requirements beyond physical fashion; whereby transparency for consumer goods within the physical world requires information on supply chains (such as the ESPR's Digital Product Passport), DF and digital bodies require transparency regarding energy consumption during their creation phase, as well as transparent labelling. This also relates to the recent phenomenon of virtual influencers and AI models, which triggered industry debate on the diversity and transparency of creators. Whilst participants seek realism with DF experiences, there is a responsibility by industry to enforce transparency with a clear distinction between digitality and physicality, contributing to the wider implications of 'metavethics' (Zallio and Clarkson, 2023).

5.9.2 Reduced Inequalities



For SD9 10, the two key guiding questions are:

a. *In what way do consumers feel digital worlds are accessible and safe spaces for representation and consumption?*
b. *How can consumers feel empowered financially within digital worlds?*

5.9.2a In what way do consumers feel digital worlds are accessible and safe spaces for representation and consumption?

As discussed within the chapter findings, particularly RQ2 and RQ3, some participants perceive that they can express themselves without the need for feeling judged by others (P1, P7, P13, P14). Participants discuss the potential for DF to allow consumers to express themselves beyond their comfort zone. Yet, it requires them to break out of established patterns of thinking, as well as increasing their confidence. P7, for example, spoke of the opportunities for DF to express themselves freely without the fear of judgement, but they didn't go through with the DRESSX experience. They alluded to the fact that they do not feel that digital worlds are safe spaces for representation and the requirements to access them are too fraught for the participant. Furthermore, the purpose of DRESSX DF items is to share them on social media, and many participants did not want to go through with this step as they did not feel confident enough to do so or did not like the image.

Whilst aspirational expression is sought by participants, in reality, the theme of **Authentic Representation** was revealed as a driving factor. Participants expressed an innate and ethical duty to portray authentic versions, even if this made them feel discomfort in the process, due to their awareness of misrepresentation that can emerge within digital worlds. The category, **Body Dissonance***,* highlights that identity and body are intrinsically linked even within a DF context. From a positive standpoint, P12 and P14 argue that DF is inclusive and representative as it goes beyond physical sizing measurements:

> '*In terms of inclusivity and representation, there is a size problem with so many brands who go too small or don't go too big. I don't think you have this problem with DF. You have unlimited possibility, which I find very great.'* (P14- Initial Interview, Line 80)

However, there was some discrepancy between participants' feelings towards body inclusivity within Zepeto. P5, P10, P14, P16, P17 and P18 were happy to see so many options for representation available on Zepeto; P14 expressed frustration in other video games when she could not find the right options to represent herself; P9 also noted the importance of skin tone for their avatar, which was available within Zepeto:



'I always start with, like, the face and the skin tone... I always go to something that is my skin tone, as I'm not just going to make, like, a little white, blonde avatar.' (P9 - Initial Interview, Line 145)

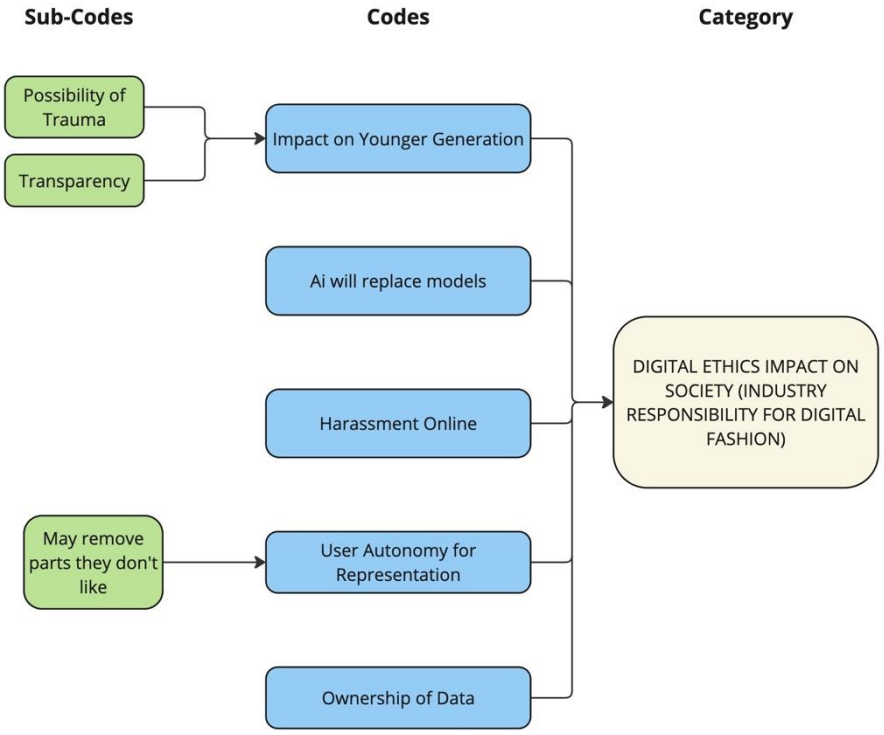
However, P1 felt options were limited and did not find their avatar an honest representation:



'I think, like, the proportions that they had were a bit hard... the way they replicated the body, I don't think it would actually look like that. So, I know I'm not like hiding.' (P1 - Initial Interview, Line 199)

In terms of societal impact, participants note a few uncertainties about the digital world. The findings indicate that a lack of knowledge impacts the consumer attitudes towards digital worlds being safe spaces. As P14 suggests, the lack of knowledge makes it a difficult step 'to dive into this world that I don't know so much about' (Initial Interview, Line 169). There is also uncertainty and concern that the digital world will have an ethical impact on society offline, specifically referencing the Proteus effect on a larger scale. ***Digital Ethics Impact on Society***, which is presented within code map 27, encompasses various ethical concerns raised by participants, which include the following sub-codes as depicted in the code map

below: *Impact on* **Younger Generations, AI Replacing Models, Online Harassment, Data Ownership, and User Autonomy in Representation.**



Code Map 27

Many of the codes are familiar to Study One, particularly in reference to the autonomy of digital self representation. Furthermore, the survey results support the finding that ethics towards representation is the most principal factor for the industry to consider regarding the creation and use of DF and identities, scoring 47.8%.

Within the context of this Study Two, the code **User autonomy for representation** suggests that DF allows for more control over digital self creation, which has positive and negative implications. P12 notes the positives for gender fluidity within DF experiences, similar to Catty Tay's non-binary avatar discussed within the literature review (McDowell, 2021) and supporting Haraway's vision for posthumanism whereby one can reject the boundaries of gender. On the other hand, as P8 suggests, the autonomy over representation within digital worlds means that users can create and re-embody idealised

versions of themselves that may not be honest reflections of themselves:

> *'I think it's just up to the user. I would probably like to have some representation that's similar to who I am, but, also, everyone has things about themselves they don't like and you can just get rid of that.'* (P8 – Initial Interview, Line 113)

From a philosophical perspective, with reference to Kant's theory of the sublime (1790), there is moral responsibility presented here where one can conceive digital environments as moral spaces to challenge our conventional understanding.

P16 expressed concern for younger generations, speaking of harassment online and expressing a need for transparency. Despite participants' desire for relatable realism within DF experiences, they believe younger minds might not distinguish the difference between what is digital and what is physical. As discussed previously, there is a belief that digital equals 'unreal' and physical equals 'real', and this distinction needs to be made clear. P16 refers to VR case studies that incite trauma, and they are worried that younger minds have more trouble distinguishing virtual worlds from reality and could be lured into a false sense of security within their physical lives:

> *'I can't remember the article, but we read it in class. It was about young people, like children, and sometimes things happen when they are wearing a VR headset. Their brains are still under development, so if they're in something like a VR horror game... The adrenaline rushing and stuff, sometimes when that happens digitally, as their brains are so young, it's harder for them to know the difference... It's easier for them to not get frightened or not get scared or not get trauma because, you know, they're just walking around a [virtual] city, and it's impossible to walk in the road, and it's impossible to jump off a building because, you know, you can't do that physically. Is it a world that's safer for people?'* (P16 – Initial Interview, Line 134)

Through further secondary research, the article that P16 is referring to was based upon Segovia and Bailenson's (2008) study: *Virtually True: Children's Acquisition of False Memories in Virtual Reality*. The study uses Immersive Virtual Environment Technology (IVET) with 55 preschool and elementary children to examine how memory was affected by viewing dynamic simulations of avatars performing novel actions. Using a variety of memory prompts, their results showed that preschool children were equally likely to develop false memories, and, for elementary children, IVET caused significantly more false memories. There are elements within the findings of this study that could suggest indirect support of Segovia and Bailenson's research and affirm P16's concern. For P3 and P10, memories of their DF experience did suggest changes in mindset and consumer behaviour. Also, when observing the comments on social media, there was a lack of awareness or

acknowledgement that followers of the participants knew the DF items were not physical items. Findings are small and limited, and therefore, we cannot take these findings too literally, but they are important to consider and to investigate further as physical and digital worlds become blurred.

In conclusion, when creating inclusive and safe spaces for representation and consumerism, responsible innovation is key for achieving SDG 10. As Rinaldi (2019) argued, responsible innovation is considered as innovation that can build a better balance between economic and non-economic activities. Stilgoe et al. (2013) argue it is about understanding the present to foster a better future. Therefore, secondary and primary research from this study enforces the importance of ethical issues for consumer safety and well-being, such as transparency, autonomy, inclusivity and safe boundaries for younger generations.

5.9.2b How can consumers feel empowered financially within digital worlds?

Whilst participants do not express a feeling of financial empowerment directly, they do express a feeling of empowerment via fashion expression, which has been discussed throughout the chapter. Through try-on experiences, highlighted as a key purpose of DF, it can empower consumers to make more informed decisions about their purchases.

On first impressions, some participants express how surprised they were about the affordability of DRESSX items, offering a more accessible way to express and try on items from the runway (P1, P3, P8, P10, P11, P14, P17). Within the survey, 37% (60 out of 159 respondents) agreed that the benefits of DF were access to more affordable designer fashion. However, the participants who completed the full DRESSX experience and acquired a DF image through the research indicated they would not spend their own money on purchasing another digital item unless there was a unique circumstance. They were also not empowered to purchase DF over physical items, and participants, such as P13, suggested the possession of DF may influence further conspicuous consumption and inter-dividuality whereby consumerism remains caught in a net of imitations, comparisons and rivalries (Von Busch, 2020). P13 suggested that other consumers may feel disempowered if they think that the DF item is a physical item and increase financial disparity.

Furthermore, participants explained that their friends were surprised by someone spending so much money on something that was not physical, and this impacted their own thoughts and feelings. Rather than feeling empowered, this highlighted their current financial situation and revealed a sense of disempowerment. For example, P4 stated:

> *'My friends... they question me, like, pardon, $35? But they're not real glasses that*

> *you can wear in daily life? Then they said, why don't you just buy a physical one? I feel like after they questioned me, I don't know how to respond because, for me, $35 is actually quite expensive... Then I think of my economic conditions.'* (P4 - Part 1 - Initial Interview, Line 46)

The current cost-of-living crisis within the UK was noted by P12 and implied by other participants (P9, P10). It does not currently make sense for the fashion consumer to part with their money on items that have no value within their physical lives. Furthermore, it cannot compete with the accessibility and affordability of second-hand fashion, which meets the desires of physicality, price and sustainability. On the other hand, participants do see value for creators of DF, which could result in financial empowerment, such as influencers and designers who can utilise DF as a tool for creation as an example of 'prosumers' (Toffler, 1980; Rinaldi, 2019). Prosumers are at an advantage in that, through disintermediation (Crewe, 2013), their technical skillsets offer autonomy and allow them to become creative authors (Holt, 2002: 87).

5.10 CROSS-STUDY CODE COMPARISON: STUDY ONE AND STUDY TWO

Using the triangulation method for thematic analysis, the categories, codes and sub-codes were condensed based on significance and then collated from the findings of Study One (Digital Bodies) and Study Two (Digital Dressing). The comparative table 5.5 below aids the analysis by highlighting patterns and relationships between the identified themes from both studies, thereby strengthening the generalisability of the findings. Themes were mapped into new overarching key categories and further organised into three areas of requirements, implications and variables which begin to construct and map the digital self ecosystem. The requirements refer to the demands of the user, the implications refer to wider societal impacts, and the variables refer to codes/themes that are subject to change or variation and have direct influence on how users of DF create and dress their digital selves.

Despite the difference in participants across the two studies, including attributes and perspectives, there are corresponding similarities across the four categories discussed throughout this chapter, showing that users share similar attitudes, expectations and concerns for DF (these have been highlighted in bold). Some codes have been grouped, and their names have been summarised or slightly amended to improve suitability. The table will be further utilised within chapter six to support the conclusion of findings, offering insights and practical applications for the industry.

Table 5.5: Mapping of Findings and Comparative Analysis: Study One and Study Two

Bold *text refers to corresponding codes across Studies One and Two.*

Key Categories	Requirements	Implications	Variables
Digital Self (Digital Body and Dressing) **Purpose and Value**	**Authentic Representation** **Avatar Empowerment** **Upskilling/Education** Bolder Experimentation Pre-Purchase Consideration	**Default Self** **Counterproductive to Sustainability (over augmentation)** **Digital Well-Being** **Financial Empower/ Disempowerment** Sustainability as plus, not motivator	**User perspective** **Context** **External Circumstances** Price of Items
Digital World Preference and Impact	**Relatable Realism** **User Autonomy** **Transparency** **Importance of Physical** Blended worlds	**Digital Well-Being** **Data Ethics & Ownership**	**Context** **Quality and Realism** **Regulation**
Digital Well-Being and Body Dissonance	**User Autonomy** **Avatar Empowerment** **Authentic Representation**	**Body Image** **Idealised versions/Masks** **Financial Empower/Disempowerment** **Data Ethics** Discomfort Looking Glass Theory Inadequacy v Inspiration	**Regulation** **Options for Representation** **Context** **User Perspective** User Confidence
DF Sustainability Paradox	**Inclusivity** **Transparency** Pre-Purchase Consideration (augmentation)	**Counterproductive to Sustainability (over augmentation)** **Digital Pollution** **Data Ethics** **Digital Well-Being**	**Context** **Accessibility and Inclusive options** **Experience/Knowledge** **External Circumstances** User Confidence Quality and Realism
Limitations and Blockers	**Everyday Fashion** **User Utility** **Upskilling/Education** **Importance of Physical** Value for Money Difficult Requirements	Technical Democracy	**Experience/Knowledge** **Context** **External Circumstances** Effort User Confidence Think Digital



Chapter Six

SUMMARY AND APPLICATIONS

6.1 'FASHIONING THE DIGITAL SELF' ECOSYSTEM AND FRAMEWORK

The below Figure 6.1 is adapted from the theoretical framework, created within the literature review and adopted by the methodology. It combines the key themes from both Study One and preliminary Study Two, with emphasis on the key findings from Study Two, and is organised by user requirements, implications and variables within the DF ecosystem. Its purpose is to encompass and highlight the intersection of digital bodies and DF, emphasising the interdependence and relationship between the finding's key themes and representing how different elements interact to shape the digital self and its broader impacts. The diagram is particularly applicable for both the fashion and technology sectors to understand the relationships between user requirements and potential wider implications. The following sections will explore key elements of this framework, which include four main user requirements (inputs), three implications (outputs) which cover environmental, economic, social and cultural sustainability, and twelve variables that are user dependent.

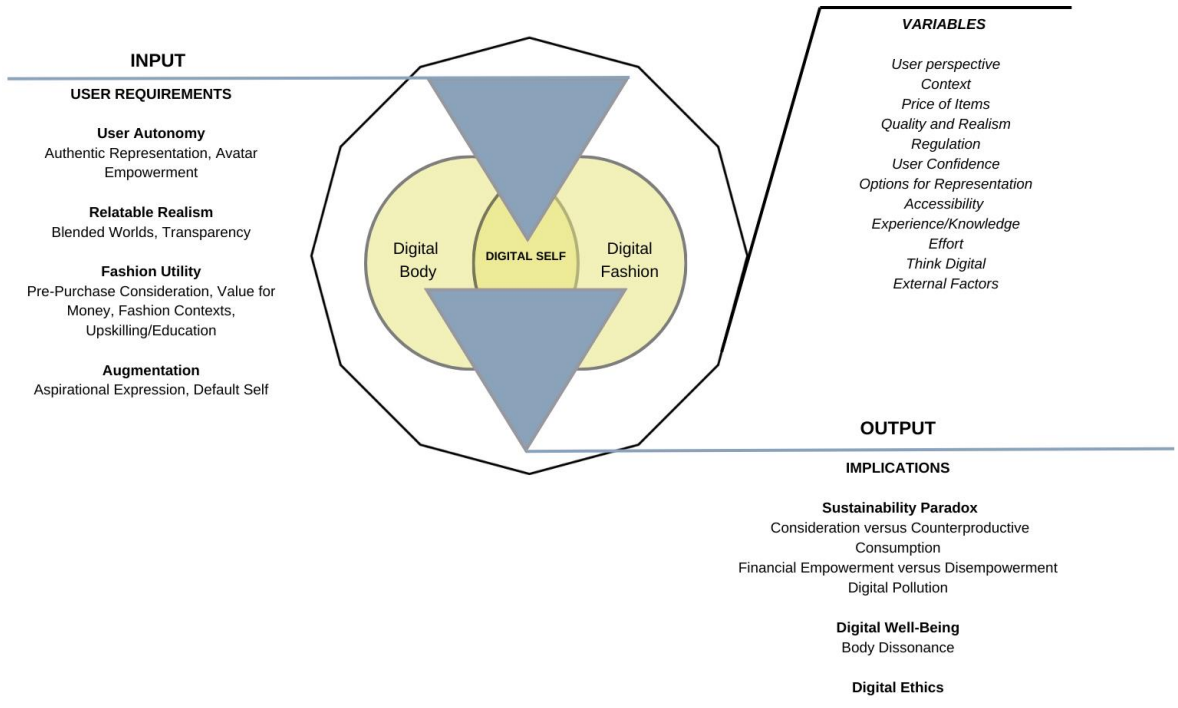


Figure 6.1: 'Fashioning the Digital Self' Ecosystem & Framework for Industry

6.1.1 INPUT – User Requirements

At the heart of the framework, the digital self is constructed of two entities as identified within the context and literature review: digital fashion as an end product and digital bodies as the interface. Entwistle (2015) argues that dress should be studied as a 'situated bodily practice' that combines both dress and body, and this framework adopts his approach to the fashioning of the digital self. The four main 'User Requirements' identified by the study participants represent the inputs necessary for the creation of DF and digital body experiences.

Inputs include user autonomy, which encompasses autonomy, authenticity, and empowerment (derived from the key themes of authentic representation and avatar empowerment). Both studies show that users seek autonomy to present authentic representations of self, either from a user perspective or a requirement for industry responsibility. This supports Yee's (2014) hopeful promise of freedom and empowerment within digital and virtual worlds. Whilst anchored in authenticity, there are levels of idealism and aspiration present, achieved through bolder experimentation or reaching full style potential (for example, how they would dress if there were no restrictions). Belk's (2013) notion of re-embodiment through the extended digital self, supported by Kozinets and Kedzior (2009), is an augmentative experience for personal identity creation, especially in the realm of fashion. Findings show three ways in which consumers see the creation of the digital as an extension of their identity: Replication (code: It is Me), Fragmentation (code: Multiple Representations) and Reflection (code: Looking Glass Theory). As discussed, authenticity is the main driving force for fashion users, and therefore, the most common approach to fashioning the digital self is to replicate or visually create an authentic yet aspirational representation of self. However, there is an awareness (and some evidence) by participants that the digital self could offer an extreme multiphrenic (Kozinets and Kedzior, 2009) and fragmented (El Kamel, 2008; Hillis, 1999; Belk, 2013) version of oneself or create a version that reflects how we think we appear to others (Cooley, 1902). However, regardless of the visual representation, the connection between digital self-expression through style and offline identity are inherently connected, based upon inherent, innate, and individualistic characteristics or beliefs. This supports Von Busch's (2020: 81) concept of inter-dividuality, which suggests, 'We exist as relational beings, caught in a net of imitations, comparisons, and rivalries.'

'Relatable Realism', as analysed within the findings, refers to the user's desire for familiarity

throughout the DF experience and digital self creation, which adds to the concept of authenticity as well as the ethical issue of transparency. Participants across both studies generally referred to the physical aesthetic as ‘real’, whilst the digital aesthetic was ‘unreal’, with preference towards blending and anchoring unreal elements within the real. Participants express the importance of blending physical and digital worlds and objects through the process of disintermediation (Crewe, 2013), anchoring DF experiences upon real-world human values that contribute to the extended self (Belk, 2013) and tethering itself to aspects of identity (Hillis, 1999). The desire for familiarity and realism increased relatability, attachment and connection to DF and for users to project themselves within DF experiences (a key factor for spatial presence (Madigan, 2016)). Furthermore, it highlights the lack of fashion users' ability to think beyond these real-world values; The level to which users can ‘think digitally’ determines their ability to think beyond physicality and real-world values and therefore becomes a variable within the DF ecosystem and the effective adoption of DF.

However, in terms of aesthetics, a level of the uncanny valley is recommended to distil implications created by unauthentic images, creator anonymity and unrealistic body image. A blend of real and digital elements creates an uncanny valley aesthetic (Mori, 1970), which applies to the notion of relatable realism and highlights the need for transparency between creator, content and user. In other words, it is essential that the user is aware that the content is not physically real.

Of course, ‘Fashion Utility’ is a significant user requirement which includes pre-purchase consideration, value for money, fashion context and upskilling/education. Without utility, there is no purpose for the fashion user. A key difference between fashion-centric users and gamers is that gamers see DF, or virtual skins, as consequential to gameplay. As King and Krywinska (2006) and Tronstad (2008) note, gamers are fully aware of the boundaries of a video game. Fashion users demonstrate various utility needs across different fashion-centric contexts (fashion contexts), which are not applicable to video game environments. Due to a lack of current adoption and awareness of the benefits and use cases for DF from a fashion user perspective, findings suggest that users need more education on DF uses and technical upskilling (upskilling/education). This distinction underscores the significance and practicality of DF as a valuable tool (Chan et al., 2014) and one that must be accessible and easy to learn for fashion users. Such findings also relate to the theory of planned behaviour (Ajzen, 1991), which suggests intentions, attitudes, norms, and perceived control govern human behaviour. For DF to be adopted, findings suggest that beyond awareness, high perceived behavioural control is necessary for consumers. Currently, participants highlight many barriers due to difficult requirements, particularly within the DRESSX experience and a lack of control over the outcome, which have an impact on intentions to

adopt digital fashion within their typical consumer behaviour.

However, the most perceived and significant utility for DF and digital bodies is the ability to offer pre-purchase consideration within the purchase journey, specifically through VTO. This supports earlier literature that has focused on DF as a VTO tool (Cho and Schwarz, 2012; Shin and Baytar, 2014; Yu and Damhorst, 2015; Plotkina and Saruel, 2019; Yim and Park, 2019; Noris et al., 2020), which becomes a positive attribute for sustainability, driving mindful consumption and reducing returns (Pantano et al., 2017; Periyasamy and Periyasami, 2023; Blazquez, 2022). The importance of sustainability varies across the participants within their consumer decisions. Overall, findings suggest that sustainability would not be the driving force for DF, but instead, it is a bonus by aiding consumer decisions and highlighting sustainability. However, there is some doubt as to whether DF really solves the psychological root of the overconsumption issue. It also suggests that whilst there is potential for DF consumption to close the attitude-behaviour gap residing within Gen Z sustainable consumer behaviour, the perceived behavioural control and current barriers currently inhibit such behaviour. Therefore, brands adapting such consumer experiences should consider seamless experiences alongside the intentions, attitudes and subjective norms of their consumer base.

Furthermore, DF experiences have to offer value for money if fashion consumers are to spend money on their digital selves. Findings show that participants enjoy spending time on their digital self, yet they will not currently spend their own money, supporting Lehdonvirta's (2009) concept of 'time aristocracy' rather than 'money aristocracy' (Belk 2013: 480). However, fashion users are less likely to see the utility of DF and the importance of investing in their digital self unless utility is required from a professional perspective, such as being an influencer on social media (again linking to the 'user perspective' variable). Therefore, the fashion-tech industry must provide drivers or services which motivate fashion consumers to invest their time beyond video games, which may lead to purchases. However, unlike traditional shopping via physical or online retail, the initial reaction or driving motivation for fashion users is not to consume virtual items but to use them as a medium for expression and experience, which relates to Rinaldi's (2019) suggestion to refer to consumers as users within the context of digital experiences.

This finding also leads on to the next requirement for fashion users, which is augmentation. For example, pre-purchase consideration is a form of DF augmentation since it enhances the physical fashion experience through VTO. However, Chan et al. (2014) argued more attention is needed to DF as an end product rather than its utilitarian value as a tool, which, as noted, has already acquired academic attention. Whilst findings show the limited success of DF as an end product to remove or displace physical fashion, it shows the potential for

DF to enhance the fashion experience as a form of hedonic dreaming (Jackson, 2005; Alba and Williams, 2012) by pushing the boundaries and achieving aspirational fashion expression. The dualism between aspirational expression versus creating the default self is reminiscent of Simmel's (1957) notion of psychological dualism, whereby ultimately, humans compete to differentiate themselves from one another yet succeed only in becoming more alike to each other. However, within this instance, they become more like themselves rather than imitating others. This was evident within the creation of the body in Zepeto, as well as their fashion choices within both Zepeto and DRESSX experiences, where they sought to replicate or create an enhanced version of self.

If we apply contemporary theories, Schor's (1991) concept of competitive consumption implies that consumers are not influenced by class distinction within their consumer choices but by economically diverse social groups. Interestingly, within the context of this research, findings suggest that, in many ways, their digital selves are in competition with their offline versions through comparison and rivalries. Their digital selves offer the capability for hedonic dreaming, access to fashion products they could not afford IRL, or bodies they aspire to have IRL. This new level of comparison goes beyond social group reference to personal recursion, creating a new kind of auto-imitation.

Interestingly, the term 'Default' differs from what we know about gamers and the negative social connotations associated with being a default avatar (Hernandez, 2019) or a 'newbie' (Boellstorff; in Belk, 2013). As discussed, the findings suggest that fashion consumers will strive for authentic representation, whilst gamers are often motivated to dress for gameplay and status within games. The term 'default' changes meaning for the fashion user, referring to something more positive based on realism and authenticity of self, and, therefore, the value of DF changes in terms of user and context. For users of digital self technologies (DF and digital bodies), the digital version loses meaning if not an authentic representation of self and a form of personal recursion, even when they are aware of the benefits of DF as a tool for unbridled expression. Returning full circle back to the theme of user autonomy, the level of autonomy offers empowerment to create authentic, aspirational or default versions of self.

By achieving user requirements, dictated by variables, there are significant sustainability implications across environmental, social, cultural, and economic factors, which will be discussed within the next section.

6.1.2 OUTPUT – Implications

Implications within the framework refer to factors that may arise as an output from the creation of the digital self through DF and digital body experiences. These implications encompass environmental, social, cultural and economic impacts, framed by key concepts such as the 'Sustainability Paradox', 'Digital Well-Being' and 'Digital Ethics'. The latter will be discussed in-depth within section 6.2.

In terms of sustainability, there is a sustainability paradox with findings showing the potential for sustainability alongside participants expressing concerns that were at odds with sustainable development. Findings support claims made by those, such as Periyasamy and Periyasami (2023) and Blazquez (2024), who argue the benefits of the metaverse drive efficiency and productivity and can be effective channels for sustainability communication. However, Periyasamy and Periyasami (2023) also acknowledge that its contribution to environmental sustainability is uncertain. Participants across both studies show a level of criticality regarding DF and environmental sustainability, but in some cases, will take sustainable claims at face value, which is concerning. If we focus on the metaverse, Blazquez argues that environmental fidelity as a metaverse dimension can drive sustainability communication, but a deeper understanding of consumer response to sustainability messages is needed, supporting Magwegwe and Shaik (2024). To mitigate user scepticism, brands must verify all sustainability claims regarding DF within their messaging to avoid any form of greenwashing. As Davis et al. (2023) noted, little is known about the energy requirements for the creation and use of DF and digital bodies, and, therefore, DF designers should avoid quantifying energy consumption unless they have access to qualified data scientists with relevant skillsets. Instead, brands should utilise the DF ecosystem as a channel for storytelling which provokes and inspires conversation around responsible production and consumption.

On the other hand, findings strongly suggest that DF is most likely to be counterproductive to consumption, leading to double the consumption of the same or comparable products: Consumers seek the digital counterpart to the physical item, or by using DF, it reinforces their desire to purchase the physical. For fashion consumers, physical fashion will always have importance, not only as a tactile object but also one that is emotional and fosters connection within the real world (particularly after the pandemic in 2020). Therefore, while the physical aspect of fashion cannot be replaced or eliminated by DF, DF experiences may subtly influence offline behaviour by highlighting certain aspects of one's identity and physical realities.

This potential for changing offline consumer behaviour is reminiscent of Yee and Bailenson's (2007) Proteus effect whereby behaviour within virtual worlds can cross over into the physical. However, it is important to note that the scope of this research did not

always lead to physical purchases influenced by DF and was emotively expressed as a potential consequence of the experiences. Where the Proteus effect was most prevalent was when consumers felt that their offline style and physical body were lacking in comparison to their digital representations. Dependent on whether users felt their offline style was inadequate in comparison to their online self or whether they felt inspired, this would in turn have an impact on how they viewed their offline wardrobes. Both feelings of inadequacy and inspiration may lead to increasing consumption so that offline wardrobes match those of the users' avatars. Within this instance, a reframing of Veblen's (1899) concept of conspicuous consumption is much overdue. Hammond et al. (2019) define conspicuous consumption as the social comparison between themselves and others which keeps consumers within a habitual treadmill of consumption. However, within this context, users are not comparing or competing with themselves to others but to other versions of self, again referring to auto-imitation. As Yee and Bailenson argue, the act of changing self-representations is most effective in changing behaviours. Therefore, whilst users of DF seek augmentative experiences as a requirement, the ability to complement and enhance the physical can lead to 'over-augmentation': An increased consumption and a feeling of style inadequacy with physical settings, creating a paradox related to SDG 12, whereby mindful consumption clashes with counterproductive overconsumption. This finding attests to Crewe's (2017) concern for 3DVD technologies negatively impacting the shift towards more sustainable consumer cultures by reinforcing overconsumption habits.

Further referring to SDG 12, there is not only a risk of increasing consumption but also increasing energy consumption and digital pollution, as both physical and DF require resources to create and maintain. It can also lead to financial inequality and disempowerment (referring to SDG 10 & 8) and can escalate social injustice. On one hand, for fashion models within Study One, investing in the digital self is related to social and cultural benefits, as they suggest that creating digital bodies for DF experiences could offer them the opportunity to improve well-being by 'levelling up' their education, increasing leisure and family time, and gaining financial empowerment. However, within Study Two, there was a discrepancy between fashion consumers' attitudes towards the cost of DF items; Some participants noted that the DF highlighted their own financial circumstances and, again, expressed a feeling of inadequacy or financial disempowerment. Due to the cost-of-living crisis currently in the UK and many participants being students lacking disposable income, participants within Study Two did not see the reason or ability to purchase DF items they physically could not wear. Once again, user perspective and context must be considered as driving variables, as well as external factors such as the users' financial circumstances, which can impact the potential for driving digital sustainability (Blazquez, 2022; 2024).

Encompassed within sustainable development and not exclusive to the theme of sustainability paradox is the attention to digital well-being. In reference to Burr et al. (2020), digital well-being refers to the impact of digital technologies on human life. Within the context of this study, attention and concern for well-being were highlighted regarding body image, or as Chan et al. (2023) refer to it, self-image satisfaction. There is a clear dissonance between the physical reality of users' bodies, their individual attitudes and beliefs towards digital representation, their awareness of how others perceive them and the actuality of their digital versions. Whilst most participants across both studies demand authenticity and transparency, when it comes to digital versions, there are sometimes subtle idealised or aspirational elements added within the creation of the digital self, even when they try to replicate by default.

Comparing Zepeto and DRESSX as DF experiences, participants within Study Two expressed a higher level of autonomy and empowerment when creating their avatars within Zepeto due to the sense of control over body creation, increasing their confidence to experiment without fear of judgement. However, there was a consensus that DRESSX created more authentic versions due to the requirement of a 2D photograph of the user, which was more fitting to a traditional, physical retail experience. However, a significant detail highlighted within the DRESSX experience was the connection between a user's self-confidence and the adoption of DF. The drop in participation of DRESSX was due to difficult requirements, including a lack of user confidence and self-criticality. Some participants felt discomfort in sharing photographs of themselves in tight clothing, either sharing photos that they already had and liked or even leaving the study. P7, for example, considered a digital form of dressing a safe space for experimentation and saw the positives to 'just be me and not care what anyone thinks', yet they could not get past this barrier of wearing tight-fitting clothes required for the DF process. DF experiences, such as DRESSX, therefore, need to tread carefully and avoid increasing user self-criticality, which can have an impact on mental health and increase body dissonance across digital/physical worlds.

Figure 6.2 below summarises key factors which link offline style online and vice versa and its impact on consumer behaviour.

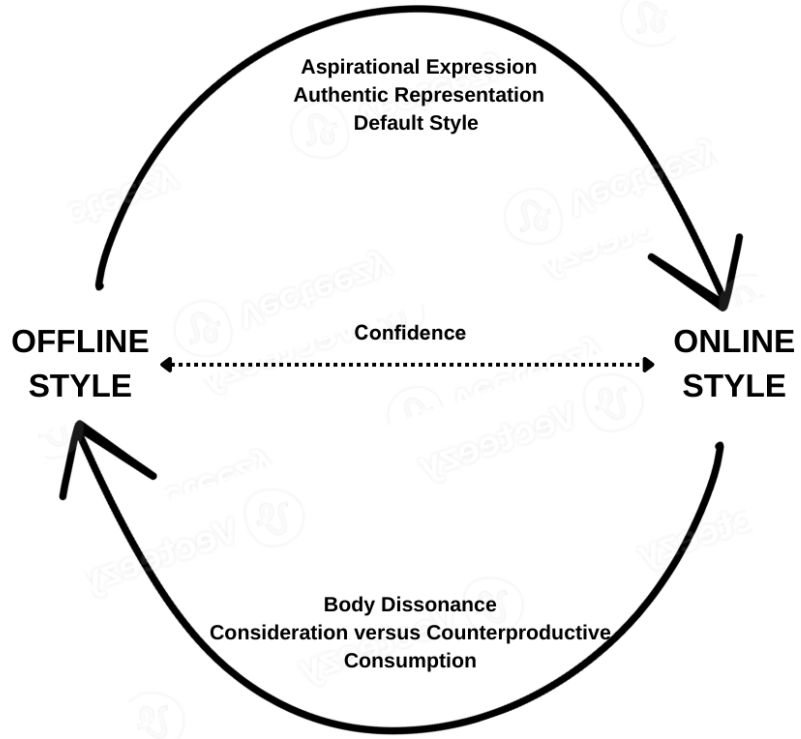


Figure 6.2: Online/Offline Reciprocal Effects (Proteus Effect)

The connection between offline and online is much more obvious through avatar creation and DRESSX images, which has led to key themes discussed throughout this chapter: aspirational expression, authentic representation and default style. Reverse effects are more difficult to determine given that the effects are less obvious with connections being revealed through participant feelings, some of which are subconscious and require a higher level of self-awareness and confidence. Overall, findings suggest that self-representation, whilst not always direct, has the potential to change behaviour. However, there are risks to a confidence backlash. For example, there was one acute case of the Proteus effect within P3 when their DF experience with DRESSX had a negative impact on their body image, which, in turn, affected their decision-making the next time they went shopping within the physical world. Similar to P7, P3 also felt critical of their body throughout the user experience of DRESSX, from sending their photograph to receiving their DF image. Despite effects made by the P3 to overcome these insecurities throughout the DRESSX experience, their body and their self-image beliefs remained present as part of their identity.

The risk of body dissonance was also addressed within Study One by model and industry

representatives who are aware of the impact of body image on consumers. Findings argue that the use of digital bodies not only affects the user but can have implications for observing users/consumers. Therefore, users and creators of DF experiences must be careful not to present unrealistic and unattainable images of bodies. For industry, they note it is an ethical responsibility to create authentic and transparent images that do not affect society negatively, such as increasing body dissonance amongst consumers.

6.1.3 EXTERNAL – Variables

In the context of the framework shown in the image, there are twelve variables that are factors or conditions that can influence the relationship between the input (user requirements) and the output (implications). These variables influence how well the user requirements (autonomy, relatable realism, utility, augmentation) are met and affect the implications (sustainability, well-being, digital ethics) of creating and dressing the digital self, providing an actionable starting point for industry. They reflect the dynamic aspects of how users engage with DF and their representations, impacting both the user experience and the broader outcomes. For industry adopting DF experiences and products, it is recommended they understand these variables in relation to their user before establishing key inputs. A summary of the variables is presented in Table 6.1 below:

Table 6.1: Variable Definitions

Variable	Definition
User perspective	The individual attitudes, beliefs and feelings of DF and their digital body. Also, user perspective can be dictated by their stakeholder role within the DF ecosystem (i.e., fashion model)
Context	The specific circumstances or environment in which the digital experience is taking place.
Price of items	The cost of DF items, which can affect accessibility and user decision-making.

Quality and realism	The level of authenticity, familiarity and detail in the digital representation that impacts user engagement.
Regulation	The legal or organisational rules governing the use of digital bodies and DF.
User confidence	How comfortable and empowered users feel towards their digital representations and experiences and how this relates to their physical selves.
Options for representation	The availability of inclusive choices for how users represent themselves digitally.
Accessibility	How easily users can access and participate in DF and body experiences.
Experience/knowledge	The level of understanding or familiarity users have with digital technologies and fashion.
Effort (Perceived Behavioural Control)	The amount of effort required from users to engage with the digital systems.
Think digital	The mindset or shift required for users to fully embrace digital technologies in their fashion experience.
External (global) factors	Broader social, economic, or environmental influences that may impact the digital experience.

6.2 DIGITAL ETHICS, AUTONOMY AND POLICY

Throughout both studies, digital ethics are paramount and contribute to furthering the understanding of the societal implications of DF as highlighted by Noris et al. (2020) and

Neri (2019) and are a necessary contribution to sustainable development goals 9 and 10. How to approach digital ethics in the context of the digital self is one of moral and legal perspectives, and the importance of governance is highlighted due to the implications of DF and digital body creation on a societal level. The ethical debate surrounding data is also a question of empowerment, specifically regarding the question of control and ownership of the digital body, which has been noted previously by Ball (in Heath, 2022) and Davis et al. (2023).

Within a digital context, Yalcincaya (2019) and Baek et al. (2022) argue a new entity of 'being digital' presents exciting opportunities for reinvention, autonomy and unbound expression, particularly within fashion. Turkle (2015), Crewe (2013), Nardi (in Yee, 2014) and Holt (2002) support the notion that re-embodiment within digital worlds can increase autonomy. In many respects, the findings support these views under the right circumstances. The ethical impact on society implicated by the creation of the digital self, specifically through digital body creation, requires direct attention, as it may currently be at odds with the SDG targets. Supporting Zallio and Clarkson's (2023) concept of metavethics, the attention to ethics in relation to the digital self and DF is a recurring theme and has critical importance on data ownership, financial empowerment, the risks of body dissonance, and, ultimately, highlights the need for responsible approaches to innovation.

Both studies show the importance of user autonomy when creating digital versions of self but highlight the need for inclusive and accessible options that require an ethics-first approach, considering digital well-being and promoting human rights within digital spaces. A unanimous moral sentiment among participants in both studies that their digital selves must align with their physical selves, whether for religious, moral, cultural, or any idiosyncratic matters. Autonomy of self was key to creating and controlling authentic representations of self. Participants wish for autonomy across digital/physical boundaries, allowing self-governance and the right to act upon one's own interests regarding their digital counterpart, driven by morality and self-representation. However, critically applying paradoxical findings, this seemingly utopian vision lacks guidance for individuals who wish to digitise themselves for DF experiences. Relying on a bottom-up, user-centric approach could result in exploitation and a deeper impact on well-being (including body dissonance and a backlash to user confidence) contributed to by factors including lack of education and a lack of transparency. The individual would need a keen sense of self and understand the implications of digitising themselves. Due to the age of models and younger consumers born within a technological world and users of these digital tools, identity is still a dynamic concept, which may present further challenges.

Study One also revealed discrepancies between the industry representatives and users of the technologies, stemming from a moral clash between ethical considerations and lack of intellectual property laws. There is also a discrepancy and a lack of understanding about what rules apply to physical humans versus digital humans, underpinned by a general lack of understanding across fashion and technology sectors, as well as government. A suggestion by participants within Study One's industry workshop was the concept of 'digital policing' to enforce human rights and protection of personal data across digital environments and enable compliance measures for responsible innovation towards sustainable development. However, this concept is speculative and subjective and may foster opposition within those who seek a decentralised metaverse. Furthermore, enforcing such measures may restrict innovation and result in industry backlash, especially from creators of digital humans and avatars.

Overall, consent is the key indicator to establish levels of autonomy. In consideration of emerging technologies, specifically AI, consent should not only be offered to the creator of the content but also to those that are represented within the content. As discussed within the literature review, Kant's concept of autonomy has been argued as the value most influential in the evolution of contemporary medical law (Beauchamp and Childress, 2019), contributing to the presupposition of the informed consent process (Campbell, 2017) and can be applied as a useful tool within this context. Fashion models and any users of digital self technologies must give their consent throughout the contractual process that requires their body to be digitised.

In light of this, an example of a model-client terms and conditions and statement of 'Model Rights' is put forth as practical outcomes of this research, further justified by the need for consent and regulation (a variable noted within the framework and Figure 6.1), which is currently in flux and not sufficient for digital self practices. Working with the British Fashion Model Agents' Association (BFMA), an affiliate of the British Fashion Council (BFC), and legal expertise, the research findings contribute to the update of traditional model-client contracts through the inclusion of terms and conditions (updated in February 2023). Said terms and considerations found within Appendix 36 consider model protection and define boundaries, such as the representation of models' images, upon clients' request for digitisation, which includes avatar creation, 3D scanning and AI, and are currently used by 15 model agencies within the UK and approved by the BFMA's legal representation.

Furthermore, the fundamental principle of informed consent is that the individual is fully informed. Therefore, as an educational and practical resource for fashion models, a supplementary document alongside the contract was created to inform them of their rights, titled 'My Digital Human Model: A Code of Conduct for Agencies and Clients – A Statement

of Model's Rights'. Relating to the key themes emerging from the research findings, the statement includes 10 models' rights and commitments from the models' first-person perspective:

1. **Transparency**

I have the right to be aware, at all stages, of the terms, creation and use of my digital version.

2. **Representation**

My digital version is an extension of my identity and profession. Therefore, I wish to be digitally represented in a way with which I feel morally, ethically and artistically aligned.

3. **Security**

I trust that all parties, including agency and client, are responsible and ensure my personal data is stored securely and in accordance with any applicable laws and regulations.

4. **Exploitation**

I will not, under any circumstances, allow my personal data nor a representation of my physical self to be exploited in a digital form, except as approved in writing by me or my agency with my approval.

5. **Permitted Use/Usage**

My digital version can only be used within the terms of the booking confirmation agreed to by my agency. I trust that my agency is acting on my behalf to ensure these conditions are met.

6. **Data Protection**

Where my personal data is captured and used, all parties will comply with data protection and privacy laws and regulations in all territories, including but not limited to GDPR and other relevant data protection laws.

7. **Misuse**

Any digital version of me that is misused in any way by any party will be deemed a breach of contract, and I can demand that the usage cease and the content be taken down. My digital version(s) cannot exist beyond me unless stated otherwise by me or my next of kin.

8. **Value**

I understand that my digital version is an imitation of my physical self. However, as it is a product of me, the digital version has value and should be valued accordingly by all parties in order to support a fair, ethical, and sustainable industry.

9. **Ownership**

I appreciate the complexity of owning my digital version. However, if I cannot currently own my digital version within the contract terms, I trust all parties to respect our Agreement and to undertake to transfer copyright and ownership rights in the data to me at the end of the usage term.

10. **Autonomy**

I must always maintain the position to make informed, independent and uncoerced decisions on my own accord or by my parental guardian whom I trust.

The entire document can be found within Appendix 37 and has been approved by all agencies within the BFMA and is an open resource for any model represented by those agencies. The purpose of this resource aims to empower models to act as consensual stakeholders within the process of digitisation but also to enforce models' agencies and clients to act on behalf of the models' interests. Whilst focused on a niche area of modelling, this approach to regulation hopes to highlight the need for further consideration across all users who adopt such technologies to create digital humans or use DF experiences, such as VTO. As this research demonstrates, the digital self is an extension of the individual self, and even if expressed in multiple fragmented forms, it remains inseparably connected to the physical human, which serves as its anchor. Therefore, human rights still apply across physical and digital boundaries, and there must be means of protection in place which can be traversed across geographies.

6.3 MAPPING THE DIGITAL SELF TO SUSTAINABLE DEVELOPMENT

One of the key research questions and objectives of this study was to highlight key areas of consideration for academics, industry and/or policymakers by asking what the sustainable and ethical considerations of constructing digital identities within the digital fashion paradigm are. The below Table 6.2 summarises how the key findings discussed within sections 6.1 and 6.2 relate to sustainable development, using the sustainable development goals framework, and suggests actions or requirements for amelioration.

Table 6.2: Mapping the Digital Self within Fashion to Sustainable Development Goals: Key Findings and Strategic Actions

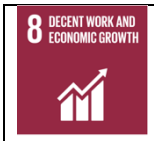
SDG	Findings	Suggested Action/Requirements

	- Sustainability Paradox
	  - Opportunities for pre-consideration of items
	  - Over-consumption of both digital and physical through over-augmentation
	- Opportunity for authentic representation and empowerment if feelings of inadequacy are low.
	- Requirement for relatable realism
	- Concerns of digital pollution
		- Focus on the adoption of DF for VTO and the removal of digital alongside physical products (augmentation).
		- Use DF experiences to drive sustainability education but do not market DF as a sustainable alternative.
		- Fostering fashion-centric communities for DF
		- Consideration of user values and experiences
		- Transparency and environmental consideration of data usage
		- Transparency between DF and physical items and differentiating the monetary and utility value.

	– Opportunity for authentic representation and empowerment – Financial Empowerment or Disempowerment – Upskilling/Education	- Ensure diversity and inclusion within access to technologies, as well as the variety of body types, gender and race, offering safe spaces for representation. - Ensure the price point of DF is comparative to physical fashion, whilst acknowledging the labour involved. - Reduce income inequality across the DF ecosystem, ensuring all stakeholders

		receive appropriate remuneration (including those represented) - Ensure all stakeholders receive the appropriate digital skills and literacy and can critically examine the implications of digital self technologies. - Ensure user autonomy of representation within digital environments.

	– Digital Sustainability
	  ○ Concerns of digital pollution
	– Responsible Innovation requirements
	  ○ Legislation
	  ○ Transparency
	  ○ Digit ethics-first approach
		- Overall, industry innovation and implementing digital self-technologies need to consider long-term strategies that support people and planet, with an ethics-first approach
		- Government must develop existing policy to apply transparency beyond physical fashion to DF, including the data transparency and ownership of data.
		- Guidelines must be developed and adopted by fashion brands used digital humans, with deeper understanding of consumer impacts

	- Financial Empowerment	- Reduce income inequality across the digital fashion ecosystem, ensuring all stakeholders receive appropriate remuneration (including those represented) - Mitigate exploitation of data for profit from third parties - Use DF as a way for consumers to access luxury fashion items, which can expand brand awareness and expand the consumer base. (However, DF items should not be digital twins of physical items but stand alone in their own category to prevent impact on SDG 12). - Develop the digital self to acquire new avenues/opportunities to improve education, well-being, financial stability, and independence.
	- Awareness and mitigation of body dissonance - Promise for authentic representation and empowerment if feelings of inadequacy are low	- Ensure user well-being is central in key decision-making when adopting digital versions of self or offering them to users/consumers. - Diverse representation of body image within synthetic imagery is essential (if they must be used).

		- Autonomy and control of self are essential in the creation of the digital self.

6.4 DIGITAL FASHIONCASTING WORKSHOP – TO PROVOKE AND INSPIRE RESPONSIBLE INNOVATION AND COLLABORATION ACROSS SECTORS

Based upon the scenario-planning workshop method adopted within Study One and including key themes and variables highlighted throughout the findings across Study One and Two, a workshop method was created for fashion and technology stakeholders to approach the creation of DF experiences through the framework of sustainable development. This can be found as an open-source template published on Miro's Miroverse, titled 'Digital Fashioncasting' (McSorley, 2024; Figure 6.3). This workshop allows the industry to develop some of the considerations and actions suggested from Table 6.2 through their own perspectives and context.

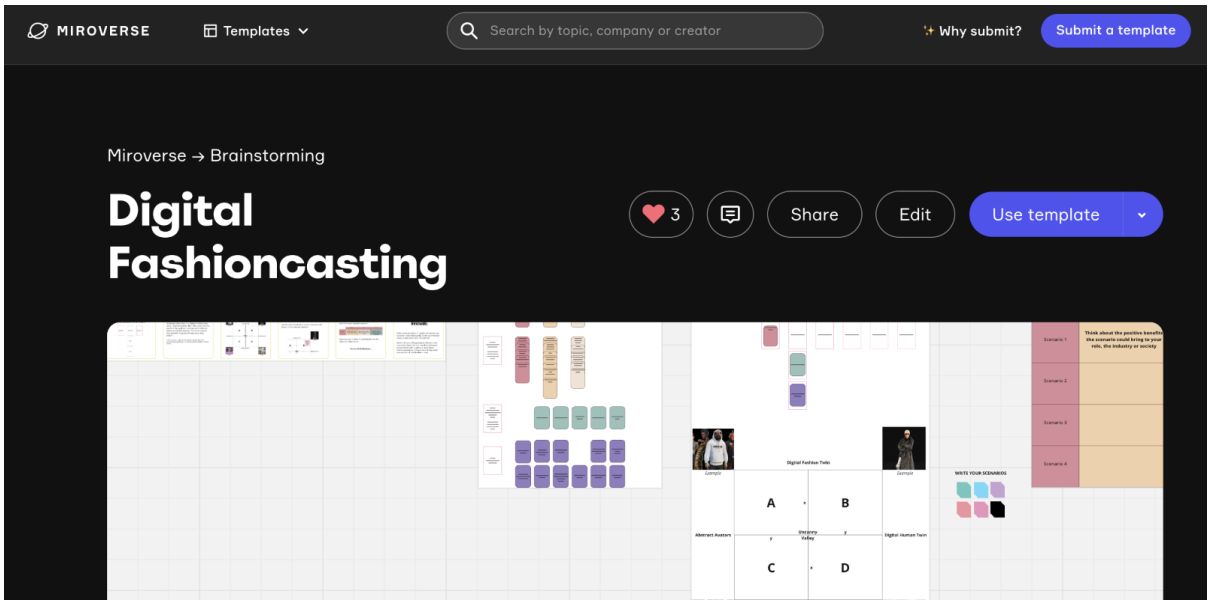


Figure 6.3: Digital Fashioncasting Template, accessed via https://miro.com/miroverse/digital-fashioncasting/

The purpose of this novel workshop was to bring key stakeholders together to encourage empathy across perspectives, address and think through some of the emerging issues

pertinent to DF across industry and consumers, and to empower responsible innovation within the DF field. One of the key variables from Study Two findings was ‘Think Digital’, which referred to the participants’ difficulty in shedding their habitual thoughts and beliefs shaped by societal and cultural factors. Furthermore, there was a discrepancy between user perspectives dependent on personal identity (attitudes, beliefs, self-concept, confidence, race, gender, professional roles) and wider external factors (financial, physical environment, accessibility to digital worlds, and the cultural normalisation of DF). Through a deeper understanding of shared perspectives with a specific focus on the DF context, the workshop requires participants or ‘players’ to speculate plausible scenarios which are or can unfold and could be employed within the fashion industry.

6.4.1 Audience

As stated within the workshop’s introduction on Miroverse, the workshop is useful for a diverse audience:

- Industry leaders, innovators and students who wish to explore and provoke the emerging field of DF
- Brands or technology companies who may wish to create or collaborate on DF experiences responsibly through a shared understanding across fashion-tech sectors.
- For consumers or users of DF technologies to gain a greater understanding of the use cases and implications in order to make informed decisions.
- For students to dig deeper into the DF ecosystem and explore how different elements interact to shape the digital self and its broader impacts.

Overall, these exercises, guided by the framework of the UN’s Sustainable Development Goals and the ethos of responsible innovation, are designed to create sustainable and ethical paths for the dematerialisation of fashion within a rapidly technical world.

At least three players are required to conduct the workshop effectively, and a suggested minimum number of rounds the participants wish to conduct.

6.4.2 Content

This section will discuss the purpose of each section and offer guidelines on how to conduct the workshop. Instructions can also be found within the template on Miroverse.

6.3.2.1 Set the Scene (Step 1)

The purpose of this section is to establish some of the variables presented within the Digital Self Ecosystem Framework (Figure 6.1) that frame a DF experience and focus on certain requirements and implications. Each set of variable cards (Figure 6.4) are referred to as Role Cards, Context Cards and Practice Cards.

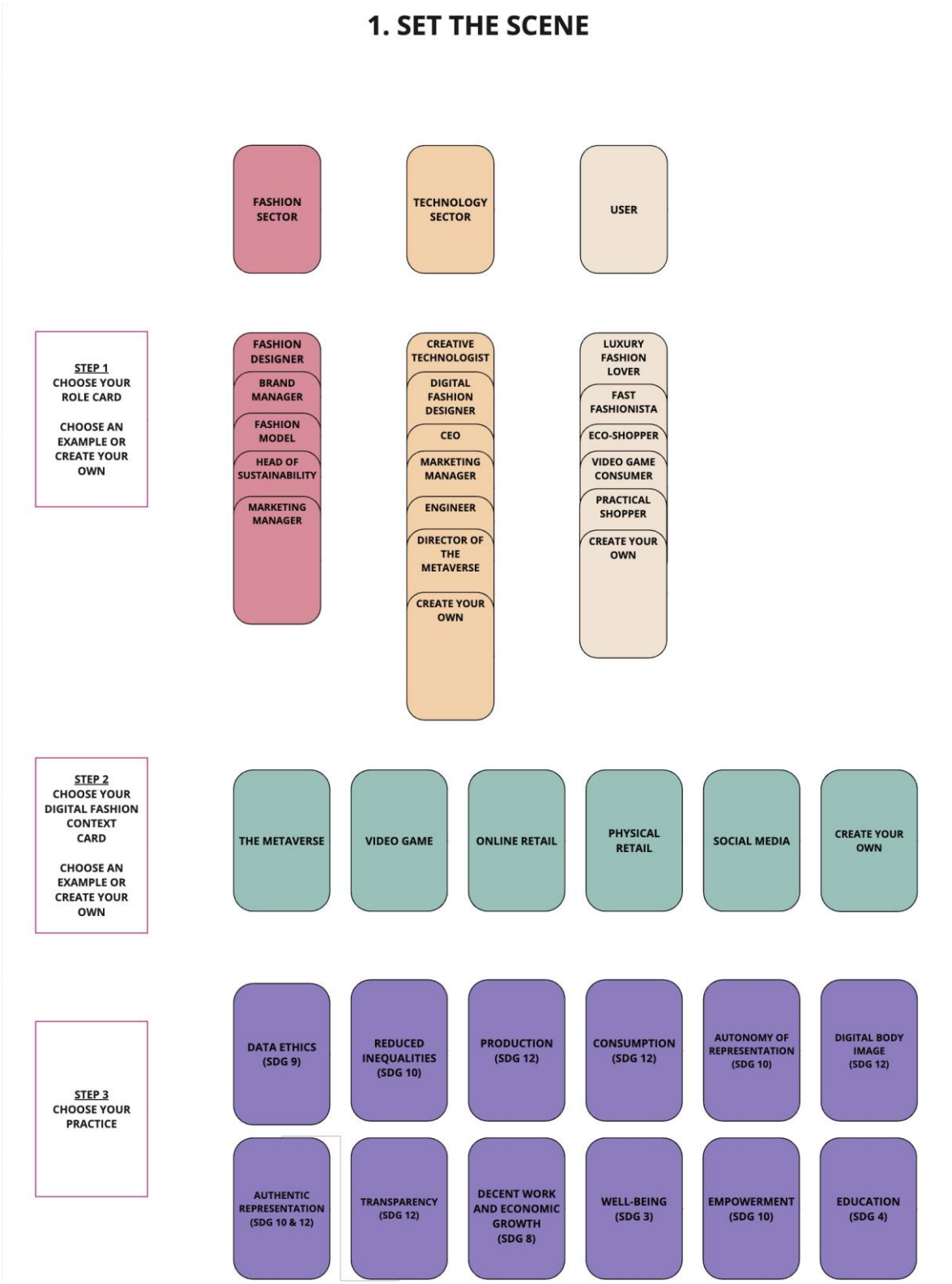


Figure 6.4: Step 1: Set the Scene using Variable Cards

The first step is for players to choose their role from one of the variable role cards. Whilst players can choose their own role within an organisation, which is effective due to the deep understanding of the role's requirements, it is also encouraged for players to role-play across sectors (fashion, technology and user) to gain empathy and understanding of different perspectives. Referring to the Digital Self Ecosystem Framework for Industry, this section establishes the variables User Perspective and Experience/Knowledge. User roles can be generic or more specific depending on the target audience for the potential DF experience or brand customer.

Collectively as a group, players select one DF context, referring to the Context variable, to focus on throughout the entirety of the workshop. Due to the varying environments in which DF can be experienced, these variable cards focus the group on a specific context, such as the metaverse, online retail or social media. Each context presents different challenges, opportunities and requirements, such as the difference in digital body creation within DRESSX and Zepeto as revealed within the research findings.

For each round (dependent on the time restrictions), a variable practice card will be chosen collectively as a group. Each practice card refers to an emergent and significant theme from the findings, along with its associated SDG (such as Authentic Representation, linked to SDGs 10 & 12) or a broader related SDG that encompasses multiple DF-related themes. These macro-perspective practices were derived and adapted from Table 5.5 (Mapping of Findings and Comparative Analysis: Study One and Study Two) and the Digital Fashion Ecosystem Framework (Figure 6.1). For specific SDG cards, it is encouraged that players do some desk research on each SDG definition, targets and indicators to familiarise themselves with the key points. Due to the complexity of sustainability and DF, involving the creation of digital bodies and digital environments as well as DF products, the purpose of the practice cards are for players to imagine future scenarios focused on specific practices which are crucial for achieving the broader goals of sustainable development within a DF context.

In preparation for the emerging nature of this field, including technological advancements and new generations of consumers, there is an option for players to create their own roles and context so that the foundations of this workshop can adapt effectively.

6.3.2.2 Imagining Future Scenarios (Step 2)

Applying the same justification for the scenario-planning method used within this research's methodology, the purpose and approach of this section of the workshop aim to challenge

current thinking within the industry and draw attention to aspects that would have otherwise been overlooked (Schoemaker, 1995; Chermack, 2004). The chosen variable cards within step one are placed within the card placeholders in the next step of the workshop (Figure 6.5), 'Imagining Future Scenarios', and used to fill in the blanks of the speculative-thinking question:

What future scenarios might emerge from the development of the digital self within CONTEXT, particularly in the context of advancing PRACTICE and from the perspective of YOUR ROLE?

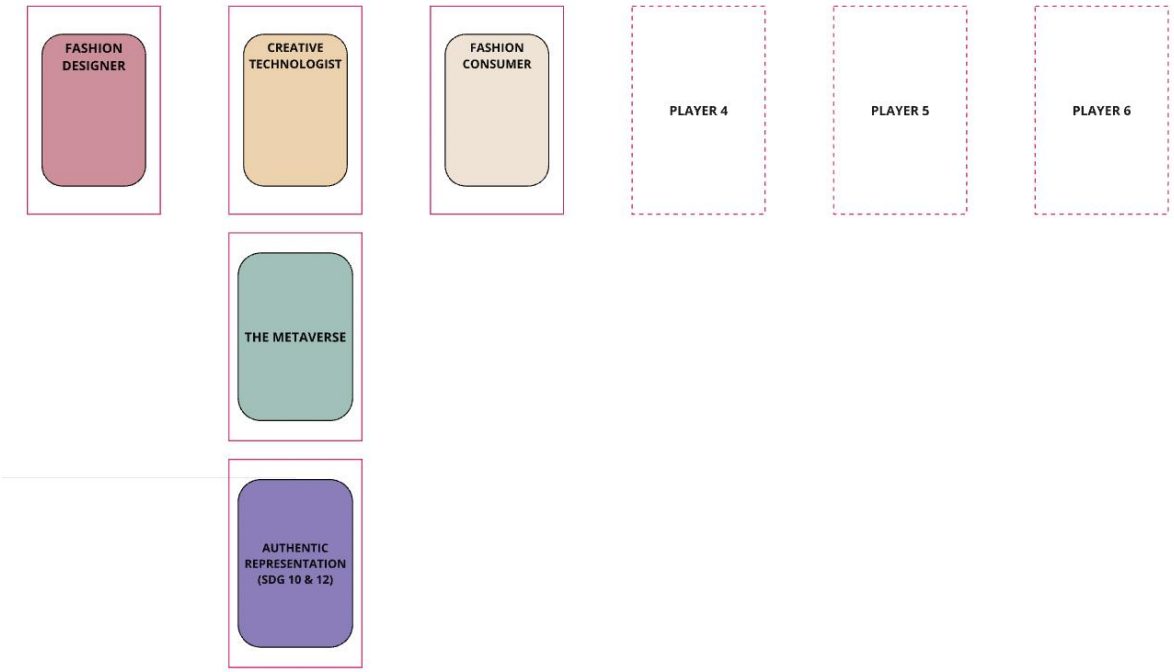


Figure 6.5: Example of Chosen Variable Cards

Referring to the example above, Player 1's question would be:

> *What future scenarios might arise from the development of the digital self within the metaverse, particularly within the context of advancing authentic representation and from the perspective of a fashion designer?*

In response to this question and the example provided, the player would take on the role of the fashion designer and think about how one would develop the digital self through DF design that allows for authentic representation. The player is required to imagine future scenarios (positive and negative) that may occur, including outcomes, considerations, opportunities and challenges. Scenarios are to be written upon the digital post-it notes

provided, which are then added to the scenario planning matrix (Figure 6.6). Relating thoughts can also be shared within this section to create a richer sense of the future scenario.

The matrix is a useful tool for scenario planning and has been adapted from the workshop method within Study One. Each quadrant represents a future landscape or aesthetic which is established by its axes (x, y). This could relate to the chosen context card or be defined in broader terms. For example, quadrant A refers to a future landscape where x = Realistic and y = Digital and, therefore, could refer to a future digital metaverse which is realistic in its aesthetic. The further away from the centre of the quadrant, the more realistic and digital the future landscape/aesthetic becomes. Once all plausible scenarios are exhausted, another practice card is chosen, and further scenarios are imagined and placed within the matrix.

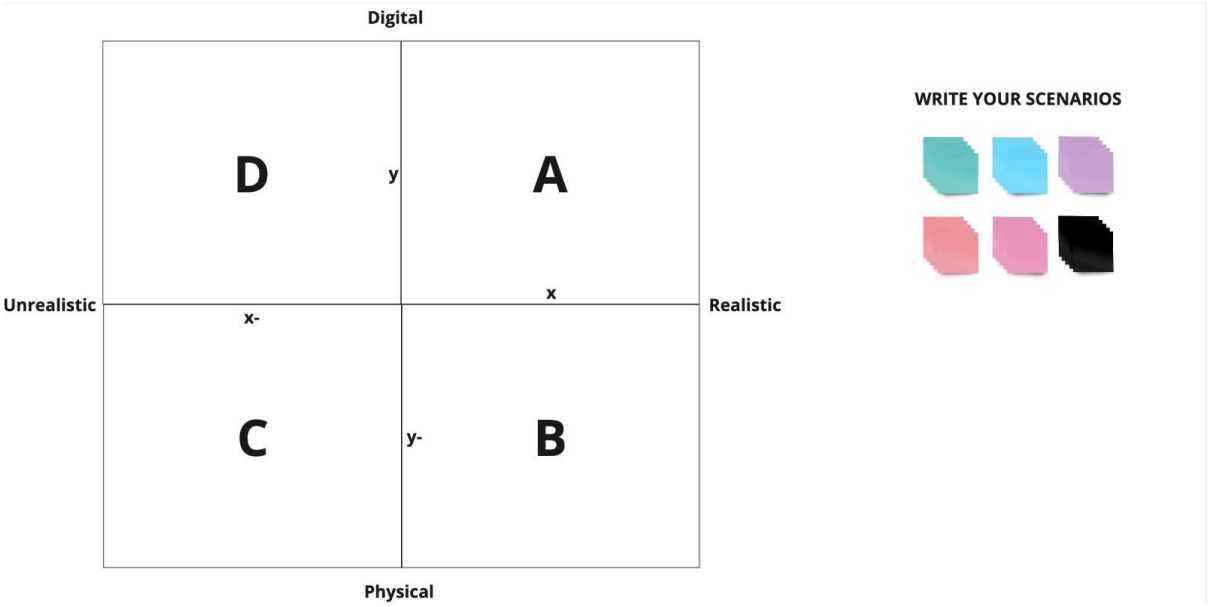


Figure 6.6: Scenario-planning matrix and post-it notes

6.3.2.3 Responsible Innovation (Step 3)

Once the matrix is filled with scenarios, the group collectively chooses 2-4 scenarios (time dependent) that they wish to focus on in more detail. The post-its are then transferred over to the table within Step 3 (Figure 6.7).

3.RESPONSIBLE INNOVATION

	Opportunities	Risks	Uncertainties
Scenario 1	*Think about the positive benefits the scenario could bring to your role, the industry or society*	*Think about the negative risks or implications the scenario could bring to your role, the industry or society*	*What unknowns or uncertainties exist across environment, economic, social or cultural spheres may impact responsible innovation?*
Scenario 2			
Scenario 3			
Scenario 4			

Figure 6.7: Responsible Innovation Workshop Table

For each scenario, the players will collectively discuss the opportunities, risks and uncertainties involved. This discussion may focus on specific individuals, brands, entire sectors, or broader environmental, economic, social and cultural issues. The purpose of this section is to highlight specific areas to exploit opportunities, mitigate risk or require further consideration or action. Understanding the opportunities and risks of plausible scenarios offers the players foresight into potential outcomes and, therefore, can contribute to the practical implementation of actions and strategies that contribute to sustainability through responsible and considered innovation.

Chapter Seven

CONCLUSION AND CONTRIBUTIONS

7.1 CONCLUSION

The research's overall aim was to explore and understand how individuals create and consume DF for their digital identities and whether this form of fashion expression and consumption contributes to sustainable development. This understanding contributes to furthering knowledge of the impacts of fashion's dematerialisation through DF and digital bodies via a user-centric perspective. It is imperative to address such a topic given the rise in digitally native generations, as well as the importance of sustainable development within the fashion industry, which has significant impacts on environmental, economic, social and cultural sustainability. Responsible innovation requires the attention and stewardship of future generations, and therefore, technical innovations that enhance the nascent development of the digital self must acquire increased awareness of these implications.

By meeting the five objectives, the aim of this research has been achieved, as well as highlighting topics for further research. Whilst objective one was met through the context chapter and justified the need for this research, objective two was met through the critical analysis of existing theories and frameworks within the literature review. The development of an overarching theoretical framework (Figure 3.20) which encompassed the key research themes of DF, identity and sustainability provided foundational knowledge. It also highlighted research gaps, such as the need to investigate DF beyond a production and marketing tool, the unsubstantiated link to sustainable user practices, and how they relate to digital ethics and well-being. It also highlighted the consideration of both DF as an end product and the digital body as the interface, which constitutes the make-up of the digital self. Identification of the relevant sustainable development goals 8, 9, 10 and 12 was also established, with primary research highlighting the consideration of SDG 3. Learnings from the research and how they feed into SDGs will be discussed and summarised within Table

7.1 (page 333).

Objective three was achieved through secondary and primary research. A deeper understanding of the Gen Z consumer was grounded in existing literature, noting the dominance of online culture, as well as their paradoxical nature when it comes to sustainable consumption, highlighting a prevalent gap in their attitudes versus behaviours (Loi and Hassan, 2016; Djafarova and Foots, 2022). It also required a critical approach to traditional theorists who have set the groundwork for fashion consumer behaviour, which, in many respects, is still upheld today, such as Simmel and Veblen. However, as Appleford (2020) argues, such theories may be too simplified for today's complex fashion production and consumption and require contemporary theorists to take note of a multiplicity of sources beyond status and class distinctions. This is particularly pertinent when considering the digital realm, which, as Crewe (2013) puts it, transforms the way we connect to the world and understand it and requires a re-theorisation. Introduction and discussion of video game theory was useful to understand the connection between players, their possessions, and the creation of identity within digital worlds. Relevant theories, including extended self, re-embodiment, fragmentation and the Proteus effect, set the precedence to develop further understanding of fashion consumer behaviour across physical and virtual worlds.

In terms of sustainable consumption, research remained unclear as to whether 'digital self definition' (Belk, 2013) and the consumption of DF replace the need for physical fashion and thus help to close the attitude-behaviour gap and increase the displacement rate (DRESSX, 2020). Whilst theories relating to sustainable consumption within a DF context are limited, Blazquez's (2022) concept of digital sustainability shows the potential for digital fashion to be used as a tool to foster more sustainable practices; however, as highlighted by research gaps, exploration of digital fashion as an end product is underexplored (Chan et al., 2023; Blazquez, 2024). Therefore, the primary research of this study specifically looked at addressing this gap in knowledge to achieve objective three, which required exploration of the existing and future scope of DF from Gen Z user perspectives and qualitative assessment of its potential impact on sustainable fashion consumption. Through Study Two, a qualitative study (with some supportive quantitative data captured within the survey) observed Gen Z fashion consumers using two channels for DF experiences: Zepeto and DRESSX.

Findings show that the future scope for sustainable fashion consumption through access to DF is nuanced and paradoxical. Whilst findings support existing research that DF offers pre-purchase consideration and that DF as a VTO tool holds promise, the reality is that DF may be counterproductive to sustainable consumption. Participants showed little or temporary satisfaction in the digital version, and instead, it reinforced their need to buy the physical version. There was an inherent comparison between their online and offline selves, whereby

participants would often switch between feeling inspired by their digital self or feeling inadequate. Not only was there competitive consumption (Schor, 1991) between their online and offline versions, but also discrepancies between the need to be transparent about their digital purchases. Some participants did not wish for others to think they couldn't afford the physical version (referring to conspicuous consumption within a digital context), whilst others felt like trailblazers or felt it necessary to be transparent. Overall, findings show that the potential for fashion consumers to choose DF over physical fashion and increase the displacement rate is low. In many respects, consumption looks likely to become doubled if DF becomes part of mainstream consumption.

It is important to highlight here that DF is again seen as a tool by participants and that participants struggled to see beyond practicalities and wearability and to 'think digitally' within the context of fashion. The value and benefits of DF as an end product to the users for achieving their sustainability aspirations are also not a driving force, despite noting the sustainable benefits of purchasing immaterial fashion products. Findings revealed a curiosity to try DF but only if the value (including monetary value) and utility of DF had a place in their habitual ways of consuming and if the products and experiences offered relatable realism, grounded in their real-world values. Unlike gamers, achieving your default self and sense of style was seen as authentic and a requirement for the fashion user, despite DF being marketed as an opportunity to be unbound from physical limitations. Interestingly, the study revealed an internal competitiveness between the real and digital self, presenting a new level of comparison within consumer behaviour, which goes beyond social group reference to personal recursion, creating a new kind of auto-imitation.

This finding also relates to objective four, which sought to investigate the value of digitalising humans within digital fashion and how it can be used to facilitate or exploit identity creation and self-expression while considering sustainable and ethical development. It is believed by video game theorists that digital humans and avatars empower us to explore identity untied to our physical bodies across multiple digital environments and, as Peachey and Child (2011) argue, present an opportunity for reinvention. There is also concern it may lead to multiphrenic (Kozinets and Kedzior, 2009), fragmentation and chosen schizophrenia (El Kamel, 2008). However, Study Two showed that, unlike gamers, fashion-centric users seek authentic representation of their digital selves while simultaneously engaging with aspirational expressions, highlighting the intermediacy of identity in the DF space. Authentic representation is also supported by the findings of Study One. This dualism between authenticity and aspiration reflects broader cultural and societal patterns of self-preservation and augmentation, whereby users wish to discover their true fashion potential whilst anchoring themselves to their 'default self', reminiscent of Hillis' (1991) coaxial cable and El Kamel's (2009) view of virtual social identity (Figure 3.10).

However, the concept of fragmentation came in a different form through the emergence of body dissonance, with concerns of individual and societal exploitation of body image, and acknowledges Chan et al.'s request for further research in self-image satisfaction. Body dissonance refers to the situations where a user's digital body image does not align with their internal self-concept, leading to discomfort, distress or dissatisfaction. Body dissonance was present within some of the participants' experiences or highlighted as a potential concern. It is, therefore, essential that those adopting digital self technologies and strategies (DF and digital bodies) understand these potential implications on their users. Whilst this research exposes the implications of body dissonance, further research needs to be conducted on how to mitigate these factors.

These findings lead into the fifth objective, to highlight key areas of consideration for academics, industry and/or policymakers across sustainability and ethics due to user adoption and the creation of the digital self. Alongside body dissonance and the furthering knowledge in self-image satisfaction, the notion of autonomy and informed consent becomes central for digital well-being and digital ethics, underpinning the need for users to retain control over their digital bodies and authentic representations. It also highlights the importance of social and cultural implications beyond the environmental impact of DF; sustainable fashion practices cannot just focus on the replacement of physical items through digital solutions but must consider the implications of technologies on their users, requiring an update on sustainable strategies and policies.

Findings have produced a framework (Figure 6.1) as well as practical applications, including a contract for the modelling industry (Section 6.2), suggestions for strategic actions for sustainable development (Section 6.3), and the digital fashioncasting workshop (Section 6.4) seeks to increase industry understanding and awareness and drive the improvement of digital fashion discourse.

7.2 CONTRIBUTIONS TO RESEARCH

This research has significantly advanced our understanding of the intersection of DF, identity and sustainability by providing insights into the emerging digital ecosystem and its implications for both individuals and industry. Through the exploration of digital self creation within multiple forms, this work offers valuable contributions to several fields, notably the value and limitations of digital self construction through fashion-centric perspectives and the implications of DF and digital body technologies on sustainable development and digital ethics. Specifically referring to Chan et al.'s (2023) suggestions for further

recommendations, this research contributes to the gaps in knowledge by examining consumer perception, ease of use of multiple DF experiences, the necessary requirements for widespread consumption and its impact on sustainable practices through qualitative methods. Most notably, it uncovers further understanding in the impact of DF on levels of body satisfaction by highlighting and investigating the significance of the digital body within the DF experience. This has been achieved through novel perspectives, such as fashion models, and novel methodologies that observe and analyse participants across various digital interfaces.

Furthermore, this research offers an important contribution to sustainability discourse in DF. The study reveals a sustainability paradox, wherein DF holds the potential to reduce material consumption and waste but is overridden by encouraging counterproductive consumption patterns. For example, whilst DF used as a tool for VTO may reduce returns and overproduction, supporting existing research, the access to digital garments can lead to overconsumption and over-augmentation of the physical fashion experience: Consumers seek the digital twin alongside the physical version, or the consumer seeks the physical twin of the digital asset, as the experience does not fully satisfy their consumer needs, nor do they fully value the digital asset in the same way as the physical (or a gamer values skins for gameplay) due to lack of utility and fashion-centric contexts. Not only does this exacerbate overconsumption but it also increases fashion's carbon footprint through digital fashion consumer experiences. This paradox calls for further exploration into how the industry can balance digital innovation with sustainability outcomes, ensuring that DF serves as a complementary tool for expression and experimentation to slow consumption rather than an unrealistic replacement for physical fashion. As always, attention to energy consumption is a key ingredient to quantify.

The findings also highlight the importance of digital well-being. The creation and interaction with digital bodies and fashion have implications for the user's mental health, with concerns over body dissonance arising when digital representations deviate too much from physical realities. This underscores the need for the industry to develop digital experiences that foster positive body image and mental well-being while ensuring transparency in the creation of digital avatars and DF experiences. It also highlights the connection between offline and online identity within fashion-centric users, who, unlike gamers, do not seek distinction between physical and digital but require relatable realism based on real-world values.

In terms of data ethics, the research raises critical questions about data ownership in digital spaces. As digital bodies and representations become more prevalent, there is a growing need for clear legal frameworks that protect individuals' rights over their digital selves. This

is especially pertinent for models and others whose likenesses are commodified through digital means. The creation of tools, such as the updated terms and conditions and model rights statements (Appendix 36 and 37), offers a practical contribution to the fashion industry, providing a foundation for ethical and responsible practices within fashion's digital transformation. However, further research is needed within the field of data policy and a deeper exploration of digital tools that could be adopted to increase data protection and tracking of usage.

Overall, this research has made key theoretical and practical contributions to the understanding of how DF intersects with identity and sustainability, advancing classical and contemporary theories on consumer behaviour in regard to immaterial fashion and digitally native consumers. By proposing frameworks for user autonomy, ethical practices and sustainable development, it offers valuable tools for academics, industry and government to navigate the evolving landscape of DF, which is increasingly needed in a world rapidly advancing its digital capabilities. Beyond this research, the 'Digital Fashioncasting' workshop further encourages critical thinking and actionable contributions through responsible innovation, helping industry leaders to balance technological advancements with ethical and sustainable practices. These contributions pave the way for future exploration, particularly in areas such as data policy, conspicuous consumption in digital realms and the long-term implications of digital well-being on identity.

7.3 LIMITATIONS

This research is not without its limitations. Limitations mainly derived from small participant samples and lack of participant knowledge across both studies due to the emergent nature of the research topic. The lack of experience across participants and their lack of knowledge on terminology, technicalities and utility of digital bodies and DF may have contributed to speculative responses, which has its own limitations based upon assumptions, contradictions and biases. As suggested by Shumaker et al. (2017), participants may feel the need to portray their 'better' selves online, potentially affecting their responses. It also relied upon researcher observation, which can be subject to a lack of objectivity.

This was a particular risk when analysing social media data within Study Two, as researchers cannot be omnipresent across all participants' social media accounts, and therefore, social media responses can only be analysed in hindsight via the researcher's interpretation. This is a limitation to netnographic research since its effectiveness as a

qualitative methodology relies on the need for human presence and personal connections online (Costello et al., 2017). Netnographic purists may criticise this approach to social media analysis and the lack of involvement from the researcher. However, netnography is understood as an adaptable methodology and, due to time restraints and lack of a DF community amongst non-gamers, the research used a netnographic method of social media analysis in combination with other methods to confirm or reject the positions from earlier participant interviews.

As Study Two unfolded, it generated more questions which, in turn, require further investigation. Whilst there was considerable effort in acquiring a specific type of participant, the limited accessibility and non-mainstream adoption of DF presented challenges. For example, the validity of findings may be affected since participants did not spend their own money on DF items. In DRESSX, participants had $100 to spend, while in Zepeto, only free options were available. This could have led to unnatural behaviours and limited understanding of the full scope of consumer culture within DF experiences. However, it was notable that most participants would not spend their own money on DF items unless there was a clear benefit or specific circumstances, which was an interesting insight in its own right.

Complications also arose with some of the chosen methods, which may have affected the strength of the findings. For example, it was often challenging, as the facilitator of the focus groups within Study One, to maintain control over the direction of discussion. The decision to create an informal atmosphere was achieved and successful as participants spoke openly and passionately about the research topic. Some participants did not have as much experience within the area of digitising models, and it was apparent that they were there to learn instead of contributing experiences and attitudes. It helped that I had shared experiences of fashion modelling to relate and empathise on a deeper level. However, the informality of the session often led to deviation in conversation, and there were participants who dominated the conversation, as forewarned by Saunders et al. (2009). Whilst their thoughts were valid and insightful, it meant that findings could not be generalised to the whole focus group. As suggested by Edmund (1999), I had to restructure and reframe the focus group framework (Methodology; Appendix 10) to adapt to the direction of conversation. Due to this experience within the focus groups and as recommended by Kawamura (2011), a navigator was recruited for the workshop method with industry to help facilitate and a more structured plan helped the researcher to maintain a level of control and to avoid deviation between industry participants.

Despite this limitation within the focus groups, rich insight from both focus groups and the

industry scenario-planning workshop was produced. The lack of contribution from certain participants only reinforced the theme and requirement of upskilling and education. Participants were experts within their own field, and whilst the topic was novel, they provided the most relevant source of experience and knowledge within the current time of research. As argued by Dunne (2009) and Hyndman and Athanasopoulos (2018), speculative methods and thinking are needed to generate forecasts which can inform best practice for future generations. The workshop outcome contributes to the reliability of the research, which could be used and adopted by other groups of people at various times. Further research suggests conducting this workshop at a stage when technologies are adopted and understood by the mainstream user.

Timescale was also a restrictive factor in fully understanding if digital self creation had a direct impact on user behaviour within physical settings. There was some evidence throughout the findings to suggest a potential to link physical and digital consumption through reciprocal effects, much like the Proteus effect, but findings cannot be generalised at this stage. Focusing on consumer behaviour within Study Two, longer periods of blended ethnographic and netnographic methodology would be beneficial to observe any changed offline behaviours impacted by online experiences, alongside larger participant samples. Further interviews with followers of the participant's social media account could have enriched the data to understand the followers' intentions and response to the DF images. Or, as Kozinets (2010) suggests, auto-netnography can be particularly valuable within digital and virtual worlds, which is a more participatory style of netnography requiring personal and firsthand reflection. This would have also helped with the complex ethical challenges of netnographic research, whereby Kozinets encourages researchers to identify themselves (ibid.)

On a practical note, the large and diverse dataset acquired from Study Two, including transcripts, video, images and social media, was a complex task to thematically analyse in comparison to Study One. It is advisable when using MAXQDA as a tool for thematic analysis to attend tutorials prior to their research. MAXQDA is a complex piece of software which requires expertise, and, initially, the software was difficult to use effectively. It took time to condense and consolidate the codes, and some key findings may have been duplicated, overlooked, or not fully explored. Triangulation of findings across both studies helped to prioritise coding dependant on the level of relevance to this research. There are still findings that have not been discussed in detail due to word limits and time restrictions; however, these findings offer rich insight for future analysis. This area of research is still nascent, and therefore, new considerations will surely arise in the future which may require such data.

Furthermore, it could be argued that including both studies within this research added complexity, and focusing on Study Two, which was the initial intention of the investigation, was sufficient. However, I argue that the attention to body digitisation within a fashion context is an extremely relevant and key area to consider – if not the most critical area within the creation of the digital self. Harking back to the rationale of this study and aligned with the ethos of responsible innovation, it is necessary to highlight implications that are already enfolding within niche but present situations, such as the modelling industry, to prepare for mainstream user adoption of emerging technologies within the digital self ecosystem.

7.4 FUTURE RESEARCH

Of course, it is recommended future researchers adopt larger participant samples and participants who had more experience. Some participants studied did not even know they had been digitised, with realisations coming from further clarification and discussion. Out of the 11 participants, three had experienced some form of digitisation, and therefore, this Study One should be repeated and expanded.

As the research progressed, there were many commonalities of uncertainty expressed across all participants. The question of ethics within the digital world was one of the most pressing concerns for users of DF and digital body creation, and participants (industry experts, fashion models and consumers) required guidance. The ownership of data within the context of scanning bodies, as well as the use of AI, would benefit from further legislation to avoid further uncertainties and potential conflict. Adding to the current ongoing debate about IP and AI, further research into this area is suggested for academics from a variety of fields where data policy intersects with law, technology, ethics, and governance. Not only does legislation need to consider the relationship between creator and content regarding intellectual property (IP), but, within this instance, the person represented must be considered alongside the creator and content. Drawing from my own experience as a fashion model and user of DF and digital body tools, I support the model's argument that data must be transferrable and reside with the human represented at the end of its use.

Another area of research highlighted from the studies referred to the reconceptualisation of conspicuous consumption within digital worlds for fashion-centric consumption. The research suggests that status and class within digital environments may vary from offline settings and that users will be more inclined to imitate themselves rather than others; comparing online wardrobes to physical wardrobes may induce a feeling of inadequacy in oneself and impact digital well-being. Therefore, factors associated with status within DF

experiences need further attention, which may contribute to a transformation of social class astride physical and digital worlds. Furthering the theme of digital well-being, ongoing attention to body dissonance is of utmost importance, and a deeper understanding of the impact on mental health is encouraged. Whilst this study has contributed to advancing knowledge and highlighting the criticality of body dissonance, further research is needed to determine how to mitigate such effects.



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APPENDIX

Appendix 1: An 2023 overview of fashion's digital fashion landscape (Author's Own)

The Dematerialisation of Fashion					
	Interface		Infrastructure		
Platform/Tool	Social Media / Ecommerce	Metaverse	AI	Blockchain	
Type of Web	Web 2.0	Web 2.0	Web 3.0	Web 3.0	
Industry Use Cases	Digital Fashion Creation using software / Digital Humans created through scanning technologies	Centralised 3D environment accessed through an internet browser. Data stored in cloud softwares. Inclusion of digital identities (avatars and digital humans)	Decentralised 3D environment - Use of Bitcoin, NFTs, Use of AI, Built upon Blockchain, Inclusion of digital identities	Digital Humans using Chatbots or Chat GPT, Generative AI, Deepfake, Digital Fashion Creation using AI, Customor Recommendations	Traceability, Provenance, Smart Contracts, Decentralisation, NFT storage, Bitcoin Transactions, E-voting
Companies	Dress X, Tribute Band, Zero 10, Clo 3D,	Zepeto, Roblox, Fortnite, Spatial.io, Decentraland, VR Chat	Anam XR, Decentraland, Sandbox, VR Chat, Spatial.io	OpenAI, Midjourney, Dall-e, Stable Diffusion, DRESSX	Ethereum, OpenSea
Example User Cases	Consumption of digital items for social media. Using digital humans and avatars within ecommerce.	Typically require an avatar. Purchasing digital fashion items for avatar within metaverse from a browser. Gamification techniques adopted.	Creation of avatars and digital environments. Trading digital assets	Creation of works, co-creation, deepfakes, customisation	Digital stroage, currency, transparent transactions and data ownership of digital assets (such as NFTs)
Fashion Partnerships and Activations	Very.co.uk (use of Digital Human Models), DRESSX x Tommy Hilfiger	Balenciaga Afterworld: Age of Tomorrow, AnamXR x Pangaia, BOSS x Spatial.io	Decentraland Metaverse Fashion Week, RTFKT x Nike, CloneX x RTFKT, Metabirkin	Lalaland.ai x Levi's (AI Models)	Decentraland Metaverse Fashion Week, Aura x LVMH

Appendix 2: SLR summary and sources for defining digital fashion

Authors	Date	Title	Journal	Database	No. papers
Noris et al	2020	Digital Fashion: A systematic literature review. A perspective on marketing and communication	Journal of Global Fashion Marketing	Taylor & Francis	419
Baek et al	2022	Defining DF: Reshaping the field via a systematic review	Computers in Human Behaviour	ScienceDirect	116
Chan et al	2024	The adoption of digital fashion as an end product: A systematic literature review of research foci and future research agenda	Journal of Global Fashion Marketing	Taylor & Francis	30

Appendix 3a: Search Strategy

Source Type	Focus	Key Terms	Supporting terms	Rationale
Academic Journals	Consumer Behaviour, Digital Transformation, Digital Fashion, Sustainable Consumption, Fashion Identity	Digital Fashion, Identity, Sustainability	Sustainable Consumption, Metaverse, Gen Z (digital natives), Avatars, Digital Humans, Industry 4.0., Responsible Innovation, Posthuman, Postmateriality	Accessing existing literature to explore current theories and concepts

Market Research & Business Reports	Emerging Technologies, Fashion's Digital Transformation, Fashion-Tech Market Analysis	Digital Fashion Consumption, Sustainable Development, Responsible Innovation, Avatars, Digital Humans	Video Games, Fashion-Tech, Metaverse, Web 2.0 and Web3	Insight into current state of technology, use cases and adoption of digital fashion and identity creation.
Government Policies, Company Terms & Conditions	Regulations and Policies on sustainable development in fashion, Data ethics	Sustainable Development, Responsible Innovation	Ethics, Metaverse, Data	Insight to current legislation and regulations and highlight areas for improvement regarding sustainable development
Publications	Fashion's adoption of digital fashion and identity, impact on consumer and industry stakeholders	Digital Fashion, Identity, Sustainability	Sustainable Consumption, Metaverse, Gen Z (digital natives), Avatars, Digital Humans, Industry 4.0., Responsible Innovation	Insight into industry and consumer sentiment, use cases and adoption of digital fashion and identity creation.

Appendix 3b: Search Strategy

Key Term/Search Variations	**No. Journals on Taylor & Francis**	**No. Journals on Science Direct**	**No. Journals on SAGE Journals**	**No. Journals on Wiley**

“Digital Fashion” AND “Identity” AND “Sustainability”	23	17	1	4
“Digital Fashion” AND “Identity”	22	23	1	29
“Digital Fashion” AND “Sustainability”	13	27	3	11

Appendix 4: Digital Body Terminology

Category	**Definition**	**Traits**	**Company (*identified by term used on their website)**
Avatar	Synthetic media. An avatar has been created using software either by human expertise or AI. It can be a close representation of a person or be a fantastical creature. Started in video games and now being adopted within the fashion industry and social media. Has been referred to as	Uncanny Valley is still present Unlimited manipulation Easy to change outfits, features of avatar No personal identifiable information captured (PII) Can be created and powered by AI	MetaverseME Ready Player Me Roblox Genies Dimension Studios Codec Avatars, Meta (I argue codec avatars may be classed as digital humans due to its hyperrealism and process of creation)

	Virtual Humans - Created using state-of-the-art CGI designed by teams of expert animators and visual effects specialists. (Silvia and Bonetti, 2021)		
Digital Human	A photorealistic, 3D captures of a human being. Use of photogrammetry (static capture) or volumetric (movement), or CGI or blend.	An obvious representation of the individual Photorealistic 3D captures: Limited manipulation but can be achieved depending on the technology and expertise Can change outfits but presents a much more difficult challenge Skeletal and biometric data is captured, creating PII Could be used for deepfake	Synthesia Metahuman, Unreal Engine Digital Domain Volugrams Uneeq Dimension Studios Codec Avatars, Meta
Digital Twin (Product-related)	A digital twin is a virtual model designed to accurately reflect a physical object. (IBM, 2022) Usually applied to objects, systems, and software for R&D	Digital twins can help to reduce supply chain waste and inefficiencies within the fashion industry Can also be used within medical industry to create digital twins of human	NASA Clo3D IBM Azure, Mircosoft Siemens

	purposes Used within a fashion context a digital twin is a digital replica of a garment. (could also be referred to as a replica of a human).	organs Adopting IoT and AI	Philips
Human Digital Twins	A reproduction of outer aspects of a human being, such a physical and physiological characteristic, but also inner qualities such as personality, sensibilities, thoughts, and skills	A future iteration relying on the development of other related technologies such as Data Mining, Data Fusion Analysis, Artificial Intelligence, especially Deep Learning and Human Computer Science	NTT

Other Terms include Digital Double, Virtual Human, MetaHuman, Digital People

Appendix 5: Summary of Relevant Future Research Recommendations by Chan et al (2024)

Quote	**Page**	**Future Research Focus**
'Notably, none studied consumer perspectives specifically on digital fashion as an end-product, unveiling a research gap.'	169, 172, 176	Consumer Perception
'However, TAM hasn't been adopted to study consumer adoption of digital fashion as an end-product, indicating a research gap.'	169, 176	Consumer Acceptance
'To the authors' knowledge, no research has examined the perceived usefulness and perceived ease-of-use of digital fashion as an	170, 176	Consumer Perception, Consumer Acceptance

end-product'		
‘It is assumed that digital fashion end-products contain enjoyment features, but it is also lacking emotional and embodied attachment associated with physical garments in the digital realm and raises doubts about their ability to evoke emotions and drive widespread consumption (Särmäkari, 2021).’	172	Attachment and Consumer Behaviour
‘For perceived ease-of-use and perceived usefulness, future research could explore the impact of the realism levels of the simulation’	172, 176	Consumer Perception, Consumer Acceptance, Technology Readiness
‘It can be argued that certain types of digital fashion end products could help foster more “sustainable practices” in that they can contribute by partially decelerating physical fashion consumption triggered by the purpose of posting outfits on social media (BBC, 2021), warranting further research attention.’	174	Sustainability, Consumer Behaviour
‘Future studies should employ qualitative methods to delve into digital fashion as an end-product, grounding theory, generating hypotheses, and deepening understanding before conducting extensive surveys (Creswell, 2017).’	174	Research Methods
‘The influence of body satisfaction on digital fashion end-products, which involve submitting personal photos for digital tailoring, remains	170, 174, 176	Self-Image Satisfaction, Consumer Acceptance

unexplored.’		

Appendix 6: Theoretical Framework and Overarching Themes

Theme	**Theory & Concepts**	**Sub-categories**	**Author**
Consumption Driver, Behavioural Impact	Disintermediation	Empowerment, autonomy, interaction, authority, connectedness (convergence), connectedness (metaphorical), mediatization	Crewe, 2013; Rocamora, 2016; Turkle, 2005; Hillis, 1999
Behavioural Impact	Displacement rate	Digital Sustainability, Dematerialisation	DRESSX, 2022; Belk, 2013; Crewe, 2013; Loi and Hassan, 2016; Casciana et al, 2022; Blazquez, 2024
Consumption Driver	Hedonic consumption	Utility versus emotive consumption, Product related experiences, behavioural (addition, accomplishment, repetition) and emotional experiences (pleasure, frustration), Gamers v Fashion Consumers	Hirschman and Holbrook, 1982; Alba and Williams, 2012;
Identity Factor	Fragmentation	Digital body, self-image satisfaction, context, interoporability, multiplicity,	Kozinets and Kedzior, 2009; El Kamel, 2008;

		split self, ethics, escapism	Hillis, 1999; Belk, 2013; Ball, 2022; Yee, 2014; Chan et al, 2024
Consumption Driver, Identity Factor	Inter-dividuals	Imitation, individualism, influence, attitude-behaviour gap, sustainable consumption	Von Busch, 2020; Simmel, 1950; Hammond et al, 2009; Loi and Hassan, 2016; Casciani et al, 2022
Behavourial Impact, Identity Factor	Proteus Effect	Behavioral confirmation, self-perception, deindividuation, influence, digital well-being	Yee and Bailenson, 2007; Burr, 2022; Heath, 2022
Identity Factor, Behavioural Impact, Consumption Driver	Re-embodiment / Extended Self	Symbolic possession, self-realisation, self-image satisfaction, representation, autonomy of self, digital body, self-concept, perception, personality, and motivation (TAM Model)	Belk, 2013; Kozinets and Kedzior, 2009; Turkle, 2005; Crewe, 2013; Holt, 2002; Yee and Bailenson, 2007; El Kamel, 2008; Hillis, 1999' Chan et al, 2024
Consumption Driver, Behavioural Impact, Identity Factor	Digital Ethics	Moral ethics, metavethics, digital sustainability, responsible innovation, autonomy, experimenting with personal ideal and morals, beliefs, well-being	Heath, 2022; Yee, 2014; Gomel et al, 2011; Hills, 2013; Neri, 2019; Campbell, 2018; Kant, 1979; Zallio and

			Clarkson, 2023; Blazquez, 2024; Burr, 2022

Appendix 7: Participant Table (Focus Groups; Study One, part one

Model Participant	Focus Group Location	Participation
1	New York	In person
2	New York	In person
3	New York	In person
4	New York	In person
5	New York	In person
6	New York	In person
7	New York	In person
8	London	In person
9	London	In person
10	London	In person
11	London	Online

Appendix 8: Participant Consent Forms Example (Focus Group; Study One, part one)

University for the Creative Arts

Research Ethics Committee

Consent Form

Working PhD title: Dress for the Metaverse: Fashion's Digital Transformation and its impact on consumption and identity [MODEL INDUSTRY]

Focus Group Title: Do you really want to live forever? A focus group for Models about Digital Models

Researcher and Data Controller: Jade McSorley, PhD Researcher, University for the Creative Arts

Supervisors/line manager: Dr. Sian Weston, Professor Martin Charter

Participant Name:

Participant Location:

- I the undersigned voluntarily agree to take part in the study on Dress for the Metaverse: Fashion's Digital Transformation and its Impact on Consumption and Identity - a theoretical-based research project.
- I have read and understood the Information Sheet provided. I have been given a full explanation by the investigators of the nature, purpose, location and likely duration of the focus group, and of what I will be expected to do. I have been given the opportunity to ask questions on all aspects of the study and have understood the advice and information given as a result.
- I agree to comply with any instruction given to me during the study and to co-operate fully with the investigators.
- I agree that this focus group can be recorded for purposes of the researcher and will not be shared with any third parties.
- I am happy for my thoughts to be included within a report that will be shared with Model Agencies based within the UK and my identity will be kept anonymous within this report, unless consent is given.
- I understand that all personal data relating to volunteers is held and processed in the strictest confidence, and in accordance with the Data Protection Act (1998).
- I understand that I am free to withdraw from the study at any time without needing to justify my decision and without prejudice and all records of my participation will be destroyed.
- I acknowledge that in consideration for completing the study I shall not receive any reimbursement, payment or rewards.
- I confirm that I have read and understood the above and freely consent to participating in this study. I have been given adequate time to consider my participation and agree to comply with the instructions and restrictions of the study.
- I agree that I will not seek to restrict the use of the results of the study on the understanding that I have clearly stated/not stated that my anonymity is preserved (please tick one):

Please state accordingly:

[✓] **I wish to remain anonymous**

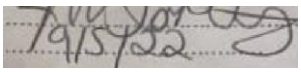
[] I am happy for my name to be uaed for lhe purpose of this r8HIII'Clt

Name of parti:lpant .. (BLOC< CAPITALS)

Signed .....-#.1.....:::: ··-·····Date ... _IS.jc).'J_ _.,.....

Nana of **181ean:hedperwon taking** cor8ent.JOJ:t..l..M,:3.rJ.Y.(U_A.._.
(Bl.oa< CAPITALS) -7

Signed
Date



Participant Inforlllation Sheet

University forthe Creative Arts

Ethics Committee

Focus Group Title: Digital Bodies

Data Controller: Jacle Mcsorley, PhD Researcher, Universrty for the Creative Ms

Superv isorS/line manager: Professor Martin Charter, Dr. Sian \f\kston, Professor Eclmoncl Prakash

Duration -1.5 hours
Lccatlon: In-Person

Participants• Models within the fashion industry

Summary • This event will be an opportu nity for Models within the fashion industry to unde ta nd the implications and opportunities of creating digital twins of themselves and give them a platform to offer their though ts and concerns about awta anddigital twins. We will lead the discussion by showing examples of digital humans and the technologies behind them and n1ising some questions about i:lentity, data ownership, data protection and ethical consiclen1tions.

The foeus group will be a space for models to unde ta nd their role within this digital landscape and help them contribute to shaping the future they want to see for models (with scope forwi:ler impact).

Outcome - Findings will contribute to the findings of the Resean::her's PhD to prod uce industry con siden1tions and guidelines. Findings will be summarised within a report and disseminated to the British Fashion Models *Ag*ents Association and their legal team to help shape the contracts that will protect models who may create digital versions of themselves for purposes including E-commerce, NFTs, Metaverse and Vi:leo Games.

E:,:ampies of digitised bodies below using volumetric capture.





Obligations and commitments of the participant during the study:

- To offer honest thoughts and opinions in response to the research question
- Be open-minded and push boundaries

The rights of the participants:

Participants are free to withdraw from the study at any time without needing to justify their decision and without prejudice. In case of withdrawal of consent, no further data regarding their participation should be added to the project, and all records of their participation will be destroyed.

All personal data relating to volunteers is held and processed in the strictest confidence, and in accordance with the Data Protection Act (1998).

In consideration for the research nature of the study participants shall not receive any reimbursement, payment or rewards.

Information for further concerns or complaints:

Any concerns or complaint about any aspects of the way you have been dealt with during the course of the research will be addressed; please contact The Research Office, University for
the Creative Arts, Falkner Road, Farnham, Surrey GU9 7DE
Tel: 01252 892922 Email: roffice@ucreative.ac.uk

Further information about Jade McSorley's PhD Research

This workshop will support the wider research for this PhD, which is a speculative exploration of the future role of fashion in virtual worlds, to understand why consumers buy and consume fashion for their digital identity. Fashion's digital transformation will provide a new way of dressing and consuming with the potential for environmental, psychological and social impact.

The aim of the research is to produce a toolkit for the fashion industry to better understand how to design, develop and implement digital fashion solutions through a better understanding of the digital fashion consumer.

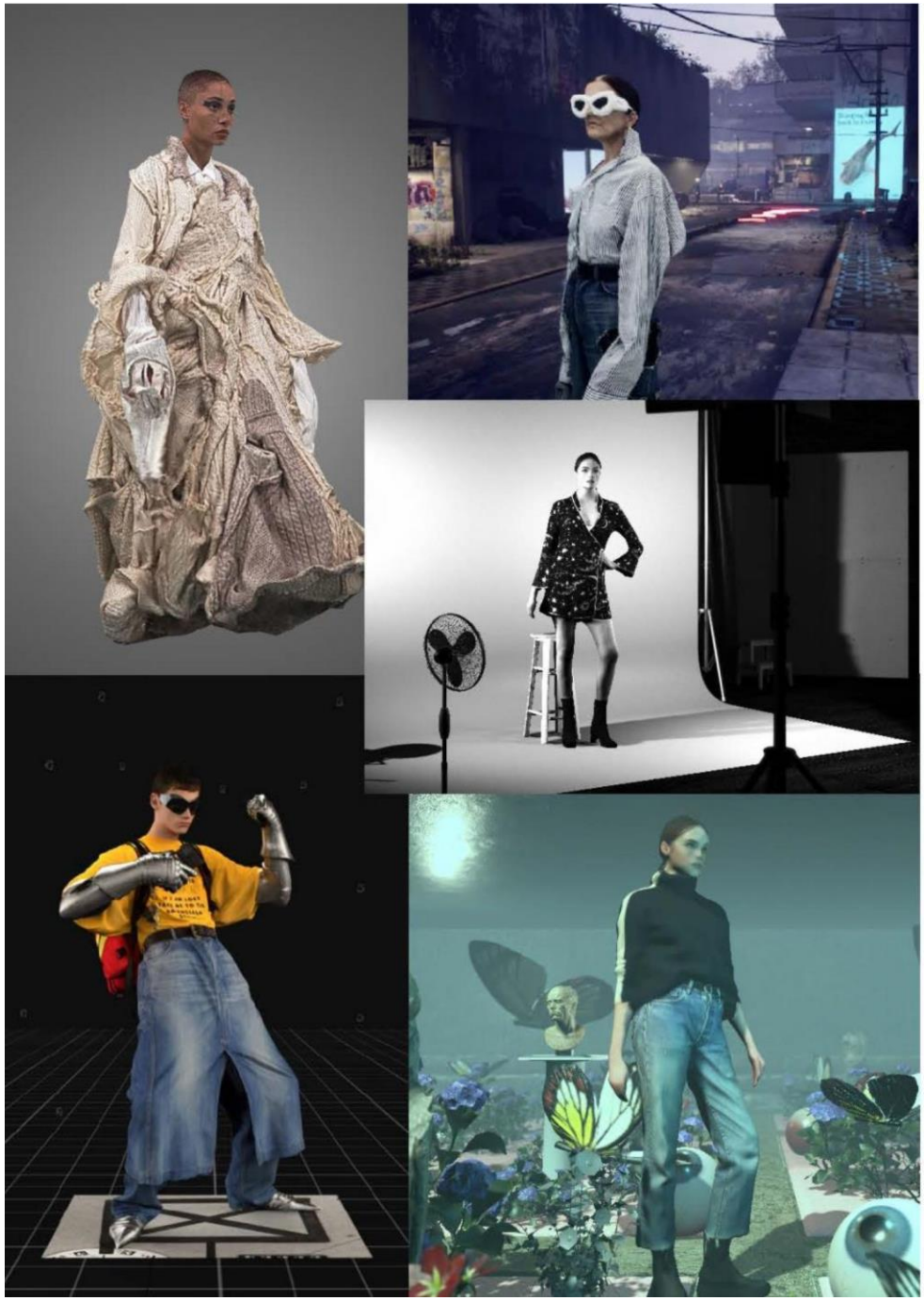
Appendix 10: Focus Group Framework (Study One; part one) ***Location: In-Person***

Duration: 1 hour 30 minutes

Topic	Main Interview Question	Follow- up questions	Key Authors
Introduction (10 mins)	• Thank you for joining • Introduction of researcher, study aims and Objectives • Overview of the focus group and expectations • Confirm understanding and signage of consent forms adhering to UCA Research Ethics Code of Practice		
Digital Bodies Terminology Presentation (10 mins)	• Short 5-minute presentation on differences and examples of digital humans and avatars (appendix 11)	Has anyone been scanned by a fashion company or had an avatar created of them?	
Motivations and Drivers (20 mins)	What are the opportunities of having a digital human model?		
	How do you foresee your digital human or avatar being used?		Belk (2013), Chan et al (2024)

	What would cause you to be concerned about having a digital human model?		Yee (2014), El Kamel (2008), Heath (2022), Zallio and Clarkson (2023), Chan et al (2024)
Re-embodiment, Digital Ethics (20 mins)	How would you like to see your digital body created – as an avatar or digital human? And why?	How much would you allow your digital twin to be edited/changed? Who should decide how your digital twin can be edited/changed?	MacCallum-Stewart and Parsler, (2008), Ball (in Heath, 2022), Hills (2013), Kant (1979)
	Do you see your digital body as you, an extension of you or separate to you?		Belk (2013), Kozinets (2008), MacCallum-Stewart and Parsler, (2008), El Kamel (2008); Baulliard (2009), Hillis (1999)
Digital Ethics (20 mins)	Who should own your digital body?	If a model leaves the agency, what should happen to the data of your digital twin? If scanned by a client,	Heath (2022), Kant (1979), Gomel et al (2011); Periyasamy and Periyasami

		how would you see the agency achieving ownership?	(2023), Yee (2014), Turkle (2005), Crewe (2013), Holt's (2002)
	What/How would you want the agency's role to play between you (the model), your digital body and the client?	Where should your data be stored? How do you foresee agencies monitoring usage?	Ball (in Heath, 2022), Davis et al (2023); Periyasamy and Periyasami (2023)
	What policies/contractual obligations would you wish to see in place for your digital body?		Ball (in Heath, 2022), Davis et al (2023) Pellegrino et al (2023), Locke (1988)
Closing (10 mins)	Are there any other questions or considerations regarding the digitisation of oneself, that should be considered?		



Digital Human

A photorealistic capture of a human being

Examples/Traits/Technology

- Captured through Photogrammetry (static) or Volumetric Capture (movement)

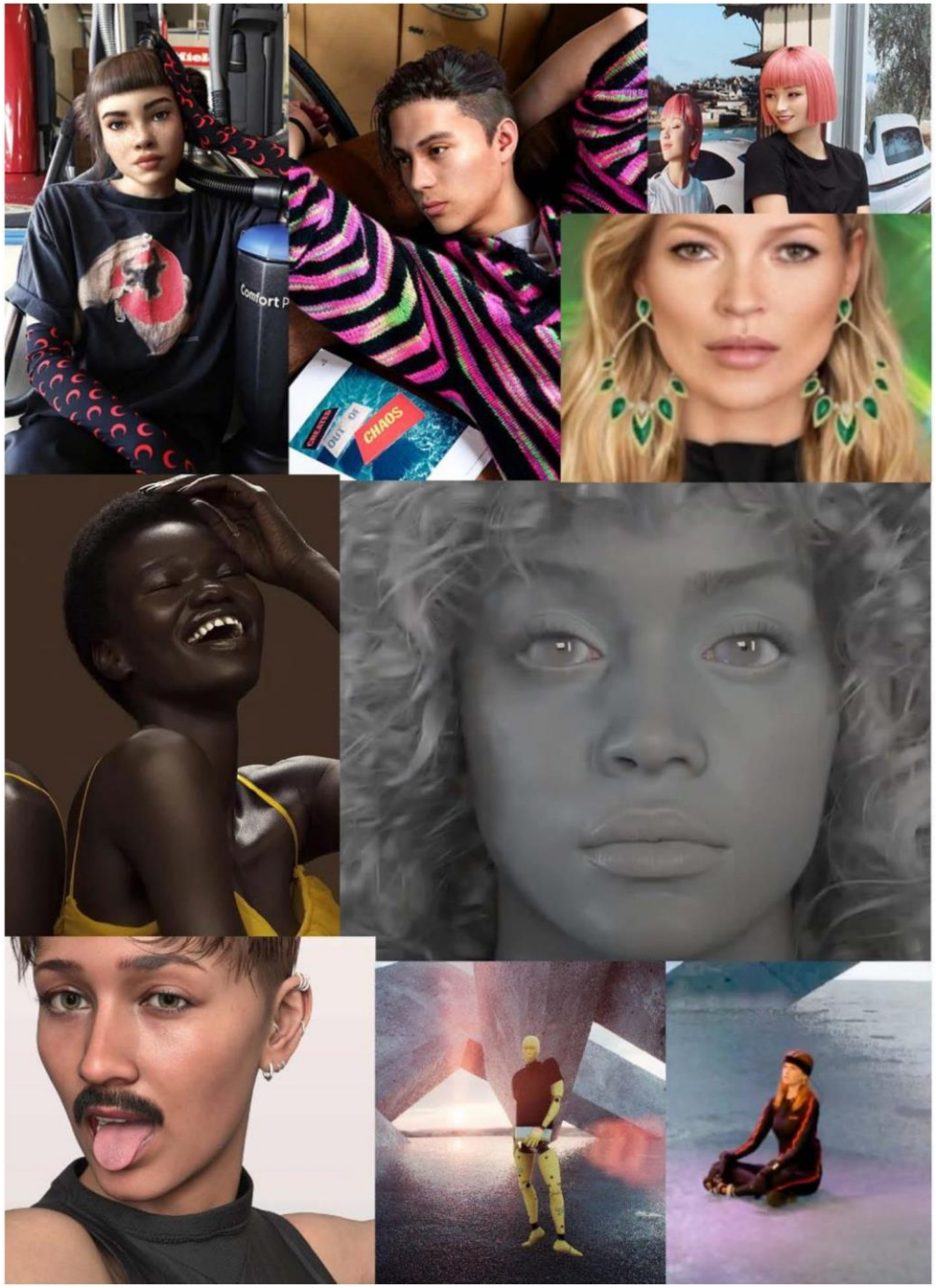
- Authentic realism - measurements, scars, tattoos (which can be erased in post), the way you walk and move.

- It is YOU, captured through technology (typically hardware)

- Can be rigged using skeletal data to change the movement of your digital human and change outfits

- Expensive but a one-off purchase

- Can be used for deepfake



Avatar

A character created using software

Examples/Traits/Technology

- Virtual Influencers

ncanny Valley (that feeling you get when you look at something *almost* human)

- Created by someone or an agency (full control) using software

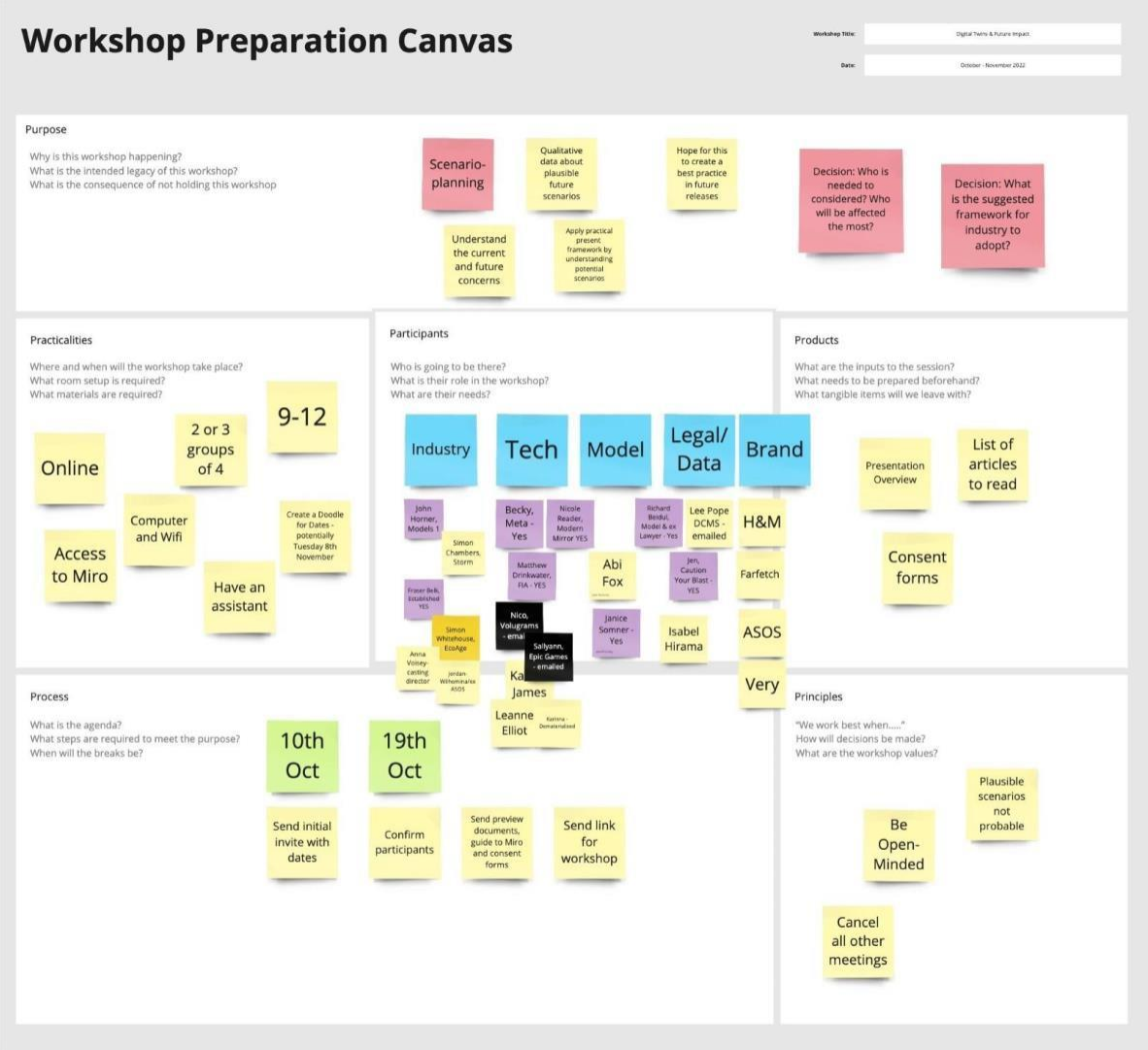
- All 'thoughts', 'movements', 'speech' is created and controlled by that someone (unless using mocap or Al)

- Can be controlled through *Al* and can communicate with people through Natural Language Processing (NLP)

- Time-consuming, expensive and requires certain skillsets

- Software used includes Daz 3D, Unreal Metahuman

Appendix 12: Workshop Preparation Canvas (Scenario-Planning Workshop; Study One, part two)



Appendix 13: Participant Table (Scenario-Planning Workshop; Study One, part two)

Participant	Job Title	Primary Sector	Location
A	Model Agency Director	Fashion	UK
B	Virtual Influencer and Content Creator Specialist	Technology	UK
C	Fashion Innovation Expert	Fashion-Tech	UK
D	Fashion Model and Activist	Fashion	UK

E	Model Agency Director	Fashion	UK
F	Data Specialist	Technology	UK
G	Fashion Model and Ex-Lawyer	Fashion	UK
H	Founder of Photogrammetry Company	Technology	US

Appendix 14: Participant Consent Forms Example (Scenario-Planning Workshop; Study One, Part Two)

University for the Creative Arts

Research Ethics Committee

Consent Form

Workshop Title: The Opportunities and Risks of Digital Humans

PhD title: Dress for the Metaverse: Fashion's Digital Transformation and its impact on consumption and identity

Data Controller: Jade McSorley, PhD Researcher, University for the Creative Arts

Supervisors/line manager: Professor Martin Charter, Dr. Sian Weston, Professor Edmond Prakash

Participant Name: …[redacted]

Participant Location: …London……

- I the undersigned voluntarily agree to take part in the workshop *The Opportunities and Risks of Digital Humans*, as part of the study on *Dress for the Metaverse: Fashion's Digital Transformation and its Impact on Consumption and Identity* - a theoretical-based research project.
- I have read and understood the Information Sheet provided. I have been given a full explanation by the Researcher of the nature, purpose, location and likely duration of the study, and of what I will be expected to do. I have been given the opportunity to ask questions on all aspects of the study and have understood the advice and information given as a result.
- I agree to comply with any instruction given to me during the study and to co-operate fully with the Researcher.
- I understand that all personal data relating to volunteers is held and processed in the strictest confidence, and in accordance with the Data Protection Act (1998). I agree that I will not seek to restrict the use of the results of the study on the understanding that my anonymity is preserved if specifically stated.
- I understand that I will be asked to enter online platform Miro and Microsoft Teams for the purpose of the study. I have read and understood the terms and conditions of these platforms.
- I agree that this focus group can be recorded for the purposes of the researcher and will not be shared with any third parties.
- I am happy for my thoughts to be included within a report that may be included within published academic papers and will be kept anonymous within this report, unless consent is given.
- I understand that I am free to withdraw from the study at any time without needing to justify my decision and without prejudice and all records of my participation will be destroyed.
- I acknowledge that in consideration for completing the study I shall not receive any reimbursement, payment or rewards.

- I confirm that I have read and understood the above and freely consent to participating in this study. I have been given adequate time to consider my participation and agree to comply with the instructions and restrictions of the study.

- I agree that I will not seek to restrict the use of the results of the study on the understanding that I have clearly stated/not stated that my anonymity is preserved (please tick one):

Please state accordingly:

[X] I wish to remain anonymous
[ ] I am happy for my name and/or title/company to be used for the purpose of this research
Please write how you would like to be referred to below

…..

Name of participant …. . [redacted]..... (BLOCK CAPITALS)

Signed .....Date .....11./.15./.2022…….

Name of researcher/person taking consent ..... JADE MCSORLEY (BLOCK CAPITALS)

Signed .....



.....

Date .....11/15/2022.....

Research Information Sheet

University for the Creative Arts

Ethics Committee

Workshop Title: The Opportunities and Risks of Digital Humans

PhD title: Dress for the Metaverse: Fashion's Digital Transformation and its impact on consumption and identity

Data Controller: Jade McSorley, PhD Researcher, University for the Creative Arts

Assistant Navigator: John Horner

Supervisors/line manager: Professor Martin Charter, Dr. Sian Weston, Professor Edmond Prakash

About this Workshop
This workshop will be an opportunity for industry experts within the fashion and tech industry to understand the implications and opportunities of creating digital twins of humans via realistic capture and avatar creation. Please visit pages 3 & 4 for definitions and differences between Digital Humans and Avatars.

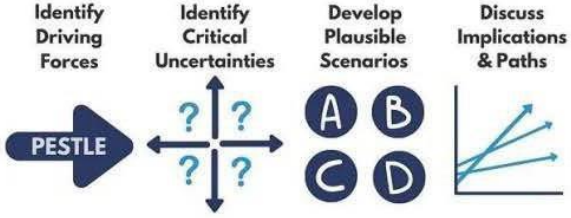
Using the scenario-planning methodology, participants will respond to the research question:
What can happen if we continue to develop digital humans?

Rationale
The reason for this workshop is due to my research in identity and fashion within digital worlds which has raised important questions concerning the digitisation of humans, in particular, fashion models. This is an area which is still yet to be considered despite the rapid acceleration in technologies.

The value of scenario planning '*lies in how scenarios are embedded in—and provide vital links between—organizational processes such as strategy making, innovation, risk management, public affairs, and leadership development.*' *(Harvard Business Review, 2013)*

Aim
The aim is for industry experts to offer plausible scenarios that may occur and help develop a framework for the fashion industry to protect humans who are being digitised and used within digital platforms.

Objectives
- Define the key driving forces external to your industry and technical innovation, with key industry experts from modelling industry, tech, data and fashion brands.
- Define the most critical driving forces to develop help develop scenarios which digital humans exist
- Explore and discuss implications and paths of this scenarios to gain a better understanding of how we can optimise opportunity and mitigate risk to the individual being digitised.



Structure of Scenario-Planning Methodology (Mariton, 2016)

Nature/ Purpose/Use of Data:

Your thoughts/opinions will be captured throughout this workshop to understand thought and attitudes towards digital humans and creating digItal versions of humans which can be used by the fashion industry.

The focus group will be recorded and transcribed. The Researcher encourages participants to not be anonymised, however, this is at the discretion of the participants. Recordings will be deleted on completion of the research

- Results will be included within published academic papers, including PhD thesis, for the purpose of justifying any theories or conclusions.

The use or potential benefits of the study:

Thisparticular workshop will be used to inform the fashion and tech industry on the benefits and risks of digitising humans, to better understand and develop best practice. Furthermore, It hopes to understand the significance of digital identity and ownership within the Metaverse through a fashion context, to build an ethical and sustainable future.

Duration of the workshop and location:

This workshop **will** be conducted on Tuesday 14th November 2022 online via Microsoft Teams. Participants will use Miro to conduct the workshop, guided by the Researcher
Please join using this Team Link: https://bit.ly/3Uy4U7M
Miro link:https://bit.ly/3NHHWbu
The duration of this workshop will be 3 hours.

Obligations and commitments of the participant during the study:

- To offer honest thoughts and opinions in response to the research question
- Be open-minded and push boundaries

The rights of the participants:

Participants are free to withdraw from the study at any time without needing to justify their decision and without prejudice. In case of withdrawal of consent, no further data regarding their participation should be added to the project, and all records of their participation will be destroyed.

All personal data relating to volunteers is held and processed in the strictest confidence, and in accordance with the Data Protection Act (1998).

In consideration for the research nature of the study participants shall not receive any reimbursement, payment or rewards.

Information for further concerns or complaints:

Any concerns or complaint about any aspects of the way you have been dealt with during the course of the research will be addressed; please contact The Research Office, University for
the Creative Arts, Falkner Road, Farnham, Surrey GU9 7DE
Tel: 01252 892922 Email: roffice@ucreative.ac.uk

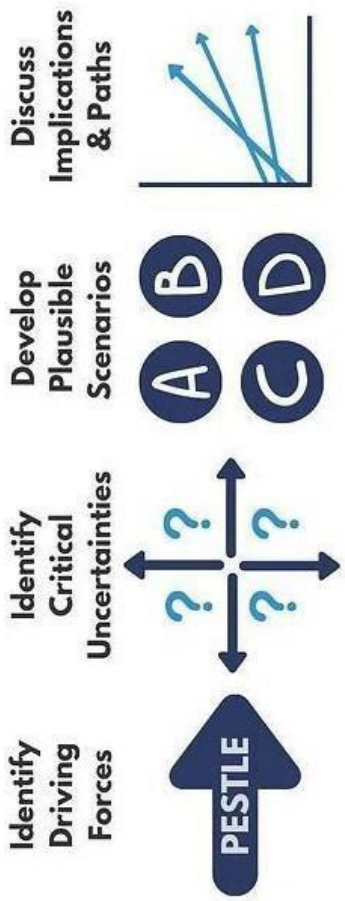
Further information about Jade McSorley's PhD Research

This workshop will support the wider research for this PhD, which is a speculative exploration of the future role of fashion in virtual worlds, to understand why consumers buy and consume fashion for their digital identity. Fashion's digital transformation will provide a new way of dressing and consuming with the potential for environmental, psychological and social impact.

The aim of the research is to produce a toolkit for the fashion industry to better understand how to design, develop and implement digital fashion solutions through a better understanding of the digital fashion consumer.

Appendix 16: Scenario-Planning Workshop Framework (Workshop; Study One, part two)

Time	Section	Who	Task
5 mins	Intro	Workshop Facilitator	• Workshop Facilitator to introduce the aim of the workshop and introduce the participants • Participants to be put in two groups by workshop facilitator • Ensure all consent forms are signed in accordance with the **UCA (University for the Creative Arts) Research Ethics Code of Practice**
10 mins	Discussion	Participants	• What is your understanding of a digital human? Discuss this topic and share views on terminology and definitions of digital humans
10 mins	Presentation	Workshop Facilitator	• Set the scene and introduce the workshop topic/problem **Digital Bodies: "An introduction to Digital Humans and the potential for opportunity and risk to the fashion's ecosystem"**

5 mins	Clarify Objectives Credit: https://www.smestrategy.net/blog/what-is-scenario-planning-and-how-to-use-it	Workshop Facilitator	
20 mins	Driving Forces	Participants	In groups identity the current external driving forces/trends impacting their industry using the PESTLE analysis tool https://miro.com/app/board/uXjVPTcoofA=/
15 mins	Critical Uncertainties	Workshop Facilitator & Participants	• Discuss the driving forces contributed to all participants • Plot the driving forces between the arrows of Higher and Lower importance to identify the most critical uncertainties, which will help identify the axes on the following activity.

			*One must include Technology as a driving force
20 mins	Plausible Scenarios	Participants	• In your group, using the critical uncertainties as a guide, decide on the Extreme A/B for your vertical axis. This is will definite your 'worlds' in which scenarios can appear. • Using quadrants in Miro Board, develop the plausible scenarios in the future * The further away from the centre, the more extreme the scenario is
5 mins 10:30	Plausible Scenarios	Participants	• As a group decide on the title for each Quadrant which represents the scenarios included. You will have 4 scenarios per group.
10 mins	Break		
20 mins	Discussion	Workshop Facilitator & Participants	• Discuss the scenarios and their overarching titles contributed to all participants

20 mins	Implications & Paths	Participants	• All participants to decide on the first 2 scenarios to explore further • Using template in Miro Board, develop each scenario further but suggesting implications and potential solutions to those scenarios using the post-it notes. How can these scenarios be optimized or mitigated
20 mins	Discussion	Workshop Facilitator & Participants	• Discuss as a group and identity key themes across all groups/stakeholders
10 mins	Questions	Workshop Facilitator & Participants	• Last thoughts or questions from the participants

Appendix 17: Survey (Research Information, Ethics and Research Questions)

Google forms link: https://forms.gle/UgZEdzYczGgcAiCS6

Conducting this survey will welcome you as part of a wider PhD study on the digital transformation of fashion, specifically DF consumption and identity.

Your contribution is important and will contribute to further our understanding of the future of sustainable fashion within a digital world.

This research is led by Jade McSorley, PhD Candidate at the University for the Creative Arts. Thank you in advance for partaking in this survey. Any questions please do email Jade: 2109880@students.uca.ac.uk

Ethics

*This research has been approved by the UCA Research Committee and will be conducted in accordance with UCA Research Ethics Code of Practice. All participants will be kept anonymous. Email addresses will be taken in this survey but only stored should the participant agree to partake in further research interviews and for the purpose of contacting them. All emails will be deleted upon completion of this survey on *31st December 2023.* Participants can withdraw their responses at any time by contacting

Jade McSorley 2109880@students.uca.ac.uk

RQ	Category	Questions	Type	Options
1	**Criteria (for observational interviews)**	Email Address	-	
2		What is your age range? (please do not continue this survey if you are under 18 years)	Multiple Choice	18-27 years 28-40 years 40+
3		Do you have access to the internet?	Required Information	Yes/No
4		Do you play video games?	Multiple Choice	No Yes Sometimes Yes, all the time
5		On a scale of 1-5, how important is fashion to you?	Multiple Choice	1-5

6		How often do you shop for fashion items?	Multiple Choice	1. Regularly (every month) 2. Very Often (every week) 3. Sometimes (few times a year) 4. All the time (everyday) 5. Never
7		What does fashion mean to you?	Open-ended Question	
8		Have you heard of DF?	Multiple Choice	Yes/No
9		On a scale of 1-5, how interested are you in the idea of DF?	Multiple Choice	1-5
10		Have you ever bought a DF item?	Multiple Choice	Yes/No/Not Sure
11		If so, can you describe what and where?	Open-Ended Question	
12	**Consumption Drivers**	Do you think DF is more sustainable than physical fashion?	Multiple Choice	Yes/No/Maybe

		Please could you explain your answer for the previous question	Open-Ended Question	
		Why would you or have you purchased a DF item? (you can choose more than one)	Multiple Choice	1. For Sustainability 2. Reduce consumption of physical items 3. For a video game 4. For an online event (such as in the metaverse) 5. For social media images 6. Friends are buying digital items 7. Wanted to be the first to buy something digital 8. As an investment 9. I would never buy a DF item 10. Other
		Where would you like to wear a DF item? (you can choose more than one)	Multiple Choice	1. In the metaverse 2. Social media 3. In a video game 4. For a meeting or work purposes

				5. Do not see the point 6. Other
		What do you see the benefits of buying DF items being? (you can choose more than one)	Multiple Choice	1. Can buy designer items that are cheaper in digital form 2. They are an investment for the future of the metaverse 3. They will reduce my need to buy physical items 4. They will offer me more ways to buy and love fashion 5. So, I can express myself in ways I cannot in real-life 6. An extension of my identity 7. Help my social presence 8. Other 9. None
		What do you find or see as the barriers for buying DF items? (you can choose more than one)	Multiple Choice	1. Nowhere to wear DF items 2. Lack of time to

				spend online 3. Lack of interest in DF and digital worlds 4. Affordability 5. Confusion and lack of knowledge about DF and its uses 6. Not Sure 7. Other
		What do you think would encourage you to buy digital over physical fashion items? (you can choose more than one)	Multiple Choice	1. It would improve sustainability in the fashion industry 2. More people were purchasing and wearing DF 3. Being able to express myself in a safe environment 4. More places to go and wear the items 5. Amazing experiences wearing digital items 6. Validation from others on your

				digital items 7. Being able to wear digital items across different platforms and environments 8. Only if the digital item had a physical item included as well 9. None, Digital can never replace physical Not sure 10. Other
13	**Identity Factors**	One a scale of 1-5, how important is creating your digital body before dressing your avatar or digital human?	Multiple Choice	1-5
		What would you like your digital version to be?	Multiple Choice	1. A representation of you (looks like you but not you, such as an avatar) 2. An expression of you (does not look like you but something that is an expression of you, such as a fantastical avatar) 3. A digital

				replication (looks exactly like you, such as a digital human) 4. Not sure 5. Other
		Please could you explain your answer to the previous question	Open-Ended Question	
		How would you dress your digital self?	Multiple Choice	1. Like I dress in real life (IRL) 2. I would dress differently to how I dress in real-life but still wants to wear 'life-like' clothes and brands 3. Fantastical and out of this world fashion – something I could not do IRL 4. Not sure 5. Other
		Do you want to feel connected to your digital self?	Multiple Choice	Yes/No/Maybe
		Please could you explain your answer to the previous	Open-Ended Question	

		question		
		What are the most important things for you regarding your digital self? (you can choose more than one)	Multiple Choice	1. Representation 2. Autonomy of self within digital world *which means, making an informed, uncoerced decision about your digital self 3. Empowerment 4. Expression 5. Connectedness with Self 6. Connectedness with Others 7. Ownership of digital self and data 8. Escapism 9. None 10. Other
14	**Behavioral Impact**	Do you think that buying DF could or has changed your consumption habits?	Multiple Choice	Yes/No/Not Sure
		Please could you explain your answer to the previous question	Open-Ended Question	

		What do you think you will or have felt from purchasing a digital item?	Multiple Choice	1. Satisfaction 2. Pleasure 3. Frustration 4. Disappointment 5. Need for more 6. Would feel or felt nothing 7. Other
		Please could you explain your answer for the previous question	Open-Ended Question	
15	**Digital Ethics (to inform scenario-planning workshop)**	What do you feel are the most key factors industry should be considering regarding the creation and use of DF and identities? (you can choose more than one)	Multiple Choice	1. Making it a sustainable alternative to physical fashion 2. Ethics (representation, avoid misappropriation or misuse) 3. Data Ownership & Privacy 4. Responsible Innovation (including safety, security, and trust) 5. More choice of fashion

				6. Affordability 7. Interoperability (allowing DF to be used across platforms) 8. Connection to the physical 9. Not sure 10. Other
16	**Criteria (for observation interviews)**	Are you happy to be contacted for further research?		

Appendix 18: Participant Table (Observational Interview with Netnography; Study Two)

Participant	**Pronouns**	**Job Title**	**Location**
1	she/her	Fashion business student	UK
2	she/her	Visual Merchandising Specialist	UK
3	she/her	Fashion futures Student	UK
4	she/her	Fashion Business Student	UK
5	she/her	Fashion Student	UK/Milan
6	she/her	Fashion Student (Textiles)	UK
7	she/her	Private Healthcare Nurse	UK
8	she/her	Ex Fashion Model	UK/Australia

9	she/her	Social media manager	UK
10	she/her	PR intern	UK
11	he/him	Shoe Designer	UK
12	she/her	Fashion Student	UK
13	she/her	Fashion Student	UK
14	she/her	Fashion Student	UK/France
15	she/her	Student	UK
16	he/him	Fashion Student	UK
17	she/her	Bookseller	UK
18	she/her	Student	UK

Appendix 19: Participant Information Sheet (Observational Interviews; Study Two)

University for the Creative Arts

Ethics Committee

Research Information Sheet

Project Title: Dress for the Metaverse: Fashion's Digital Transformation and its impact on consumption and identity [CONSUMER] (working title)

Method: Observational-Interview

Data Controller/Researcher: Jade McSorley 2109880@students.ucreative.ac.uk

Supervisors/line manager: Professor Martin Charter, Dr. Sian Weston, Professor Edmond Prakash

Collaborators: *DRESSX*

This research is a speculative exploration of the future role of fashion in virtual worlds, to understand why consumers buy and consume fashion for their digital identity. Fashion's digital transformation will provide a new way of dressing with the potential to foster a sustainable consumer culture.

Nature/ Purpose/ use of Data:
Your thoughts/opinions will be captured throughout this study over 60-90 minute observational interviews, conduced online, which will allow the researcher (Jade McSorley) to understand your response to wearing digital fashion garments and to understand how you would like to express your identity through fashion online. All transcripts, video-recording and notes will be stored within a password protected folder online and only used for the purposes of the study.

You will have the option to provide a photograph of yourself so that DRESSX can place digital fashion items upon your image. Images will not be used within the publication of the research unless further consent is given.

The Use or potential benefits of the study:
The aim of the research is to produce guidance for the fashion industry to responsibly innovate and sustainably develop digital fashion solutions through a better understanding of the fashion consumer within a digital context. There is little knowledge nor research from a consumer perspective on how digital fashion will impact identity and the way we consume. This study aims to offer guidance and considerations for industry to encourage ethical, sustainable practice regarding fashion consumption. Furthermore, it hopes to understand the significance of digital identity within the metaverse through a fashion context.

Likely duration of the project and Location:
This study will be online via Microsoft Teams and conducted wherever you are currently located. Please let the researcher know if you cannot access the internet and arrangements can be made.

The duration of the observational interviews will be 60-90 minutes. Follow-up interviews will be required if you wish to purchase a digital fashion item. Follow-up interviews will last around 30 minutes and be conducted 2-4 weeks after the digital fashion image has been returned to you.

Obligations and commitments of the participant during the study:

- You will be asked to explore two different digital fashion shopping experiences, DRESSX and Zepeto.
    - DRESSX website https://dressx.com/
    - Zepeto online browser https://now.gg/apps/naver-z/6351/zepeto.html
- You will be assigned a name and email address for the purpose of the study and so that you do not need to use your personal details to create accounts on these online platforms, should they require it.
- You will be asked to browse the DRESSX website highlighting items you like/dislike.
- You will also be asked to create and dress your avatar on the metaverse world, Zepeto.
- The researcher will ask you a series of questions whilst completing your tasks to understand your choices/attitudes/behaviours whilst using the platforms and observing the digital fashion items.
- The researcher will observe your behaviour during these explorations. You will share your screen with the researcher, and this will be recorded.

Digital Fashion Item Option

- You will have the option to choose a digital fashion item to purchase from the DRESSX collection. https://dressx.com/collections/dressx-collections
- The researcher will cover the cost of this item.
- If you wish to purchase a digital fashion item, you will need to send an image of yourself to the researcher. Image guidelines will be supplied by the researcher, who will then arrange a follow-up interview 2-4 weeks after receiving your digital fashion image.
- The researcher will ask if you wish to share your digital fashion image on social media (this is optional). If you agree, the researcher will observe responses on your social media page and ask you questions regarding those responses within the follow up interview.

How does digital fashion work with DRESSX?

- An image of yourself will be sent to DRESSX who will superimpose ("digitally tailor") the item of your choice on to your image. Refer to example below.
- Please read the DRESSX terms and conditions and privacy policy to ensure you are happy with their service before agreeing to purchase a digital fashion item.
    - Privacy Policy https://dressx.com/pages/privacy-policy
    - Terms and Conditions https://dressx.com/pages/terms-and-conditions
- DRESSX, under the instructions of the researcher, will end licensing of the image after the digital fashion images have been sent back to the participant.
- Digital Fashion images will be sent back to the participant within 24 hours of purchasing.
- Participants will have ownership of their digital fashion image. The researcher may only use the image for the purpose of the research and will not include it within publication unless further consent is given.



DIGITAL FASHION IS BECOMING VERY REAL. COLLAGE: VICE / IMAGES: COURTESY OF STEPHY FUNG

The rights of the participants:

Participants are free to withdraw from the study at any time without needing to justify their decision and without prejudice. In case of withdrawal of consent no further data regarding

their participation should be added to the project, and all records of their participation will be destroyed.

All personal data relating to volunteers is held and processed in the strictest confidence, and in accordance with the Data Protection Act (1998).

In consideration of the research nature of the study, participants shall not receive any reimbursement or payment. If digital fashion items are purchased, this will be at the expense of the researcher.

Information for further concerns or complaints:
Any concerns or complaint about any aspects of the way you have been dealt with during the course of the research will be addressed; please contact The Research Office, University for the Creative Arts, Falkner Road, Farnham, Surrey GU9 7DE
Tel: 01252 892922 Email: roffice@ucreative.ac.uk

Appendix 20: Participant Consent Forms Example (Observational Interviews; Study Two)

University for the Creative Arts

Research Ethics Committee

Consent Form

Interview title: Digital Dressing Observational Interviews

PhD Title (working title): Dress for the Metaverse: Fashion's Digital Transformation and its impact on consumption and identity

Data Controller: Jade McSorley, PhD Researcher, University for the Creative Arts
Supervisors/line manager: Professor Martin Charter, Dr. Sian Weston, Professor Edmond Prakash

Participant Name: [redacted]

Participant Pronouns (he/him, she/her, they/them): She/her

Participant Location: Middlesbrough

I confirm that I understand that by ticking/initialing each box below I am consenting to this element of the study. I understand that it will be assumed that unticked/initialed boxes means that I DO NOT consent to that part of the study. I understand that by not giving consent for any one element that I may be deemed ineligible for the study.

	Taking Part	Tick Box
	I confirm that I have read and understood the above and freely consent to participating in this study. I have been given adequate time to consider my participation and agree to comply with the instructions and restrictions of the study. - *an individual observational interview (online)*	/
	I have read and understood the Information Sheet provided. I have been given a full explanation by the investigators of the nature, purpose, location and likely duration of the study, and of what I will be expected to do. I have been given the opportunity to ask questions on all aspects of the study and have understood the advice and information given as a result.	/
	I voluntarily agree to take part in the study on Dressing for the Metaverse (working title), a theory-based research project.	/
	I understand that I am free to withdraw from the study at any time without needing to justify my decision and without prejudice and all records of my participation will be destroyed.	/
	I acknowledge that in consideration for completing the study I shall not receive any reimbursement or payment.	/
	I acknowledge that I have the voluntary option to purchase a digital fashion image which will require an image of myself to be sent to third-party collaborator DRESSX to be digitally-dressed. DRESSX (https://dressx.com/pages/about) is a digital fashion company and ecommerce website that offers digital fashion items to wear on social media, gaming or metaverse platforms.	/

	I acknowledge I have read both DRESSX's terms and conditions for their service, as well as their privacy policy which has informed me of my decision to accept or not accept a digital fashion item. DRESSX Terms and Conditions: https://dressx.com/12ages/terms-and-conditions DRESSX Privacy Policy: htt12sHdressx.com/12ages/12rivacy-l2Qlic	
Use of the information I provide for this project only		
	I understand that all personal data relating to volunteers is held and processed in the strictest confidence, and in accordance with the GDPR and the Data Protection Act (2018). I agree that I will not seek to restrict the use of the results of the study on the understanding that my anonymity is preserved. I u11derstand that my data gathered in this study will be stored ano11ymously and securely. It will not be possible to identify me in any publications	/
	I understand my personal details such as phone 11umber and address will not be revealed to people outside the project	/
	I understand that my words may be quoted in publications, reports, web pages, and other research outputs.	/
	I consent to my interview being aud1o and video recorded and understa11d that the recordings will be destroyed within 12 months after the data has been collected. To note: **If** you do not want your participation recorded you can still take part in the study_ Please infOlfm the researcher **if** you do not wish to be recorded.	/
	I understand that my image **will** only be shared **with** DRESSX with my consent and for the purpose of the DRESSX service_I acknowledge it will not be used in any way that would identify me in any publications and all licensing associated with the image **will** be ended by DRESSX on completion of purchase.	/
Use of the information I provide beyond this project		
	I agree to be interviewed and my contributed i11formation can be used i11 research outputs and publications by the researcher.	/
	I agree for the Transcript, pictures, interview, recording and any notes to be archived at UCA Research Online, the U11iversity for the Creative Arts (UCA) research repository and disseminated for reuse https://research_uca.ac.uk/	/
	I agree to be interviewed and the information I co11tribute can be used in research outputs and publicati011s by the researcher.	/
	I understand that the data will not be made available to any comllilercial organisations but it is solely the responsibility of the researcher(s) undertaking this study_	/

Name of volu[redacted] MILLER _ {81..cOCK CAP ITALS)

-HMILLER _ Date 05/02/24

Name of witness ____(BLOCK CAPITALS)

Signed __ .Date

Name of researcher/person taking consent J MCSORLEY
(BLOCK CAPITALS)

Signed Jmcsorley

Date

Appendix 21: DRESSX Digital Fashion Image Instructions

How to wear DRESSX and Digital Fashion

CHOOSE THE RIGHT PICTURE

1. Head to the DRESSX collection to choose an item up to $100 https://dressx.com/collections/dressx-collections
2. Email Jade Mcsorley 2109888Q@students.ucreative.ac.uk, with
    1. Link to the chosen
    2. An explanation on why you have chosen that item
    3. An image of yourself using the recommendations on the following pages



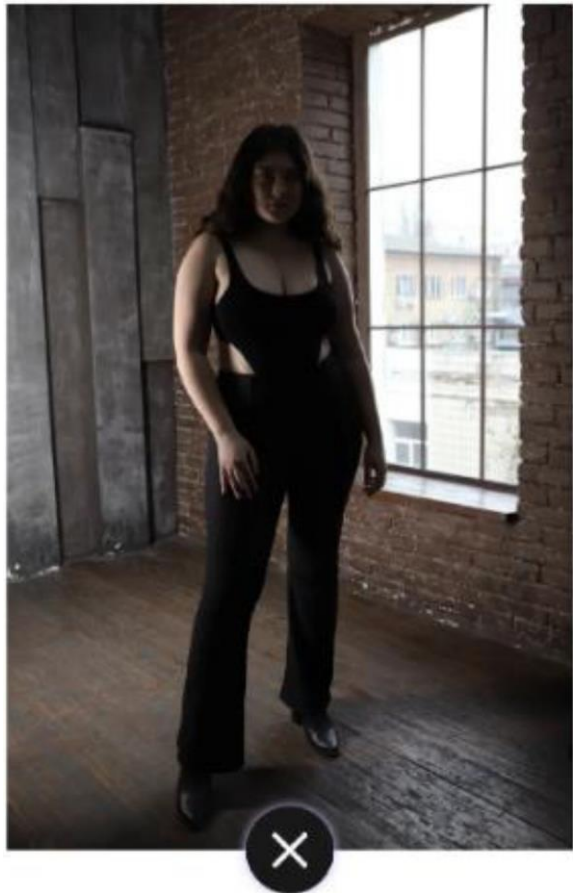
NATURAL LIGHT

Make sure:

- your picture is well-lit
- the light is even on a face and body

Avoid:

- strong shadows
- photos taken against the sun





FITTED CLOTHES

Make sure:

- your physical clothes are well-fitted (swimsuit or sportswear will work best)

Avoid:

- oversized or baggy clothes





HIGH QUALITY

Make sure:

- your image is at least 1MB in size
- the image looks sharp and clear

Avoid:

- low quality images
- pixelated or blurry images





UNCOVERED PARTS

Make sure:

- your physical clothes do not cover the body areas visible jn the digital look (i.e. your legs are open for the short dress)
- your physical look pairs well with the digital outfit In cases when your [redacted] transparent. unzipped,.unbuttoned etc.

Avojd:

- physical clothes that exceed the lengths or volume of your digital garment

Remember, DR ESSX can digitally dress you, but never undress.



Appendix 22: Confirmation of Ending of Image License (Observational Interviews; Study Two)

Date: 27 May 2024 at 17:27
To: 2109880 Jade Mcsorley 2109880@students.uca.ac.uk

Caution: : The sender of this email is external to UCA. Do not follow any links or open any attachments unless you are sure that the content can be trusted.

Dear Jade,

How are you? I was actually thinking about you last week and was about to send you an email.

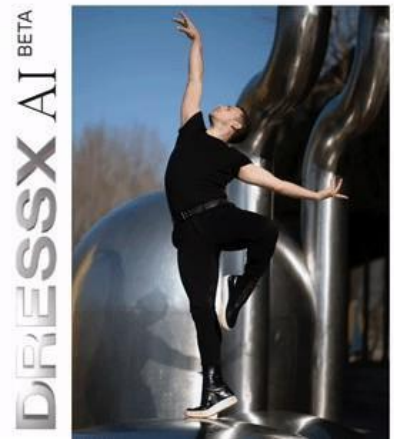
Yes, I confirm that the license has ended.

Let me know what are the next steps.

Warm regards,

Olga

Olga Chernysheva
DRESSX Project Success Manager
Mobile: +33625839127
E-mail:
olga@dressx.com



Click to download DRESSX MOBILE APP

DRESSX

Sender notified by
Mailtrack

On Fri, May 24, 2024 at 7:25 PM 2109880 Jade Mcsorley <2109880@students.uca.ac.uk> wrote:

Hi Olga

I hope you are well?

Apologies I have beei a little quiet on this. I am currently putting together all the findings now which is revealing some interesting insights! It's quite a lot of data so taking me a while! Thank you again for your help with this research.

In the meantime, please could you check these orders to ensure that the licensing has ended for ethical procedure

#6555	Mar 17, 2024	paid	fulfilled	$50.00
#6551	Mar 05, 2024	paid	fulfilled	$45.00
#6548	Feb 26, 2024	paid	fulfilled	$16.00
#6546	Feb 22, 2024	paid	fulfilled	$72.00
#6545	Feb 22, 2024	paid	fulfilled	$60.00
#6540	Feb 19, 2024	paid	fulfilled	$40.00
#6539	Feb 19, 2024	paid	fulfilled	$30.00
#6538	Feb 19, 2024	paid	fulfilled	$30.00
#6537	Feb 19, 2024	paid	fulfilled	$40.00
#6535	Feb 16, 2024	paid	fulfilled	$50.00
#6534	Feb 16, 2024	paid	fulfilled	$60.00
#6529	Feb 08, 2024	paid	fulfilled	$32.00

Thank you so much
Best wishes
Jade

Jade McSorley
PhD Researcher, University for the Creative Arts
Fashion Innovation & Sustainability
E: 2109880@students.ucreative.ac.uk

Associate Lecturer, London College of Fashion, University of the Arts London

Appendix 23: UCA Research Ethics Code of Practice

updated May 2020

University for the Creative Arts

Research Ethics Code of Practice[1]

1. Backgr,ound

Tihe University for th.e Creative Arts is committed to supporting good practice in research arnd saho!arly actMty. Conducting research in accord'arn.ce with ethical principles is oonsidered to be of fundamental impartarnce.

Tihis document defines the scope of the University's Research Ethics Code of Praciioe and sets out th.e guiding principl!es, responsibil'ities arnd procedures for the developmernrt and oonduct of research in an ethical manner within the fonmal academiic framework of the University.

Tihe Research Ethics Cad,eof Practice fonms an essential pant of the University's academic governarnce framework., wtlioh includes the following:

- UCA Research Ethiics Code of Practice
- Guideliines on Good Research Conduct
- UCA IP Policy and Gllklellines
- UCA Policy and Procedures on Academic Misconduct
- UCA Equality and !Diversity Policy
- UCA Health and Safety Policy arnd Procedures
- UCA Research Data Management Policy
- Cade of Practice for the Investigation of Research Misconduct

2. Definitions

2.1 'Research', in this oontext:,.is defined as 'a process of investigation leading to new insights effectrively shared'.[2] 'Scholarship' refers to the maintenance arnd advancement of one's own personal knowledge and skills to maintain up-to-date professional!exlpert11se.[3] Research iin the Creative Arts incorporates mode,sof inquiiry through practice, including processes of making that enhance knowledge and understanding.

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[1] This Code was originally an appendix in the dorumen! 'Research and !Ethics (non-clinical),at Bath Spa College' (Davies, P,.2001),. It was amended rin 2012 by taking consideration **of** the IRCLJIK Common Principles on Data Policy, and by .studying other insti!utkma'l Research Ethics Code of Practice including University of Bournemouth and University of the Arts London, and the !Research Data Management policy framework developed lby the Universmyof lEdinbtJrgh. lihe latest iteration (2020) incorporates procedural updates reflecting ,new systems for online guidance and submission ofliier 1 and Tier 2 fonns introduoed in academic year 2019/20.

[2] Re.seardh Excellence Framework: Second Consultation on the assessment and funding of research, http:l/www.hefoe.ac.uk/pubs/hefcel2009J09_381)

[3] UNlESCO, Recommendation concerning lhe Status of Higher-Education Teaching Personnel, 1997, http:i/portal.unesco..org/en/ev.php..URL_ID=131144&URL_ DO=DO_TOPIC&ILJIIRIL_ SECTION=201.html

2.2 For the purposes of this document the phrase h.uman partialpants' refers to persons irnvolved in formal University reseamh activity. For example, hrough subjects involved with artworks, field wmi<, through human specimens and samples, surveys, interviews, recording1of images and or sound, film or emergirngimedia and formats, hrough the observation of groups or ind'ividuals etc.

2.3 Research within this definitiorncan be undentaken by:

- Undergraduate and Postgraduate students undertakirngi research as part (or all) of a qualification whether taught (BA / BA Hons / PGCert / PG□ip / Masters)4 or by research (MPhil / PhD)
- Academic staff and supervisors of students merntiorned above
- Personal research, collaborative and participatory research, arnd contract research
- All staff undertaking research with students (at any level) or with other members of staff.

3. Issues **and** P1rinclples

3.1 As a matter of prinalpl.e, all research is subject to ethical considerafons and risk assessment taking into account professional codes of practice / standards where these exist, and subject specifi.city.

3.2 All researdh involvirng human participants, whether conducted in a direct or Vi1nual or any other way, must consider the following issues from the inception oftihe research project. Researchers shoutd **be** in a position to justify their research methods should it be required:

i. the value of the researdh
iii. informed cornsent
iv. opernness and hornesly
iv. right to withdraw without pernality
v. confidentiality and arnornymity
Vil. protection from harm
vii. briefing arnd debni.e ingi
viiii. reimbursements, paymernts and rewards
ix.. experience of researcher and suitabmty of methods employed
x. ethics standards of extemal bodies and institut1orn.s
xii. research for clienls/cornsultants
xiii. research data management

3.3 iflhese iissues requir:e careiul consideration and the prirnciples laid out be!ow provide lhe basis for good practice in research management

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This Code of Practice and procedures for the review of research ethics ar,e available and applicable to all students of the university at a'll levels. However, be'low Research Degree (PGR) and Masters (PGT} level, students andheTrtutors are advised to consider carefully whether the 1proposed research can be reframed to avoid the need for etihical ooncsideration and review beyond the Ti,er 1,checklist, as such processes may lbe tjme-consuming and comp'lex.

4!.The Value of the Research

4.1 The value of the researah, in terms of its original!contribl.!lltion to knowiledge and und'erstanding, sho1Jld be made apparent to all irlrVolved wherever possible. In the case of deoeptive or some covert research this does not apply to participants, but meeds to be justified through the procedures outlined below. It is recogniz-ed that investigations through practice in the Creat1ive Arts arnd cognate areas has Hite potential to lead to origirnal insights, rn.ew understandiing and innovative applications, or d1allernge c1Jrrent bo1Jrnd'aries of knowledge or excavate lost knowledge. This may be achieved through, .amongst othera means, observation, experimentation, exp!loratio:n of and reflectio,non mat.enial processes and th.eir constituent elements and protoco'ls, re-combi:natiorns, reconfigurations, re-contextualisations arn.d interpreta ions.

5. Infonned Consent

5.1 Informed consernt by individuals, guardians or indi1.1iduals acting *in* loco *parentis* can be complicated (particularly when children are involved).. The default position is that free and infonmed corn.sent should normallly be gained irnwriting from the participarnt(s) and/or theiir properly authorised representative{s).

5.2 In exceptional cases there may be reasons why the paRicipant{s) or representative{s) wish rn.ot to sign consent themselves. In such cases the researcher should recond coRSent. Even **where** an authorised representative gives consent, the 'real' consent of the participarnt shoLJtd also be obtained (see also right to wi1!hdraw).

5.3 The wond infonmed is important arnd the paAicipantfs sho1Jld have an 1.Jrnderstandi:ng of the project aims, objectives, any potential benefits or harm that may arise and likely ouroome of the research (e.g. exhibition, publication etc).

5.4 Consernt given does not oblige the part.icipantto engage with he research in any formal or legatistic sense. However, it sh.olltd be made clear to part1icipants what commitment they are corn.sent1ing to, and that th.ey are in .eftiect consentirng to carry through th.e agreement.

5.5 The secondary analysis of data through access from their 'gatekeepers'[5] does not negate th.a research.ers involf.ted from considering issues relating to consent except where th.e gatekeeper can act in law as the consenter (e.g. is a parent or guardian).

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[5] Gatekeepers' within this context are people or organisations who provide data, in any form whether visual or w,ritten, for use by !he researcher.

6. . Openness and Honesty

6.1 As a default, research should be carrie,dout inan honest and open manner,. wi1h participants fully and hon.estly inlformed about the research ratiionale, method(s) and outcomes (see informed consent above). Some tyiPeS of research (deceptive and some forms of covert research) may be exceptions and m11st be agreedl (see below).

7. . Right lo Withdra.w without Penalty

7.1 It should be made apparent to all potential!participants, as part of th.e informed consent process, that they are free to withdraw wittmuil penalty from the research prnjeot, even if they have received indu.caments or payments. They may also request that consent be withdrawn retrospeotively an.d that any accrued data reg:arding them be destroyed.

7.2 Those whose consent has been given through a surrogate can themselves request to withdraw from the researnh.

8. . Confidentia.lity and Anonymity

8.1 Privacy is normal praotice iin research and law. Co:nfidentiallity and anonymity becomes a real issue when data is recorded on a computer or when named organisat1ions are reported upon where individual ror.es cannot be hidden.

8.2 Data should lbe ooded! and stored in a manner that does not allow direct recogni1ion of indi'w11duals within the stored data set(s) by anyone other thanhe researdher or research team. Data should not normally be shared with others without the consen,tof the subject or their surrogate.

8.3 If it is suspected (due to the nature or context of the research wor1<)hat anonymity cannot be guaranteed even if data are coded etc. then this limltation should be made aware to the pal1idpants together with details of plans to disseminate the outcomes of the research.

9. . Pirotectian ftom Hann,

9.1 Researchers have a responsibility to ensure thathe physical, social and psychological well-being of research participants is not affected in an adverse manner by the research.

9.2 The relat.ionship should be one of ml.itual respect a:nd based, wherever possible, on tnust.

9.3 Any undue risk is considered when this is deemed to,be above a11d beyond! risks run in the no1T111all everyday lif,eoftlhe panicipants. Particu11ar care is n.eeded when the participants are from vuln.erable and/or powerless grmips.

9.4 Th.a responsibillity for pmtection from ham, does not necessarily end wiith the researdh project; it may extend! to the life of th.a data set Particul'ar care needs to be taken when discussing the re.suits of

research projects with those *in* loco *parentis* or other consenting posiUons, since such discussion may prejudice altitudes toward **the** part.icipants.

10. Briefing and Debriefing

10.1 As well as being informed about the research, participants should be adequately briefed as to how the research is to be carried out from i.nception to dissemination (see infonrned consent above).

10.2 Wherever possibl:e, participants should allso receive information relating to the out.comes of tihe research and where appmpniate debriefing may need to be used to negate any post-participatory effects, for example where new insights may induce negative peroeption or changes in behaviour.

11. Reimbursements, Payments and Re.vards

11.1 Any arrangements should be olearly articulated lo participants, in writing wherever possible. If staged or progressive payments are involved tihese should be ctearl:Y articulated from the beg,inning.

11.2 Withdrawa'l of the participant between stages does not negate the obligation to reimburse the parncipant for completed stages. Reimbursements, payments and rewards may not be used to induoe parlkipants to take undue lisk.

12. Experience of **Researcher and Suitability of the Methods Employed**

12.1 Investigators should have the relevant academic/professional competence to plan and ca.rry out the research project and lo be ab!,e to consider and, where necessary, justify, the metlhods employed.

12.2 In particular, they (meaning either an individual in terms of an indiV1idually-led pmjeot, or the 'team' in the case of joint research) shoutd have experience of dealing with the ethical dimensions of the research. In the case of studenls, the supervisors/tutors sihould have such experienoe.

13. Etihlcal S1andards of External Bodies and Institutions

13.1 Where external bodies and instillltions (either those funding the research, such as AHRC, or professional bodies to which the researcher be!ongs) have their own ethical codes or professional standards, these must be followed.

13..2 If there is any conflict with University plindiples and procedures these should be identified as soon as possible and the Chair of the Uniiversity Research Committee notified.

13.3 This Code of Practice covers research involving human participants and does not cover anima! welfare. In the eventthat re3earch involves animals, the relevant animal welfare legislation and Codes of Practice mllst be followed.

14. . Resear,ch for ClientsJConsultants

14.1 Where ii is necessary, ethical positions should be darified with external clienrts and organiisations prior to the research beginning. Agreement should be in writing. It is partioularly important to detemiine data ownership rights, inteHectual property rights and lights lo publiish (on both sides)., since this establishes future 'gatekeepers'.

14.2 Gare shourd **be** talk:en not to compromise the !University ethics guideliines and/or any relevant professional code.

114.3 Further advioe concerning the negotiation,sof Intellectual Property and its exptoitation can be obtained from he Research Office.

15. . R.eseareh Data Management

15.1 Research data management is necessary to:

- Safeguard research integnity and replication.
- Ensur,e research data andl records are accmate, comp'lele, authentic andl relliable.
- Enhanoe data security.

115.2 Research data is collected, observed or created for purposes of analysis to produce original research results. They may be produced through observation, experimentation and simulation. Data can for instance be extracted from text or images or compiled in databases or 30 models. It can refer to collection of smal!er (peer-reviewed) datasets, most probably published and curated.

15.3 Research data can take,on marny different formats depending on the discipline and on instruments employed in the research including: text (PDF, doc., rfl.), images (raw, tif,), databases (Excel, Access), multi-media (Quicktime), 30 or statistical models, software ijava), specific microscope data formats, or other emerging digital formats.

15.4 Research data may include all of the followingi:

- Documents (text, Word), spre·ad sheets
- Logs, field notebooks, diaries, workshop note books, sketch books
- ·Questionnaires, surveys, interviews, transcripts, codebooks
- Audiotapes, videotapes
- Photograrphs, films
- Test responses
- Slides, artefacts, specimens, samples
- Collection of digital objects acquired an,dgenerated durirng the process of research
- Data files
- Database contents (video, audio, text, images)
- Model s. al'gorithms, scripts

- Contents of an application (input, output, log files for analysis softw.are, simulation software, sahemas)
- Methodologies and wor1kfl!ows
- Sta,nd!ard operating procedures andl protocols
- Other emerging digital! formats
- The following research records may also be important to manage during and beyond he life of a project:
- Correspondence {electronic mail and paper-based correspondence)
- Project files
- Grant appl!icatio:ns
- Ethics applications
- Technical reports
- Research reports
- Master lists
- Signed consent forms

15.5 Researchers are responsibl!e for ensuring at files are:

- Rationalised botih during and upon completion of a research project.
- Stored in a single place and backed up regu!arly..
- Stored securely minimising he nisk of loss, theft or unau horised use.

15.6 At the end of a research project, researchers need to have:

- Determined the rationalised documentation and eflectronic information which must be retaiined on completion of ihe research project.
- Identified the period for retaining research data observing any legal or regulatory frameworks for particu!ar types of rresearch as well as te11ms and conditions imposed by external research organisations or collaborators.
- Identified the material ilat can be safely discarded and apply appropriate measures to destroy tapes, discs and other el:ectro:nic storage units and confide:ntiallly destroy ihard copy documentation adhering to institutional processes and procedUires.
- Implemented archival processes for IT software in order that any raw data may be accessed at any future date.

16. Intended Dissemination

16.1 The intended dissemination. for example through a joumal article,, a book ohapter, througih film or photography, through internal or external report, through pubticly accessible websites etc., should be relayed to the participant as part of the consenrt process. Wherever possibte summaries of research outcomes should be relayed to participants.

17. Conslderati on of Elihlcal I:Ssues

17.1 As outlined under 3.1, all research is subject to ethical oonsideration and requires an assessment of ethical risk, taking into aocount professional codes of practice where these exist, as well as subject specificity.

17.2 Tile following research would normaUy be considered as involving more tha.n minimal risk and therefore **requlr&.s documented measuires to mitigate potential. risks, and consideration by the University Reeearrch C:ommitt.ee:**

a. Research involving v;ulnerabte groups or individuals, for exampte children and young peop!e under 18, tlhose with a learning disability or cognilive impairmemt, or indi\lliduars in a dependernt or unequal relali.onship.
b. Research involving sensitive topics such as:
   - Sexual behaviour
   - Illegal, poritical or religious behaviour
   - Experience of violenoe, abuse, exploitation and/or other racist or sexist behaviour
   - Mental health
   - Physical health and treatment
c. Research involving groups where the pe1111ission of a gatekeeper is normally required for initial access to members, e.g. elihni.c or cultural groups, nal.ive peoples or indig.enous communities.
d. Research invo!ving deception or which is conducted without participants' full arnd informed consent at the time the study is carried out
e. Research involving access to records of personal or confide:nlialiinfom,ation concerning identifiable individuals.
t Research that would induoe psychological stress, anxi.ely or humiliation or cause more tha.n minimal pain.
g. Research involving intms11ve interventions such as vigorous physical exercise, where participants would not normally encounter such interventions, or which may cause them to rev,eal informa tion lihat causes concern in the course of tfhe:i:r everyday life.

17.3 Vulnerab e grouips incl 1.1de any person(s) who may be prectuded from giving informed consent Note ttiat this does not necessari[ly include all groups whose consent is given by par,ents or by those *in* loco *parentis.* It should additionally be noted that even in those circumstanoes the 'real' consent of those individuals under study should also be sought wherever possible (sample consent forms are avail!able from the Research Office).

117.4 Deceptive research is that which is undertaken when he investigator deliberately concea s or significantly misrepresents his or iherselllf, the true nature of the research or any ofuer significant aspect of the research: examples may include covert observation, the stat1ing of a misleading research purpose or providing a misleading professional identity or institutional affiliation on the part of the researcher(s).

17.5 No specific approval is needed for research not covered within the catego·nies detailed in Section 117.2, although all projects must adhere to the principles laid out in this Code and the University requires all staff or slilldents undertaking research to ensure that at eaoh stag,e of the process, research is undertaken in a professional and ethical manner.

17.6 In particular a.ll researchers will ensure that:

- Respect for InleUectual Property Rights and Copyright law is maintained in oompliance with University guidelines.
- Researchers wiH be open and tran,sparent regarding the purpose, methods and possible uses of research.
- Researchers will maintain the right to anonymity of any research respondenrts/subjeots, and highlight aniy possible risks to staff or subjects a1rising from the research.
- Resea,rchers wiH act within the law regarding the sourcing and use of research information and respect the obligation to acknowledge support and collaboration.
- Researchers willl at al! times act within llhe ₁aw of the UK and the law of any other 00l.mtry within which the research is being undertaken.

17.7 Research involving animals/animal tissue requires a license under the Animals (Scientific Procedures) Act 1986. Research involving human tissue, including its display, requires a license under the Human Tissue Aci: (2004). Experimentation/ anatomical examination in human morbid anatomy requires a license under the 1984 Anatomy.Act.

117.8 Research involving NHS patients or stafl must be approved by NRES; see the NIRES website for further information (www.nres.npsa.nhs.uk). Research involving patients or staff of other medical providers must be ethically approved by these institutions.

H .9 If there is any doubt as to whether a particular research project needs approval, advice shoutd be sought, for staff, from the Research Manager or Head of School, and for PGR students, from the iReseamh Degrees Leader o:r supervisory team.

18. Procedures for Considering Research Ethics

118.1 Projects requiring approval under section 17 above will be required to seek that approval from the Univers!ly Research Committee (RC), which is the University's authority for the consideration of research ethics.

18.2 UCA operates a two-tier system of research ethics consideration and review.. E:thics guidance and prooed1.1res and facili1ies for the online submissi on of forms can be foun.d on myUCA. AH researchers (slilldent or staff) should consider fue ethical dimensions of their work by oomp!eling and s1Jbmitflng (via myUCA) the l**Research Ethics Tier** 1 **Checklist,** and discussing this with their line, manager, supervisor or tutor. If it is determined from this review that no further action is necessary, a copy of the re,levant documentation should be kept by the res.earcher, within the 'Research Office and

the School/Department, and the research may oommenoe. If the researcher answers 'yes' to any of questions 1 - 11 in the Checklist, they should take further action as set out in 18.3a (for staff and students except PGR students) and 18.3b (for PGR students).

18.3a If prompted by the Tier 1 Checklist, Staff researchers and students exce:pt PGR students should complete the **Reseal"Ch Ethics Tier 2 .Application for Approval** form. The Tier *2* form dooument s the proposed research in further detail and Irequires the researcher to set out measures to mitigate the potential risks identified in Tier 1. The Tier 2 form should be completed, signed by the Head of Schoo! / Director of Department / Programme Director, and s1.Jbmitted to the Research Office for consiideration by the Reseamh Committee.

18.3 b If prompted by the Tier 1 Checklist, PGR students registered Wii h University of the Arts Londbn sho1.Jrd complete· he UAL Post-registration IReseardh Ethics A[pproval form and seek approval from UAL's Research Ethics Sub-Committee (RESC).

18.4 Under no circumstances shourd research be started prior to approval being given.

18.5 If' e proposed research changes at any time such that new ethical considerations are introduced,,the Tier 1 and (if applicable) Tier 2 processes must be repeated.

18.6 Ethically-responsible conduct is good research practice and failure to comp!y with the basic requirements through deliberate, reckl,ess or negligent acti.on could result in research misconduct and ultimately action in aooordance with the University's disciplinary proced1.Jres. 1However, it is important to note that genuine and honest errors do not constitute misconduct

19. Responsibility for Ethlcal **Revtew**

19.1 UCA's rese•aroh ethics system procee<is from the researcher taking responsibility for ethical processes, usilng the guidance and Tier 1 and 2 forms to identify ethical risk arnd appropriate mitigations, if required.

19.2 Responsibility for initial consideration {Tier 1) ofthe ethica! implications of student research for students except PG.R is the responsibility of the student in oon!Sultation with the tutor or subject leader. If required, further approval via Tier 2 shoutd be sought from the Programme Direotor and the University IResearoh Committee.

19.3 Undergraduate students should initially discusshe elhi,cal implications of their proposed project wi their tutor or subject leader prior to undertaking1suoh a project. IIf neoessary, ful"liher advice shoutdl be sought from he Programme,Director before approva,l is requested from the University Research Committee. As outlined in note 4, UG students and Uheir tutors are advised to consider carefully whether the proposed research can be reframed to avoid the need for extensive ethical consiideration and review.

19._4 Respcmsibility fo:r in1itial consideration (Tier 1) of the ethical implications of research in research degrees (PGR) is the responsibility of the st1Udent, 9uided by their supervisory team. If requir,ed, further approval s!hould be sought via UAL resea.rch ethics processes.

i9.5 Responsibility for initial consideration (Tier 1) of the ethical implications of staff research projects is the responsibility of the researcher, in consultation with their line manager. If required, further approval via Tier 2 should be sought. from the Head of School / Department Director and the University Researnlil Committee.

19,.6 The UCA Research Ethics reporting structure is as follows:

Academic Board

1'

Uniiversity Research Committee

1'

School Management Team/ 'Department Director

1'

Supervisor/Mentor/Course Leader

1'

Researcher(s)/Student.

19._7 The University Research Committee submits regular reports and minutes of me.etings to the Academic !Board.. However, this Committee retains absolute,independence in the consideration of the ethical status of research. Review of any applications for ethical consiiderati.on is a standing item on the Committee's agenda, and will iinclude a summary of Tier 1 Checklisl.s and consideration of Tier 2 Application forms. The Research Offioe will scrutinise all Tier *2* forms and present them to the Research Committee with one of two recommendations:

- the miiiigations documented are appropriate and sufficient and it is recommended that the research is approved.
- the mitigations documented are not appropriate or sufficient and detailed consideration by the Research Committee is required whidh may result in further mitigations or reframing of the research.

Research Office recommendations are for guidance only and responsibility for ethical decisions llies with the Research Committee at all times.

rn.B The University Research Committee is respoMible for g,uiding ellhi.cs policie-s and processes and reviewing applications.

19.'9 Researchers have the right to appeal against decisions made by the University Research Committee followinghe general UCA appeals procedure. Written minUil:es recmdingi key arguments and decisions must be kept from ethical review meetings.

19.10 In he event of a project needing an urgent approval for a funding body, it 'NiHI be possible for the applicatio:n to be submitted whilst awaiting UCA ethical review, provided this approach is acceptabl,e to the funding body concerned. Research must not oommence until ethical approval from UCA has been granted.

19.11 The consideration of ,ethical implications must be continued throughout the entire research project. Researchers and supervisors/mentors should attempt to forecast likely et'lhical chaUenges and state how these will be addressed in the research design. If during the course of he research unanticipated ethical problems arise, il will be ne.cessary to reoord detai'ls of the problem and the solution arrived at in writing. School Management Team / Director of Department are also available to further disouss issues arising 1during research.

19.12 Siginificant problems experienced with parrtiicipants should be recorded and reported lo the staff responsible for approving the project. Circumstances liike!y to have a significant legal, moral or public relations impact on the University should be referred to the Univers,ity Research Committee.

2.0. legislation

20.1 Data Protection Act

Tihe collection, management, storage and pubfication of research data by researahers must comply with lIhe Data Protection Act (DPA) of 2018 and the Gene al Data Protect ion Regulation (GDPR). !Researchers should ensure compliance with the University's Data Protection Policy {lhttpsJlwww.uca.ac.ukldata-protection-policiesf)

20.2 Freedom of Information Act

Tihe FIA gives members of the publiic a general night of aocess ta doouments produced by a publiic authority. IJnless there are grounds to apply a limited number of exemptions ii is likely tha1t the public would have access lo the final, pubHshed versions of research projects. Researchers should consult with the Freedom of Information Aot htlp://WwwJegislation.gov.uk/ukpga/2000/36/oontenls

20.3 Animal Welfare Aci

Where research involves llving animals, researchers should oonsult guidance o:n the Animal Welfare, Act (2006): http://www.legislation.gov.uk:/ukpga/2006/45loontenls

20.4 Human Tissue Act

The HTA concerns the storage, use and display (and for deceased patients, removal) of human tissue. Human tissue includes any material from a human body including human cells, live gametes and embryos created ouilside the human body (although not hair and nails firom 11iving humar.s). Where

research involves human tissue, researdhers should consult guidance on the Human Tissue Act 2004 (HTA): http:1/www.legislation.gov.uk/uk.pga.12004/30/contents
Stem cells and cell lines used for human application are also subject to regislative control, either by the provisions .of the HTA or the EU Tissues and CeHs Directive.

20.5 Europe Direct
Europe .Direct Documentation Centres and Infomnation Centres frlelp universities and researdh institutes promote and develop education and reseamh on Euro;pean integration., encoura9in9 them to take part in the debate on Europe. They also provide general :EU information (awareness-raising events, websites, publications, engagement with local media) and handle public enquiries in person or by phone/e- mail. Website: http://europa.eu/eumpedirect/index_en.htm

Appendix 24a: Focus Groups 1 - New York - Transcript and Coding (Study One, part one) 10 minute extract example.

Focus Group 1 – New York

Wed, 5/11 12:42AM • 53:24

SUMMARY KEYWORDS

metaverse, avatar, digital, agency, scan, blockchain, modelling, model, create, image, people, client, happen, pay, contract, world, aligned, money, labour, guess

SPEAKERS

Participant 2, Participant 3, Participant 1, Participant 4, Speaker 5, Researcher

Codes
Upskilling and Education
Ownership
Payment Structure
Control
Legislation
Model Value and Perspective
Representation
Benefits
Ethics

Transcription	Initial Coding	Codes
Researcher 00:00 All right, so I'm gonna record it as well. Hopefully it'll pick up a microphone.		

No, not for me. Definitely not. But But yeah, no, I think that'd be fine. And okay so, actually, so nobody has been scanned, you said no one's been scanned,		
Participant 1 00:28 No, the only way I've come somewhat close to it is I was at Anthropology, and they didn't have the clothes yet. So I just stood in a bra and shorts, and they said, AI will scan my body type and put it on me in post. I didn't question it. Because I was confused.	Shooting in underwear Didn't question why	Ethics Upskilling and Education
Researcher 00:47 Did you question it?		
Participant 1 00:48 No, it was like three outfits. And I was like, Okay,fine	Lack of confidence to speak up	Ethics
Participant 2 00:51 Do you know what it looks like?		
Participant 1 00:52 I haven't looked on their website.		
Researcher 00:54 So did you did you get videos?		
Participant 1 00:56 Obviously, what you do ecom, it's not out there poses anyway. But they		

were just do your own thing. And we'll just put the clothes on not after that was a few weeks ago. But actually at the start of COVID. In Australia, the clothes didn't come from China and time. So they did the kind of same thing. And that was for a whole campaign. So i was just in bra and shorts. And they just put it on me a post because they didn't get the clothes delivered. And it **Researcher** 01:22 was just on a like a camera and they just did videos? Yeah, it's not like a 3D asset. **Participant 1** 01:56 No mine wasn't like that. Yeah it was on the website. **Researcher** 02:01 Okay. So after that presentation? How, how would you like to see your kind of digital twin created? Are you more on the photorealistic side like being scanned? Or would you prefer not having like this kind of Avatar created of you like, which you feel more comfortable with? **Participant 1** 02:36 I think I like the digital one better. We've got the mannerism, mannerisms	COVID use case	

and stuff, but only if I was also used as well, to a certain point like all this half and half, I don't want to just be like, That's all gone forever. **Researcher** 02:52 Yeah. Yeah. Do you think it would be uncomfortable to see yourself as like 3d? **Participant 2** 03:00 not uncomfortable, just because you can't distinguish between the two? I think that's a that's virtual and that's you. No, yeah, that wouldn't make me uncomfortable. It'd be uncomfortable seeing me not having control over my body, or my mannerisms or anything like that. **Researcher** 03:16 Okay. Yeah. So you wouldn't like it to be used? Beyond... **Participant 2** 03:23 Whatever purpose it is you created it for Yeah. And then avatar, I think I'm just against that, because people can manipulate or change it or whatever it may be. Whereas I think maybe the digital one might be harder. But that might be my ignorance. **Researcher** 03:36	Likes mannerisms of the individual to be presented Uncomfortable feeling towards lack of control Avatars are easier to manipulate Usage, Control, Ownership, Ethics Lack of understanding	Represenation Control Control, Ethics Upskilling and Education

What about if you had more control over how that Avatar was looked like, for instance? **Participant 1** 03:57 Well, then if you control how the avatar looked, and you say it wasn't necessarily a complete representation representation of you, why would it be me at all? And why would it just not be different than like something completely different? **Researcher** 04:10 I mean, I guess it comes from why you've chosen certain aspects to create that avatar, is it? Is it a conscious decision of you to look in that ways? It's like Why have you chosen to look so different? Do you think of that kind of still connected to you as a person? **Participant 1** 04:30 Well, I guess if everyone could make, say, models could make an avatar of not just how the world now what, like hypothetically, everyone gets to make an avatar, but then everyone chose to make it different than what they looked like. I'd sort of think what's the point? Because then you've	Wouldn't be me if it didn't look like me No point in not looking like self	Representation, Ethics Representation

got loads of avatars that aren't a true representation of the models so it could be its whole completely just completely animated versions as people manipulating their face on yeah and stuff. Anyway, like that kind of stuff. Most I feel like that's slightly defeats the object of a model making it for them. That's what they look like to not to keep working for what they look like if you're going to change what you look like anyway. **Researcher** 05:05 So you're saying that within a model industry context, they're saying there needs to be your avatar or your digital twin needs to have? Look essentially, like you? **Participant 1** 05:21 It's hard, isn't it? Because I guess no, I feel like you should be able to make your digital avatar exactly who they want. That I guess, if they were, if it was still within the parameters of you being represented by a traditional modelling agency, which is you can't other than Yeah, I guess people do change how they look through cosmetic surgery or whatever. But mostly, you kind of still look like yourself. And your book	Defeats the point of having a model You should have control how you want your avatar to be Be needs to have parameters of modelling agency – Authentic	Model Value and Perspective Control, Representation Representation, Model Value and Perspective

looks like you because it's living in this world that we are now if then I was decided I was gonna make myself look completely different than that wouldn't look like me in this world. So why would it need to be me at all? **Researcher** 05:55 Yeah? Well, I think it's very probably based on context, I guess, like, yes, it might be very different for models, but then somebody else in our in the year out of the model industry might want to create something that's totally different. **Participant 4** 06:12 It could also be considered counterintuitive to what the modelling industry is trying to do now, like, let's say a beauty company wants to shoot your avatar, or campaign per se, or like whatever ecommerce, but they don't like say, like a mole that you have on your face. When we're like going into this new era of modelling work, accepting individuality, and people are forming emotional attachments to people because of their individuality. If we translate that into the metaverse, and clients can alter what they depict as beauty, or people	Portfolio is representation of them Diversity Importance of Individuality and Diversity Clients may have too much control over beauty	Ethics Representation, Model Value and Perspective Ethics Ethics, Model Value and Perspective

are already creating what they depict as beauty. It's kind of counterintuitive. You know what I'm saying? Like, there has to be again, I think there has to be some sort of policy within the agencies to where clients can ask that of a models avatar. **Researcher** 06:58 Okay, so interesting. Should you be setting the guidelines to how your avatar was manipulated and edited? Should the client or should the model agency have parameters in place from the get go? **Participant 1** 07:27 it's conversation that you can have with the agency the same way? Like, no, it's so archaic, that when you join, and it's like, Do you have piercings yes or no? Like, maybe it's almost like when they're made with your agency, you set your boundaries yourself? And I guess then that can be different for the individual within the agency, but then what Yeah, but 07:45 then I feel like agencies always not always on your side. Yeah. Not on your side, they when they manipulate it anyway,	Legislation needs to be in place Modelling industry is archaic (analogue) Individuals should be able to set their own boundaries Agency Agenda	Ethics Legislation Control Model Value and Perspective, Ethics

because they want the money and they want the commission. So it's kind of like, okay, yeah, we know that you take this form, like 10 years ago and said, You wouldn't do this, however, actually, we're just gonna put it up, put your first sort of job anyway, and then you turn up on set. And then ultimately, it's something that doesn't align with like, your morals, but so I feel like actually, it's aimed at that, then it could be, I would prefer to have more control over myself anyway. Because then the agencies or like, say, like, a beauty client, comes to the agency and says, We're gonna give you this X amount of money X IV can take whatever the goal is, but like, freckle like off, like, face that, is	Needs to align with Model's morals Wants control over image in any form	Representation Control
Participant 1 08:27 that not going to keep give you a huge complex after so it kept happening something. 08:31 Yeah, but then it Yeah, but but then it's that, um, I would prefer to have control over that myself. Because then the agencies would just be like, Well, yeah, we want this money. We want this commission. So therefore, we're gonna do	Impact on mental well-being Wants control against agency agenda	Ethics Model Value and Perspective, Control, Ethics

that better. Because that makes no, it makes total sense. They just they have the habits of, I don't think they're going to necessarily change their personality overnight, where it's like, actually, now this is now deemed ethical for me to be able to, like, manipulate the model to the point where so we can get the commission.	Agencies might manipulate these types of model assets	Model Value and Perspective, Ethics
Participant 4 08:59 I'm sorry. I just think it would be healthier. If we were more like, for me, if I were aligned with my actual image. Yeah. Like, you know, at least say like, you're really happier. If you're aligned. If you're, like, leading a life that's aligned with your moral values, I'll be having your modelling if my image is aligned with what I actually look like, because, yeah, that's the biggest problem with modelling for me is like, I don't identify with this. This like image of me. Yeah. We're not we don't have ownership over this photo Anyways, now without it being digital, we might not have so much control as an artist. Yeah, you might not have control but at least if it's aligned with how you actually look,	Authentic representation is healthier for mental well-being On a moral level, needs to feel aligned with how they are representated Don't have ownership of image Control over representation may impact well-being	Ethics Representation, Model Value and Perspective, Ethics Ownership

then it's psychologically Yeah, a process where like, and that goes, I want my virtual self to be aligned with my physical real self in the world. And yeah, because that takes away from me, as a person to want to know that like, your success was based off of your Look, are you booked that client because it was like, even though it's an avatar, it still is a represent representation of your physical self and your physical form, because modelling is a job that is based off your physical	Wants to be valued as a human being/model	Control, Representation Model Value and Perspective

Appendix 24b: Focus Group 2 – London - Transcripts and Coding (Study One, part one) 10 minute extract example

Tue, 8/16 12:30PM • 59:14

SUMMARY KEYWORDS

digital, avatar, exist, agency, model, clients, contract, people, create, scanned, image, metaverse, modelling, monetize, licence, usage, technology, version, pictures, happening

SPEAKERS

Participant 8, Participant 11, Researcher, Participant 9, Participant 10

Codes from Focus Group 1	New Sub-Codes from Focus Group 2
Ethics Ownership Payment Structure Control Legislation	Future Applications
Representation	Philosophical Connection
Upskilling and Education Model Value and Perspective Benefits	

Transcription	Initial Coding	Codes
Researcher 01:30 So a digital human is something that is based is a real person that's been created digitally. So you've been scanned. TRANSCRIPTION REMOVED – Not Needed (Presentation of Digital Human) **Participant 10** 12:29 So it's different intellectual property rights existing within your digital self. **Participant 11** 12:39 there's like a possibility that like, even though now it's quite like a lengthy process to like buy someone's like movement and stuff, do you think it will like not just get to a point where you that she's gonna copy paste, like, you know, they would have thought it for like text before. And now just like anyone can just copy them, maybe just get to a point where	IP for digital self Exploitation of digital asset	Legislation Control, Legislation

they're just like, oh, yeah, like that avatar, and then like, you won't have any controll. **Researcher** 13:01 There's this GDPR, which is personal data, but it has to be you have to be has to be in the contract, basically, what? **Participant 10** 13:16 Legal, so I used to be solicitor, so they're legally speaking, the copyright will exist in the code, but the owner of that copyright in the code will be the author, which would be the tech company. So if they wanted to exploit that code, there would have to be an assignment of the copyright to the third party. So say, your copyright is to the copyright annual movement. Yeah. And the copyright in your digital image would exist, but it would be owned by the company, right? Yeah. So if that company were to exploit it, that's to sell that movement, right to someone the copyright in that code, you have to be assigned to the third party. The third party wouldn't own it, they'd still own it here, but they would licence it. Yeah, but you would never own your digital self.	The owner will be the author of the code Assigning to third parties to use You would never own your digital self	Ownership, Legislation Legislation Ownership, Legislation

14:22 You could potentially create your own self. Often own your own self, if you paid for it yourself and there was an assignment of ownership from the author, the tech guy to you. Yeah. And then you could then licence it individually. But I think if you want to monetize it, your agency really needs to own all of these factors, not the brands. So maybe the agencies need to be the key hub, where they digitise all of us. Yeah. And then they monetize by licencing out your face your movement, because there's potential for a conflict to exist between a brand owning you or a business owning you, and then you never been able to be digitised ever again. **Researcher** 15:33 Yeah. So what's happening now is, well, like I said, 25 grand, her model per few seconds at the moment, and you can't actually the technology is not there, but it is coming, where you, you would have to basically be scanned in the clothes that you're wearing. It can't be superimposed quickly yet, but it will be. And so it has to be you have to prepare for it. Because then they could do one scan, and do multiple versions of you in different	Agencies might need to digitise models to license out Conflict if brands own your digital asset	Ownership, Control Payment Structure Ownership, Control

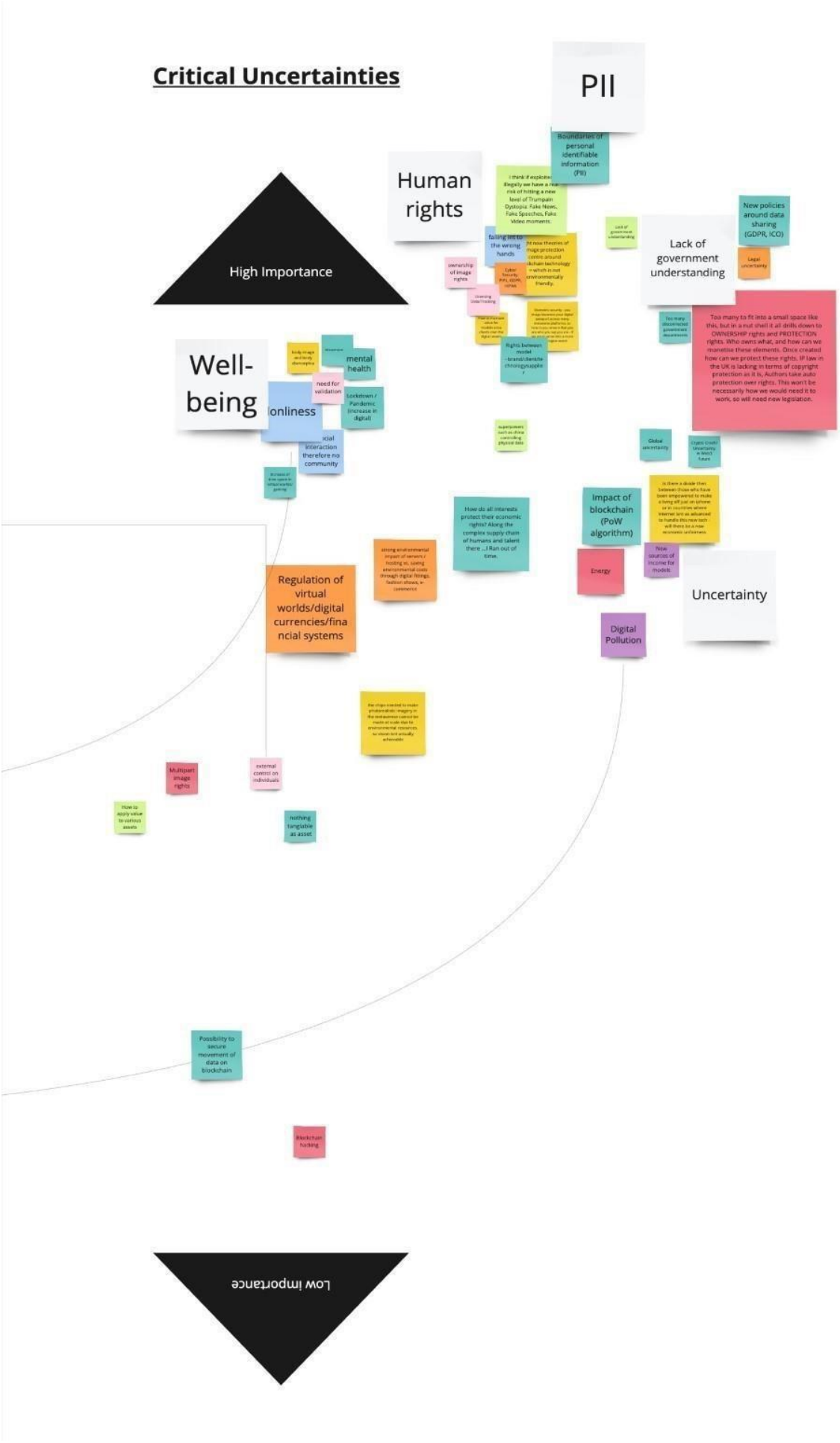
clothes. Right now, it's quite difficult to do that. But it's getting there. So it's 25 grand for one model. Obviously, the agencies I've spoken to, are not going to fork out 25 grand to create your digital model. Their model is not going to go forward. Yeah, **Participant 10** 16:27 a digital agency could exist where they sign you because they think they have a digital value. And then they create a whole digital modern agency. Yeah. **Participant 11** 16:36 Ideally, they wouldn't then even have the agency because, like, I think that more digital, you just need less like people away. So if there was a way that like models can directly then just like, **Participant 11** 16:45 I don't think they'll ever be DTC of model libraries, DTC models, but then we don't have access to the clients. That's the problem that holds the industry back, but you can democratise it we want, but then **Participant 11** 16:55 to then have if it was just like initially, that digital version of	Sign a model based on digital value Having a digital model has potential to democratise DTC and remove agency Doesn't want agency own digital asset	Model Value and Perspective Benefits, Payment Structure

yourself Yeah, I'm just No, no, just genuinely curious about if there would then be a way to remove as many like middle people as possible. Because even with things like social media, people don't like go to people's social media don't really need their agency so much. So then I can just see it kind of getting to a point in the future where it would be similar in a digital sense, hopefully, because then I also wouldn't want my agency owning this digital version of myself, because then I feel like that then creates another world of problems. **Researcher** 17:44 Yeah, this kind of steps within this, and I guess is like, you know, the next two years, next five years and next 10 years, and at the moment that currently where things are at? It's the actual clients that have the technology, or they work with a technology company. Yeah, to do it. So actually, the agency is kind of, well, it wouldn't take **Participant 11** 18:08 too long. I mean, like, at the rate that like technology progresses, yeah, even if we thought like, oh, probably in five years, like realistically, it		Ownership, Model Value and Perspective

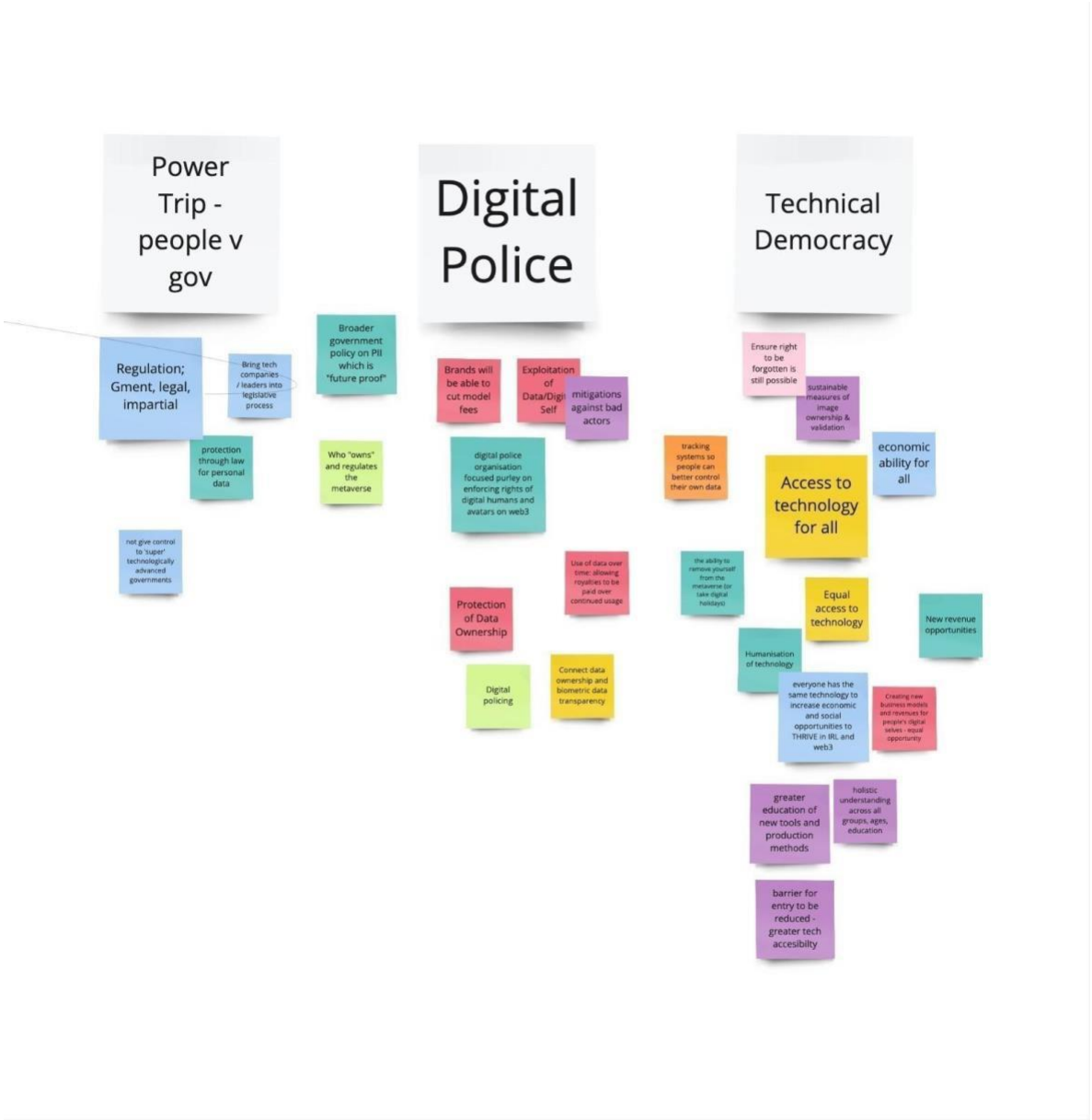
might be two years that people have a you know, how now on your phone like you can do, almost like you can like, do augmented reality, like straight away, like in your living room or wherever, while like make a dog appear? And like, isn't it? You can also watch this and you can like, measure distances and stuff. So surely, in a couple of years, you will literally just be able to scan a person and put them in? **Researcher** 18:37 I can. My avatar is in AR, which I can show you it's on an app, right? But **Participant 11** 18:41 no, like, are sitting here. I'm sure in a couple years, like they'll just be the software on the phone to straight away. You can scan someone who does it really quick. **Researcher** 18:53 There is yes, there is. Yeah. Yeah. It's going to expect but I think what we need to do is like lay the groundwork, yeah, of like, okay, because it'll evolve all the time. But what, what we what is the contracts that need to be in place now? Like, how can we? Like, how can agencies protect you	Create and monetise the perfect version of you	

now, and then in the future, as well? 19:19 Is there a possibility whereby, in future where you need to update yourself? Maybe you need to update the software, the AI or something? **Researcher** 19:31 I guess it's always going to be need to be updated your map, that digital version of me is going to be so vintage in 10 years. **Participant 10** 19:39 But then the other thing we were talking about earlier is that potentially you could create the perfect version of yourself right? And then you'd never need to update it. Because that perfect version of yourself as you see yourself in your finest will exist forever. Yes, your most monetizable asset and the perfect version of you **Participant 11** 19:56 Just like people do with social media now like and like the filters Yeah. Like it's not actually their face, it's who they wish.	Social media presents who they wish to be	Benefits Ethics

Appendix 25: Critical Uncertainties (Study One, part two)



Appendix 26: Concepts, Paths and Actions from Workshop (Study One, part two)



Appendix 27: Observational Interviews - 1st Interviews, with Thematic Analysis MAXQA (Study Two) Participant 1 & 2 examples

Participant 1 - Dressing for t... 40206_091140-Meeting Recording

Tue, Feb 13, 2024 3:50PM • 1:02:53

SUMMARY KEYWORDS

fashion, digital, wear, dress, outfits, items, avatar, create, fun, buy, bold, put, cool, life, people, question, digitally, sustainability, real, designs

SPEAKERS

Participant 1, Researcher

Researcher 00:08

Right. Okay, so I just want you to kind of explore this page. Basically, it's a digital fashion e commerce site. I just want you to kind of have a look at it, have a look at the items. I'm going to be start asking you some questions as you're kind of exploring the items, if there's any particular items that you really like, maybe put them in a separate tab. Just yeah, just want you to kind of have a look and see what you think I'm going to start asking you questions throughout. So it's a bit of like, you need to do two things at once. Just going to double check that this is recording. It is okay, so just to get started, Can you just explain to me like what fashions purpose is to you? Like, what do you usually buy fashion for? What's its purpose?

Participant 1 01:22

What was the purpose of fashion? Or what was your? I didn't understand one word, one word.

Researcher 01:29

Yet, what is the purpose of fashion? to you that what does? Why do you buy fashion?

Participant 1 01:35

I think it's a way of expression, a creative expression, or it also could be like, to me it's a way to feel like closer to society, you think? Like, I, I feel like when I dress up, it's like finding common connections with others have when I see others, like that are fashionable. It's almost like, I feel more connected. Yeah, so and I think it's a form of creativity. I don't know, I really enjoy it. I enjoy dressing up the purpose of fashion is, it's an art and I really enjoy it. So yeah, I just think there's endless amounts of creativity from from the beginning to the end, like, from the start of who like designed it, to who made it to who's wearing it. It's just such a, like, a beautiful process. So yeah, it really is.

..Finding Fashion Identity
..Fashion Expression
..Connection (+) (+)
..Fitting in (+) (+)
..Connection (+) (+)
..Form of Art & Creativity (+)
..Like the physical experience of

Researcher 02:46

Amazing, and how, like, how important is sustainability to you within your fashion consumption?

Participant 1 02:55

I think it's extremely important. I basically got into this rasters because I wanted to, basically uplift the process of sustainability, like make it be known that, you know, there is an issue with the ethical side and the workers and also the types of material that we're using. I got into it, because like I said, it, fashion is like an art and it's meant to be celebrated. It's not meant to be part of like the biggest pollution contributor in this world. So I kind of wanted to go into the industry to alleviate some pain, some pain that I could, so it means a lot, I do want to get into sustainability and particularly, particularly in design, because I think there's

..Extremely important
..Form of Art & Creativity (+)
..Inudustry Responsibility

like, that's what I want to focus on in my master's project cause like, how to design more sustainable, but I think like, I think it's more so like, a lot of the companies that I follow that are trying to be sustainable. They have very simplistic designs, or at least the ones I could afford. So I don't know, I just try to figure out if there's like a middle ground so yeah, it does mean a lot. I always look at, like what I buy and who I'm buying from.

Researcher 04:31
Yep. So you think that your actions kind of meet with your attitude for sustainability that your behaviours are in line with? Yeah, I've

Participant 1 04:46
Yeah, I believe so. I also like I think like at times i It's so not that easy, because sometimes you're like, I really want to buy something but it's just too expensive to buy a sustainable But like, it's a very conscious choice and I'm planning for it. I think it's okay. But it doesn't happen that that often it happens rarely. And now I'm just trying to like, mainly go to thrift stores or Yeah. Yeah.

..Affordability and Accessb
..Sustainable brands are to
Sustainable Behaviours
..Secondhand (+) (+) (+)

Researcher 05:21
Yeah. So looking at these items, I'm sorry, I know you haven't had much time. But what is your initial impression impression like of these digital fashion items? I

Participant 1 05:33
I love them. Oh my God. Are they real? Are they runway? Who created this? Its so beautiful I was I had to look at the Valentimes first because you know Valentine's is coming up and I just like love celebrating it because it's such a fun holiday. Like, oh my god, are they real?

..Something special for Valen

Researcher 06:01
Did these feels like fashion items to you?

Participant 1 06:04
Uh huh. Yeah. I mean, I feel like runway. I don't know if I would wear that, like out because it's just a bit much it's not my style, but I'd love to see other people wearing

..Runway
Descriptions (+) (+) (+)

Researcher 06:17
interesting. And do you you know, do you think it would meet your kind of fashion needs as a as a fashion consumer? You know, just by looking at these now? Do you feel like so fulfilled in a way?

Participant 1 06:36
Yeah, I don't know if I would purchase it. But it would it just like that creative side of fashion. Like, yes, it fills that purpose. I'm just like, wow, so fun, like playing dress up. Such a fun way to like, express yourself for Valentine's Day.

Researcher 06:56
Well, why you said you wouldn't buy them why? Why do you think you wouldn't buy them?

Participant 1 07:04
I wouldn't buy them to wear them isn't like a digital. Am I buying this for like a digital avatar for me to wear? Like for me to wear in person?

..How to wear? (+) (+)

Researcher 07:17
These are for social media. So you would get this image of yourself and have these kind of tailored on you.

Participant 1 07:27
Oh, okay, these would all b e digital?

Researcher 07:32
It would be it would be you your body? A picture of you, but then you'd be wearing your own clothes. But then these, these particular garments would then be put on top of your image

Participant 1 07:45
..Build Confidence
..Bolder Experimentation
Oh, okay, then yeah, I would buy them. Yeah, I would wear them. Cuz I'm just like, how would this work if I'm walking around in the tube

Researcher 07:57
You couldn't wear them in physical life, but you can wear them for your social media, or you can actually some of them you can wear in games. But a lot of these actually are just for like your image. So you buy the item and then they'll get kind of digitally tailored on top of you.

Participant 1 08:19
Oh, okay. Oh my god, how cool. Yeah, I would definitely buy that.

Researcher 08:28
And what would motivate you to wear one of these digital items? Do you think?

Participant 1 08:37
..Build Confidence
..Bolder Experimentation
..Doesn't want to hide but easie
..Build Confidence
..Bolder Experimentation
True Expression
..Build Confidence
Um, this is gonna be I know, like the answer, it's gonna be hard for me to articulate it. So basically, I think I would, it would motivate me to wear them because it's, it's something that like, I wish I could be as bold like this in real life. And it's almost like that. Not necessarily hiding behind a screen, but it's almost easier to express yourself through social media and say more, say more through social media and digitally than it is in person. Because you don't know who's in person. I don't know. Like, it just feels a bit more constrained on what you could wear and digitally, you're able to to do more. And I don't know it just feels like you can I think like social media gives you like more freedom to express yourself and to be heard and you can also put in like the caption like what, like why and there's more of a understanding and you're also sharing it with mainly people that you know, so you're not going to be like you're not going to be like thought as like this like weird person? I don't know if I said that right. But

Researcher 10:04
you actually asked asked you answered. My next question to be honest about how you'd like to express yourself a digital fashion. And just a couple of things. Do you think like the environment, like the context of where you're going to wear it will play a part? Where you're wearing these items to, you know, or what for, would you say that the environment would change maybe what you were going to wear? So if it was on social media, or maybe if it was in a Metaverse or a game, or do you think it would have an impact on what you would wear?

10:52
..Lack of Knowledge
..Metaverse confusion (+) (+)
I haven't been on the metaverse by, but I'm assuming it would, because just just looking at like the designs are like this, for example. I would not wear in some places on digitally if thats worn if it's public.

Researcher 11:16
Right. Okay. Yeah. Do you think that sharing a space with somebody wearing these items that are seen by others would have an impact on what you were wearing? Would it be important to you to have like other people wearing digital fashion items? Or?

11:48
Would it be important to see other people wear digital items? Yeah, I think it would be fun because it would create another another layer I'm in, like, digitally, there would be another another layer of creativity and connection that we can all like, share, I think.
..To show creativity and build

63 **Researcher** 12:26
64 Okay, we can come back to that one if you want. Yeah. It's hard to know, when you're not experiencing it, I get that.

65 12:34
66 Yeah, it would be weird. I don't know, if I'm the only one doing it, then it would be important to see other people doing it. So I'm the only one. And we all kind of have like we all shared, we're all at the same like level and almost like makes me want to like, probably purchase more or like be more creative with my outfits. And I think it would be fun to see what other people like how would they dress themselves up if there wasn't something that they were wearing really

..Social and Societal Influe
..Normalisation (+)

67 **Researcher** 13:09
68 nice. Um, how do you feel about these digital items in comparison to the to physical items?

69 **Participant 1** 13:20
70 I really liked that. There, I think in compared to real life, like what I noticed was what I noticed was that they definitely for me, they look like runway, but the price doesn't reflect runways. That was the first thing that popped into my head. I was like, Oh, I could buy a runway to pay like, a lot of money for it. But yeah, I think I think compared to what, like I would get in stores. You know, this has more of like, a creative expression. And I really enjoy that. Like, it's more fun. It's not like your everyday like yoga pants and like jacket or jeans. It's so much more fun. It's so much more colourful. It's yeah, it's so much better.

..Unaffordable in R
..Affordability and
..Acheive luxury (+) (+)
..Runway
Descriptions (+) (+) (+)

71 **Researcher** 14:20
72 And then are you when you're looking through here and some items might be popping out to you. Or you you've you've kind of talked about this but are you kind of choosing items that reflect how you would dress in real life or something completely different?

73 **Participant 1** 14:38
74 Um, I think it is a little bit of a complete completely different because yeah, like it's kind of hard for me to shop these types of items in this style. I don't I can't really find something like this in my budget. So I think in a way, it's completely different to my style because I, I can't afford these items in person.

..Affordability differs
..Affordability and Acces
..Affordability (+) (+)

75 **Researcher** 15:14
76 But in do you think that these digital fashion items could influence your style offline? Could you see taking more risks with your physical fashion?

77 15:26
78 Yeah, I think so. I think so like it would be cool if we could mimic the outfit that I wear and wear in person. Oh, that would be so cool. Yeah.

..mimic the outfit that I we
..Multiple identities

79 **Researcher** 15:40
80 So you'd like to wear them in person as well?

81 **Participant 1** 15:44
82 Yeah, I think if I see them digitally, and then it's like, an exact reflection of how I mean that my digital avatar would be, like, exactly the way my body is. And if the if the garment looked good on me, then yeah, then I would, I would love to wear that in person, but just depends, I think, how? How accurate? Like, my digital self looked on. Yeah, how I would look digitally? And how accurate that would be, is, if it's not, then I probably would feel like, like, if they made me look skinnier than I actually think I was. And I would be like, yeah, probably won'y actually look like that in real life. You know what I mean? So

..On Exact body
..On Exact body
..Unrealistic Bodies

83 **Researcher** 16:42

84 yeah, I get that, I get that. And we'll come on to that actually. How my digital fashion, change your consumer behaviour it if all? And if at all? Is there a potential for digital fashion to reduce your consumption of physical items?

85 **Participant 1** 17:09

86 I don't, I don't think it would have much of an impact because this is more online. And if they had like the same outfits, and maybe if they have like, a similar garments in real life that reflected almost that same price. Maybe with maybe I would shop more, but I don't think it necessarily would if it just depends, I'm not sure I have to like see it happening. That was a difficult one to answer. Because it's hard to find clothes like this. That are not that expensive. Yeah.

87 **Researcher** 18:06

88 And what what are your attitudes towards digital fashion as a responsible solution for the sustainable impact of fashion?

89 **Participant 1** 18:25

90 Okay, I guess, uh, let me I need, like, I need to make sure my understanding is is. Okay, it's good. So basically, you're creating, or like, these are garments that are digital, but you, you can only wear them digitally. Like you can't wear them in real life. So it doesn't solve your asking if it solves like, or if it helps.

91 **Researcher** 18:57

92 Do you feel that yeah, what's your attitude towards it? Do you know? Do you feel like digital fashion is a potential solution to the, you know, impact of what physical fashion has?

93 **Participant 1** 19:09

94 I don't think so. I don't think so. I think it if anything almost contributes more to the problem, I think, but maybe I'm not fully getting it because it might increase consumerism for other people who are not that conscious about, like, what they're buying and who they're buying from. And they're like, Oh, let me go try to replicate this outfit in real life. So they just find more because they see themselves there. They're able to be more creative digitally, so they may want that. They may want that, in real life, so my even increase consumerism, like see it happening in like, different ways. But I think for me, I don't know if it would because I'm trying to shop more sustainably and pay attention who I shopped for, but I think overall as a society, like, I'm thinking about, like, my family. I think if anything, it would it would make them want to buy more like, oh my god, I really like how that looks. I'm gonna have to buy it. So yeah.

95 **Researcher** 20:34

96 That makes sense. Yeah, that does make sense. So how would you like to wear these these items? And, you know, is it important for it to be on your kind of real body, your yourself like a image of you? Or would you like something that's more like a representation of you know, like an avatar or something, or something totally extreme can look like you like, what? What version? Would you prefer to see wearing this?

97 21:04

98 I think were for me, or digital fashion to mean something more than to be this. This new interactive way of shopping, it has to be a replica of it has to be a good representation of what I look at how my body looks. So, yeah, because if not, it's just gonna feel like a video game avatar that you'll just pick and not really, not really care at the end of the day, but like, if it's if it looks exactly like me, it would be it would be more important to me and it would, it would, it would definitely impact what I get and what I choose to wear, because it would be but it has to be pretty accurate in my opinion.

99 **Researcher** 22:03

100 Yeah. Expectations. Hi, yah. Yah, you. Okay, so, I just want to give you a little bit

..Physical Renaissance (+)
..Seek physical version if look
..Too attached to the physi
..Accessibility and Imagina
..Lack of Knowledge
Displacement Rate/Replaci
..DF doesn't change the ro
Displacement Rate/Replaci
..Increased Consumption (
..My family think differently
..Multiple identities
..Doesn't care for avatar
..Holds part of me

of time just to like, can you choose like an item that you really love? And can you explain why you like it? I know there's quite a lot there. But has there ever been anything that's kind of you've read?

Participant 1 22:22
It was the Valentine collection. I should have put it over another tab. Sorry. Um Where would I find it? Oh, let me just go back to the homepage I really like this. Cute

Researcher 23:02
and what do you like? Can you explain just why you bought what drew you to that particular item?

23:11
I don't know that. It was something I also saw something similar in like a red carpet that it was like a big bow and like just looks so avant garde. It just looks so fun to wear. And I really I really enjoyed how like, big and exaggerated it was. So that was pretty cool. Oh, it is. There's an outfit for the Met Gala. Ah, yeah. Okay.

..Replicate Met Gal
..Replicate Met Gal
Descriptions (+) (+) (+)
..Avant garde
..Thinking of what it will be like

Researcher 23:47
And is that important you? Is that you know, is is? Is that where it's been seen? Is that kind of an important element?

Participant 1 23:58
I mean, yeah, if I really enjoyed what I like, if it was like one of a a good piece on the red carpet. I think that would be pretty fun. Yeah, I always follow the what what celebrities wear these events. Yeah, I think for me, that would be important. They changed it a bit, because I don't think this is exactly the same. It was it was it was probably a bit different, I think.

..Replicate celeb outfits

Researcher 24:31
Yeah. Where would you like to wear this? Is it enough for you to have it only for a social media post?

24:38
No, I would. I would want to wear it too, like digital event. Not too familiar with Metaverse, but if I could, I didn't know that I would. Yeah,

..Possible events (+)
..Lack of Knowledge

Researcher 24:54
okay. And okay, and so what What do you see now having this experience as as digital fashions purpose? Is it the same as how you see fashions purpose, you know, have you originally discussed at the beginning

Participant 1 25:22
Its the same, but we're not able to really express our true fashion self in real life in my opinion. But I think digital fashion is, is letting you is allowing you to to express yourself like the way you really would want to dress up every day, like every day, like you just, I guess for me like you want to play dress up and and you want to like wear these outfits but it's kind of hard to be that bold in real life and and I think like digital fashion like looking at this website, it's like, it is allowing me to do that. It's it is allowing me to like, be bold and and wear whatever I want. It's like give me like my wildest dreams. So

..Online Version Dresses B
True Expression
..Bolder Experimentation
..Bolder Experimentation
..Dressing Dreams

Researcher 26:21
So you feel like it probably would meet your fashion needs as a consumer?

Participant 1 26:27
yeah.

Researcher 26:31
But what you think is what do you think it's lacking

Participant 1 26:39
what is lacking that is lacking I don't know. What could it be like? Just purely on this website on what I see here.

Researcher 27:12
Just yeah, If this is what your point references, but no, is there something that wouldn't meet your, your kind of needs as a fashion consumer? If you were to purchase something from this website?

Participant 1 27:30
Um, it doesn't have the sizes. So that's a little weird.

Researcher 27:42
I guess it doesn't need it. But yeah.

27:44
Yeah, I guess it doesn't. So I've we're assuming that it'll just adjust to the body the way it's supposed to. Right? Mm hmm. I don't know. I think like it goes, it kind of goes back to that other question like, well, where would I wear this in digital fashion? Like, that is kind of what's missing. I'm like, in order for me to like, like, buy it. Like, who's gonna be seeing this like community? Like, before it were what I wear? Why would I spend like 40 $40 Like, there has to be some sort of some sort of reason as to why I purchasing it. So I think like, having that is probably what's missing. It's like the Why am I purchasing it? Because I love it. And it's all really nice, nice. But just to like, show off on social media. I don't think it's enough, there has to be more of a stronger digital platform that would allow me to wear this. Yeah,

..Importance of fit (+)
..Context (+)
..Community (+) (+)
..Approval from Other
..Lack of understandi
..Limited use
..Social media isn't e
..Context (+)

Researcher 29:04
that leads into my next question, actually, of like, what are the type of environments that you would like to see, you know, be made for you to wear these items

29:21
like literally just create one. I don't know it can be as random as like in like a digital book club or, like us. Yeah, it could just be like very small events or even fake events. It doesn't it honestly doesn't even mean anything. It's just something where you can be gathered with other people. And the idea, you would just come in dressed up and you guys can just talk that'd be cool Oh, yeah. Nice.

..Bookclub
..Community (+) (+)
..Importance of dressing
..Community (+) (+)

Researcher 30:04
Okay, so I'm now going to share my screen with you. I just want to show you something and I want to get your opinion. So doing great, by the way, really, like, lovely answers. So, can you see my screen? Yeah, you can see these like digital worlds bodies stuff. Yeah. So just observing these examples of different kinds of metal versus digital spaces. And the options for you to digitally dress yourself. How might these? Well, which one stands out to you as you really like, and how might these environments impact your consumer choices? Do you think you would? Do you think you would dress differently? Buy differently in any of them?

Participant 1 31:07
Yeah, I think the top right corner it. This one the one with like, the butterflies. Yeah, I'm not sure where she's at. But kind of looks like this underwater garden.

..Likes Fantasy element (+)

Researcher 31:24
Yeah, that's me.

Participant 1 31:27
Oh, it is? I really liked that one. Um, wow, it looks cool. But yeah, I think there would be, I would definitely, like, want to dress up more, and it would make me

..Virtual City with Digital S
..Wouldn't take herself seri

want to buy a different, but I think like even the one that is based on real world, like the one that looks like New York City, it I think I was still like, wear that bow dress cuz I wouldn't take myself too seriously. Just, I would wear it.

Researcher 32:06
And is that because it looks? Is that because it's real? Or what was? Because it looks real? Or because you know, it's a virtual world? What, what, why would you wear the dress there?

Participant 1 32:20
Because I know it's virtual world. And it would probably be even easier to manage that fake of a dress, and walk down streets without like worrying about like exterior factors. Sorry. That's great. All right.

..Wouldn't take herself seri
..Digital World Attitudes an

Researcher 32:48
No, it's all right. Was there anything else that you wanted to kind of like add to that? So you really like the the butterfly one and the kind of New York? One down at the bottom in the middle? Is that?

Participant 1 33:01
Yeah, I think like the top, the top right would be more of a fun side of the digital world where you can like go into these, like really cool places that you can't really go to life. But also getting some of like that. What is real life in the real in the in the digital world is another nice aspect to it because it creates more of like a ground like grounding. Like this isn't just imagination. You can also like challenge the society. So I think both of those are really cool. I don't really like the one with the cats just not really what I was like.

..Blended World (+) (+) (+)
..Digital World Attitud
..Challenge Society
..Digital World Attitudes and Imp

Researcher 33:50
No, but that one is what's the reason?

Participant 1 33:55
Just looks like the just dad's game. It looks a little to fantasise. But I mean, if that's what you're going for, that's fine. Or it looks like the mask, you know, the concerts were or that show were they celebrities and they're singing, like no.

Digital World Preference
..Mask & Ethics
..Avatar too fantastical (referrin

Researcher 34:20
Like that. You're right. You're right. Okay, that's brilliant. So we've got we're done with the dress X thing. We've got another little section. But you do want a water break or anything like that. Yeah. But before we move on to that, I just want to double check so you would like to purchase one of those items on dress X.

TRANSCRIPTION REMOVED - NOT NEEDED

Participant 1 34:54
Yeah, it would be cool. But yeah, it has some kind of my avatar was like is accurate,

Researcher 35:02
it would be you. So you would need to, and I will follow up with you after there. So I'll send you the guidelines for an image, you have to send me an image of yourself, which I will then forward on to dress X, they'll dress your image with your item that you you like, and then I will send it back to you. It'll take about 24 hours. I'll send it back to you. And then we'll book him for another session in about two weeks, just so I can ask you some more follow up questions about that experience. And you know how you felt about that image and stuff like that. And so yeah, it should be good. So I'll send it over, you can choose a night and up to $100. Sounds like you're gonna go for the bow dress or something, but have a look. It's just from the dress X collection. So that's great. And the second question is, well, which is voluntary? But you know, obviously, it would be great if you could do it, but it's totally up to you is would do you think you would share

that image on social media for the benefit of this research? Or would you like to see it first?

Participant 1 36:13
I mean, uh, yeah, I wouldn't mind sharing it on social media. I think that would be fine.

..Open to sharing on social
..Sharing On Socials (befor

Researcher 36:19
Perfect, good. Okay. That's great. So I will send over the guidelines for that. And, yeah, it's easy, easy peasy. You send me an image. I'll send it to dress X, I'll send it back to you and then you can share it and then we'll do a follow up. Interview. Okay. Yeah. Great. Okay, so next up, we're going over to a different platform, and its support Zepeto Have you heard of it?

36:54
Zepeto No, I don't think so.

Researcher 36:58
So if you can share your screen again for me and just go on to this website that I'm just putting in the chat.

Participant 1 37:02
Hello sorry you're not done yet but

Researcher 46:45
do you need more time? I'll come. I'll come back in 10 minutes.

Participant 1 46:50
Okay, I just want me I'll just try to finish easy sucks Gossip Girl

Researcher 47:23
Gossip Girl ?amazing

Participant 1 47:46
Okay, I think I'm done. I think that's it.

Researcher 47:49
Great. So

Participant 1 47:55
okay, sorry, go ahead.

Researcher 47:57
It's great. Just let's leave. Let's leave her there for a second. So just from a fashion consumer perspective, what was your like initial impression about this this experience? Did it feel like a fashion experience to you? And what did you like? What didn't you like about it?

..Fun experience replicatin
..Accessorise
..Comparison - looks go
..but it looks good on her so go
..Reference to 'other' - Seperati

Participant 1 48:19
Yeah, I felt like the fashion experience it was nice like and choosing like it's it was fun like trying to replicate myself and but also like, accessorising and putting things out there. I don't know if normally would look good on you, but it looks good on her so go for it. So yeah, that was really fun. Was second part of that question?

Researcher 48:50
That which got bits Did you like dislike about it?

..Accessorise
..Lots of Options (+) (+) (+

Participant 1 48:53
Oh yeah, I really like the accessory part and like having to choose like how, like my facial features and eyebrows and hair will look like what I didn't like it didn't

..Lots of Options (+) (+
..Too animated to be fas
..Uncomfortable
..Body Image
..Looking Glass Theory

really like the fashion options. I thought they looked a little too animated for me. But it was okay, so I am yeah, I didn't really like that. I also felt slightly uncomfortable. Choosing what I would look like, like my body. So that was a little uncomfortable because I was like, you don't really know how you look like you will never see yourself the way others see you on a daily basis. You can only see yourself through like the mirror through photos but even that is like you just don't see the way you move on a daily basis. So kind of just seeing yourself live and trying to mimic that on line was a little uncomfortable because really all day like that. It's kind of like you're trying to face this reality that you don't want to face. You look bigger than you actually look or you look smaller. Yeah.

196 **Researcher** 50:12
197 What would you like to see put in place to kind of mitigate that? Do you think would you like to more options of body types less options? Or both? Would you like to see yourself as?

198 **Participant 1** 50:28
199 I mean, it would be cool to do more options, or I think I think like the proportions that they had, was a bit hard. Like, they like the way they replicated the body was like, Ah, I don't think it would actually look like that. But I know I'm not like hiding. So maybe if they did like more scans of normal average look for people and maybe not put them in? Really? What? Like, I think like the outfits that they're even wearing when they show these bodies, like it just it kind of let me show you like the outfits just like it just looks like you're shaming the person that's like a lot jumpy here because they're wearing this. So I don't know, I'd like to me it just feels a little uncomfortable. And then you put it on. I'm like, Oh, gotcha. Looks like not great. But maybe making these images look a little more flattering and uplifting. I don't know. Yeah. But we're doing more like natural, a more accurate representation of how that would look like.

..Unrealistic Body
..Unrealistic Body Image
..Transparency
..Friction of representation
..Uncomfortable

200 **Researcher** 51:58
201 Yeah, yeah. And I guess you've kind of like, spoke about this a little bit. But can you explain the choice of your avatar and how you've dressed it? Like, can you just run through? Why she looks this way?

202 **Participant 1** 52:16
203 Um, yeah. So I kind of wanted her to look like me. Like this, this cool version of me. And I, I really like some things I really like about myself. I made sure like, I tried to, to put it on her for example, like, like the eyebrows. I I mean, I like my eyebrows. I like my, my facial features. So it's something that I tried to like, replicate on her and then, like my hair. Um, so yeah, I was just mainly trying. I was just trying to replicate myself through this avatar. Especially the features that I really liked and the clothing. The clothing was sorry, I don't think I really liked much of them. But I think I think it looked cool at the end because it just reminded me my favourite show Gossip Girl, so I was like, Yeah, that's fine.

..It is Me
..Cooler/Fun version
..Enhance features (+) (
..Enhance features (+) (
..Replicate features you like abo
..Bringing Cultural Referen
..Favourite Show Gossip Gi

204 **Researcher** 53:20
205 Like that. And how important was this kind of create this stage where you created the avatar before dressing it? Was that important to you? If you look back dress X, compared to this, like, how did you feel it was an important step

206 **Participant 1** 53:40
207 for me to to address the avatar?

208 **Researcher** 53:43
209 to create the avatar before addressing it.

210 **Participant 1** 53:46
211 Oh, yeah, I think yes. I think that was really fun. Yeah, I really enjoyed that part. It kind of just almost created a more I don't know, like a connection is able to connect with it more and, and have fun with it and make it a more. I have a more

..Establishes to real-life se
..Increased Connection to

..Establishes to real-life se
..Increased Connection to Avata

special experience.

Researcher 54:15
Yeah. Do you feel like you could express yourself more through this avatar than your you know, dressing your physical body?

Participant 1 54:32
Yeah, I think I could express more through my avatar than like my, my physical self, because you can add more and accessorise more and have fun with it more. And sometimes I don't think I'm bold enough to do that in real life.

..Accessorise
..Increase confidence

Researcher 54:54
Okay, so do you think this avatar that you've created, do you think it's a true representation of you?

Participant 1 55:09
I mean, besides like, um, I don't really I wouldn't wear this this outfit in real life. I think I think besides like the outfit I would have liked if I would have liked the bow, the bow dress that I would say yes. I would love that to be me in real life. But the person I would want to be in real life.

..Affordability and Acces
..Wants to be avatar
..Would love to be like the avata

Researcher 55:38
Yeah. Cool. Okay, last few questions and which experience, dress X or Zepeto, would best satisfy you as a fashion consumer, do you think?

Participant 1 55:57
Sorry, I didn't really get that

Researcher 55:59
which experience the dress X experience? Or this one? Which one met your needs as a fashion consumer? Which one did you prefer?

Participant 1 56:09
I prefer dress x. Because of the designs of the clothing. Like it was something that I never thought I would get to replicate on my body. And having these really cool outfits out that you were only see on celebrities on myself. That kind of makes it more special, because you never thought you would have something like that on you. And I think like the Zepeto though, wasn't? I mean, it feels like I've seen it. You know, I know you it was only the best thing you can. But it was I feel like you see a lot of those avatars a lot when you like game or you're on the wheel and you create something very similar. So it wasn't much of a difference. But the dress X was something quite nice to see.

DRESSX v Zepeto
DRESSX v Zepeto
Displacement Rate/Replaci
DRESSX v Zepeto

Researcher 57:10
Yeah. And so the role of the Avatar, like creating an avatar, do you think it would increase or decrease your motivation to buy more digital fashion items?

Participant 1 57:32
I don't know. It just depends if I would wear them to if I would wear them out. If I would wear them to places digitally, then yes. But creating the avatar itself. I don't think what. Maybe it would because I had fun with this. And like sometimes I'm like, Oh, I really like that one. I should have just gotten that one. Maybe I would probably do like a one time would be like my staple look. If I create the avatar, so it'd be like the first five that would be like the only reason for the first purchase when I am creating them

..For Avatar

Researcher 58:13
the avatar. Yeah. And okay. Sorry, that was question doesn't sound right. Could you see yourself consuming more digital fashion after these experiences?

Participant 1 58:32

235 Yeah, I think so. I think after this interview, I was able to see a bit more of the potential and all of the, the outfits. It would be so cool if they can actually like, do a star where they replicated everything in real life like pop ups. That would be so fun.

236 **Researcher** 58:55
237 So replicate real life products? Yeah, like a pop up like a one time thing or like two times, I don't know, twice a year, that would be so fun. What, like a pop up in real life, or what?

238 **Participant 1** 59:11
239 I've made the exact outfits that I saw on dress x, and like everyone can like connect in real life after like, being in that world digitally and then doing that in real life. I kind of make it I think like amplified a bit.

..DF marries digital and physi

240 **Researcher** 59:30
241 Yeah. In bringing people together. Yeah. And do you think it could drive more sustainable consumption on your part? Could you think it could help you can you consume more sustainably for me?

242 **Participant 1** 59:59
243 For me no. I don't know because if anything, is like, it looks really good on me there. I'm like, I'm gonna be more bold with my fashion. So I'm probably going to go buy more. So I can, I can be more bold in real life and I can show more to be more fashionable in real life and, like, be celebrated. So I don't know, just, yeah. I'm sorry, I

..Encourage more consump
..Motivation to buy physica

244 **Researcher** 1:00:35
245 asked my last question, because I was saying that how does this make you feel now about your style offline?

246 **Participant 1** 1:00:44
247 Yeah, like I was, I feel like I need to my style offline. I realised that I need to be more bold. If I like fashion, I should just, I just go for it and, and make these bold choices. Like I follow I forgot what her name was. But I follow someone on Instagram who's from Portugal. And she she always dresses up with like, the weirdest not that weird. Like every piece individually looks good. But she like mixes and matches, like so much on her. And she puts like bows all over her. And she makes you pulls it off. Like she looks like this normal person. But like, she she looks so fashionable. And I'm just like, wow, I want to do that. But I don't like she looks like well, I want to look like digitally and real life. But it's i Yeah, I'm just not there yet. Like, I think I'm still growing. I mean, like this journey of growing, to be more passionate, want to be more bold, and to be more confident in my skin. So I think that that would be like the best part about digital fashions that it builds confidence. And maybe that translates in real life. Because sometimes I think the people we follow is kind of what we want to wear and see in ourselves. But maybe we just don't have, we are not there with our confidence early if I'm not so when I follow this girl on Instagram, I'm just like, wow, I want to do that. I want to pull that off. Can I No, no, like, She's really cool. I love her.

..Build Confidence
..Inspired by Influencer - A
..Build Confidence
..Inspired by Influencer - A

248 **Researcher** 1:02:30
249 Yeah, really nice. explanation. And you should you should go bold. You should go just go wild. No. Okay, brilliant. Brilliant. Brilliant. I'm going to stop the transcription now.

Participant 2 - Dressing for t... 40206_110550-Meeting Recording

Tue, Feb 13, 2024 3:57PM • 57:14

SUMMARY KEYWORDS

fashion, digital, choose, dress, wear, items, feel, sense, avatar, people, physical, stands, metaverse, online, bit, important, interesting, garment, platform, reality

SPEAKERS

Researcher, Participant 2

Researcher 00:02
Oh, cool.

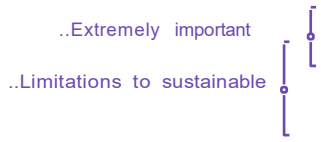
Participant 2 00:06
Okay. So

Researcher 00:12
basically, I just want you to start browsing this website, you know, go ahead, browse, look at the items. And if there's any items that really kind of stand out to you maybe put them in a separate tab, we might come back to those later. But I'm going to kind of ask you questions as you're browsing. So, you know, just yeah, just act like you normally would, really, when you're looking at a website. But I just wanted to kind of, first of all, get your idea of like, what, what is what's fashions purpose to you genuinely, like what what do you usually by fashion for? Like, what is its purpose?



Participant 2 00:58
So I suppose the standard, the first thing that comes to my mind is self expression, of course. And I think for me, it is a source of joy. And being able to choose and design and making in some circumstances clothing fashion. It's, it's, it's so much fun. It just brings me more happiness. So I think that's the purpose of fashion for me personally, and various important function, and that is to protect ourselves.

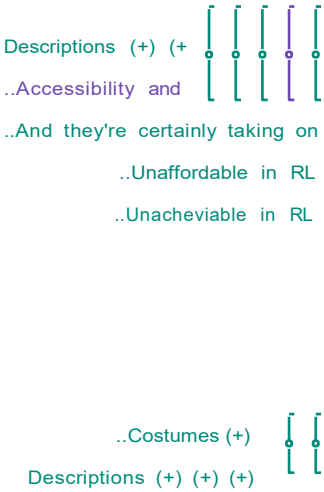
Researcher 01:35
Yes, actually, yes, that is right. We often forget that. How important is sustainability to you within your fashion consumption? And a kind of extension of that? Do you think your behaviour kind of meets your attitude towards sustainability?



Participant 2 01:56
So it's incredibly important. And I would like to think that my behaviour matches my attitude, definitely, I would like it to be all I would like to be able to meet it more effectively. And I do think that one of the limitations to that is not having as much access to organic materials. I know that there is many, there are many issues surrounding organic materials, and it's definitely not a one size fits all solution. But I do think there is something about natural fibres.

Researcher 02:47
Oh, you kind of went out a little bit, then can you just repeat the last sentence?

Participant 2 02:59
Sorry, I think the speakers sorry, was just saying. I would like to buy more or invest into more organic fibres and fabrics. Because I do think that it's incredibly



important. And, yeah, it's something that I don't see as available as I think it should be.

Researcher 03:18
Right. Okay. So if we can get back to the website. Amazing. And I know we've just come on this platform, so but what are your initial first impression of these digital fashion items?

Participant 2 03:40
my initial thoughts are, they are... I mean, they look, I mean, some of them look fantastic. And they're certainly taking on an aesthetic, which probably would be very difficult, if not unachievable in reality, or at least they would be incredibly expensive. Much more expensive than some of these $40 for. Dragon slippers.

Researcher 04:06
Did they feel like you like what you see is fashion?

Participant 2 04:13
Yeah, I would say so. I definitely think to some people, you know, some of its the designers expression. I can see they've got it covered. Lots of different things. slightly confusing. UX design in the is it one designer is it several designers maybe this is just my naivety. Designers, okay, feature designers that makes more sense. Dress collections. Dress X metaverse. These are great, they are like costumes.

Researcher 05:06
Do you think that would meet your kind of fashion consumer needs? Um

Participant 2 05:16
That's a very that's a very good question. I think in some ways if I had a larger online presence, and perhaps possibly, if I had people who were following me to see the kinds of things I was choosing to wear, then maybe yes. But as it stands, no. Yeah. I don't know who unless I was purely wearing for myself. Just so I could see what I would look like in these. It would definitely be interesting to see for sure. But I think I personally, actually in some ways, wear them in, wear them physically

Researcher 06:01
want to wear them physically?

Participant 2 06:03
Yeah, I think so.

Researcher 06:06
It kind of leads into my next question is what would make motivate you to wear a digital fashion item?

Participant 2 06:16
I think experimentation, I think it would be an interesting thing to see and see how people respond to it. It would be interesting to gather some some thoughts and gather ideas on how this could be furthered maybe I think it raises some interesting ethical questions. So I think I would do it more for experimentation rather than, like, oh, I want I wouldn't want to wear this today. And then therefore, I want to have an image of myself with this on.

Researcher 06:50
Do you think that environment or community would play a role in motivating you to, you know, consumer wear digital fashion?

Participant 2 07:01
I think Environment and Community perhaps in the metaverse or on an online

..Community (+) (+)
..Could increase DF justi
..Prefers the physical (+

platform in which lots of people are doing the same thing. And I felt that I could justify buying a digital garment, then I think yes. However, as it stands, because I think I would almost rather make these in person, I'd rather try and make them in reality, then I think no.

47 **Researcher** 07:34
48 Why haven't you bought a digital fashion item? At the moment?

49 **Participant 2** 07:39
50 So I, maybe maybe you could open my mind to this a little bit more. But I don't really see the See, the point is that maybe that's maybe That's harsh. I don't know what I would wear it for is my response.

Limitations/Blockers
..Pointless if can't wear
..Context (+)

51 **Researcher** 08:06
52 How do you think that you would like to express yourself with digital fashion?

53 **Participant 2** 08:25
54 Could you could you go into that a little bit more?

55 **Researcher** 08:29
56 Well, you know, how would you like to use digital fashion as a fashion consumer? Do you think it would be something that you would like to express yourself as a reflection of who you are something beyond that?

57 **Participant 2** 08:50
58 So I think it would be it would be a reflection of who I am. And I would use it to explore fashions that I might not have access to in day to day, or I might not have the opportunity to wear physically. So then I could really go out of the box in terms of my expression. So I think if I was inclined to buy something digital, it would definitely be something quite avant garde. Yeah, so yeah, something quite outrageous, I suppose.

Style Replication
..Bolder Experimentation
..No opportunity
..Avant garde
Descriptions (+) (+) (+)

59 **Researcher** 09:18
60 I guess this is this is kind of a similar question, man, potentially, but how do you feel about these particular digital fashion items in comparison to physical items?

61 **Participant 2** 09:32
62 Gosh, it's so so tricky. There's so many layers. How do I feel about it? I feel less positive overall. However, that might just be because of my ignorance towards it rather than that that just been that just been the overall feeling. I think, I don't know enough. And I don't see how it could play a part in my life going forward to have more of a positive understanding that if that makes sense, yeah.

..Information Barrier (+) (+)

63 **Researcher** 10:05
64 Do you think these items would offer you the same kind of connection attachment that a physical item would?

65 **Participant 2** 10:12
66 No

67 **Researcher** 10:15
68 Can you explain why?

69 **Participant 2** 10:17
70 I think there is something for me about the physicality of garment. Being on your body being on your person that provides a comfort, and that provides a joy that you can't get necessarily when it's online. If you are wearing I think a garment in the metaverse or in an online community, where you can get responses from other people that might be positive. And if that is how you receive joy, or if that's how you receive affirmations. And that's great. But I think for me to feel comfortable in my fashion and what I'm wearing, I have to feel good in it. And if I

..Prefers the comfort and j
..Social Validation from oth
..No feeling, no value

..No feeling, no value

can't feel it, then maybe it doesn't mean so much to me.

71 **Researcher** 10:59
72 Interesting. So I just want you to have a choose a couple of items that they know that you quite like No, no, it's fine. There's quite a lot in there. But we've got time we've got time

73 **Participant 2** 11:21
74 Do you know of any designers who are particularly outrageous?

75 **Researcher** 11:30
76 On this, though, I don't

77 **Participant 2** 11:35
78 They're all quite outrageous, really, aren't they? Let's see. It's interesting, because, you know, in a, in a sense, people have been doing this for years, haven't they? Just in a different format?

79 **Researcher** 11:50
80 In what sense?

81 **Participant 2** 11:51
..Not for everyday (+)
..Characterised version of sel
82 video games, you know, when you dress your skins for for Sims or GTA or Barbie or something like that? It's very similar, isn't it? It's like your, oh, look at this one. This is great. You're creating a character, aren't you, I suppose? How you want to be perceived.

83 **Researcher** 12:13
84 But I guess as opposed to my next question is, are you? Are you actively choosing fashion items that reflect how you dress in real life or something totally different?

85 **Participant 2** 12:23
86 I think in this sense, I would choose something completely different.

87 **Researcher** 12:45
88 Why is that interesting?

89 **Participant 2** 12:48
90 Because you can choose to make a political statement with your fashion, which I suppose is something you can very much do just day to day, can't you? And so I think you start to see this, these boundaries between. So like between self expression, fashion, politics, religion. They're also incredibly interconnected, whether that's physical, or whether that's digital. And so yeah, so it just seems to form a huge part of people's identity. So I feel like if I was to choose, this is a very purposeful decision, because it's, in essence, it's quite, it's a very standard piece of clothing. So therefore, I guess the reason I would choose it is because of its political stance, that's coming from my perspective, maybe somebody else would choose it, because with their online presence, they would want to be reflected as themselves. Is that an important aspect of digital fashion? Have what sorry?

..Political Identity
..Political Identity (1)

91 **Researcher** 13:49
92 you think it's an important aspect of digital fashion to have this kind of be able to make these types of statements?

93 **Participant 2** 14:07
..Political groups
..Context (+)
94 I think yes and no, because it depends on on the circumstances in which you're wearing them. If it's a platform, which is for gamification, then I think it gets a bit complicated or convoluted when you start introducing. When you start Yeah, when you start introducing politics, race and religion into it, especially if it's a

..Political groups
..Context (+)

form of escapism, it might be that people want to get away from that. Or if it's a community that's online, in which you are, you are online, because of your joint beliefs, then I think it could be important in identifying maybe friendships or relationships. Yeah, so, so I think it depends.

Researcher 15:10
Yeah. Um, do you think, again, it's quite speculative? But do you think digital fashion can influence your style offline?

..Styling

Participant 2 15:21
think it could do Yeah, I definitely don't see why it's not a source of inspiration. You know, there's lots of things online that inspire the way that we think and feel and dress. And so there's no reason why seeing this might ... oh yes. Okay, so I think I've found a couple of items I like, right.

Researcher 15:49
Okay, we're gonna come to that in a second, you're gonna tell me why you've chosen them? Okay. But how might how might you think digital fashion change your consumer behaviour, if at all?

..Freedom & Furthering Expre

Participant 2 16:04
So I think it would allow me to be to be more expressive with with things that I could potentially wear, which I wouldn't have a circumstance to wear in real life. And I think yeah, no, I think that's it actually. Yeah.

Researcher 16:22
Do you think there's potential for digital fashion to reduce your consumption of physical items?

..Conscious to Consumption

Participant 2 16:29
Personally No, because I still I would still have that need to wear physical items day to day and maybe because because of my angle of trying to dress as sustainably as possible. this is such, this is such difficult questions. Sorry, I lost my train of thought. Could you repeat the question?

Researcher 16:58
Is there a potential for digital fashion to reduce your consumption of physical items? If at all

..Influencers (+)

Participant 2 17:13
For me no, perhaps, again, for somebody who feels the need, or it's their job role, such as an influencer to post continually new outfits, then perhaps, yes.

Researcher 17:31
Okay, and what are your attitudes towards digital fashion as a responsible solution for fashions, sustainable impact?

..DF doesn't change the root

..Energy Consumption of DF

Participant 2 17:44
I think it's a it's a complicated one, because on the one hand, you could say that for some people, it just reduce the physical purchase of a garment. However, it doesn't change the mindset, possibly at the root of the problem of overconsumption. And that is, you are simply redirecting the need to buy something new. It doesn't actually fix the, the capitalist mindset of more is better. So if people are buying something new online, in place of something physical, then yes, you could argue that that is a good thing. However, I've heard maybe this is wrong, but I also know that the the energy required to make a digital garment can be quite high, and therefore is not necessarily a perfect practice in itself. So I think there's definitely some issues with it. Yeah. Um,

Researcher 18:43
so can you say you've chosen some of your favourite items? Can you explain

why you've chosen them to make now you have a look at them?

Participant 2 18:54
the first one I chose? Yeah. So I really like I think this is quite similar to a cat suit. I quite like cat suits anyway, and I think I look quite good in them. So that's partly I chose it. And I like flowers as well. I think they balance out my proportions quite nicely. So there's definitely a very practical reasons why I spoke it, which is funny because I could choose whatever proportions I want, I guess, with my online persona. So there's definitely a physical connection there. However, I don't think I would ever choose this pattern in real life, because I don't know if I'm that brave. Okay, so there's that one there. And also, also, I don't know if in reality, you could get something of this kind of texture and shape, and it'd be made particularly sustainably just because of my understanding of how synthetic fabrics work. Unless it was maybe if it was secondhand, I'd be more inclined to buy it. But I would have to be go into a rave or a disco, of which I don't normally go to so yes, so there's that one. And then this one, which is not showing. Oh, there it is. This one is absolutely absurd. It reminds me, it's I think they've taken it from the Barbie movie perhaps. I think that's what it's tried to copy. I really enjoyed that movie. And I really, I really love pink. I think it's a really friendly colour. So I think that will be why and again, with the with the big flare bell bottoms. I like those as well. I think it's absolutely ridiculous.

..RL body irony (+)

..Mention of textures and sha

..Relatable realism (+)

..Bringing Cultural References

Researcher 20:48
So where would you like to wear these? So you've kind of mentioned some physical like events and stuff. But obviously, these are digital items. But is that what you're trying to say? You want to take them from the digital to the physical? Or is there some way you'd wear them online?

Participant 2 21:06
So I think yeah, I think you're right, I'm kind of imagining where I might wear them in the physical realm, whereas that's not really the purpose. Maybe if there was an online party or dress up event? I would wear them. Yeah, I wouldn't. I mean, maybe I would put a picture on Instagram, but it doesn't. That's not really what I normally post. Okay.

..Importance of social media

Researcher 21:36
How would you like to wear these fashion items on your real body or a representation of you?

Participant 2 21:47
On my real body, I think

Researcher 21:50
and would you like your real body to like, look exactly like you? Or would you change?

Participant 2 21:58
Anything? Ah, I think I would like to keep it the same? I think so. Yeah. Yeah.

Researcher 22:09
Can you just explain a bit why?

Participant 2 22:11
why I'd want to keep it the same? I felt like I'd want it. I think I'd want it to be a true representation of myself. Perhaps. Yeah, I just want it to reflect, to reflect who I am, I suppose. Maybe that's maybe that's not the point of being online? I don't know. Maybe the point of being online is to look different.

..Importance of Authentic/ Style Replication

Researcher 22:44
Oh, it's whatever you feel that you? Like, what would you want to? How would you want to represent, represent yourself in these digital spaces with these

digital items? Yeah,

Participant 2 22:57
I think I would, I think I'd be happiest looking just like myself, to be honest. That's how I would want to show up. Because I think even day to day, I tried to show up exactly who as I am and who I am, and be honest with that. So I wouldn't want that to be any different in the digital world, I suppose.

..Looses meaning if not on
..Importance of Authentic/

Researcher 23:18
And you'd expect that from other people within those spaces as well.

Participant 2 23:21
I mean, I wouldn't expect it. Because I know that not everybody feels the same way about that. And not everybody feels comfortable showing up for themselves. And people use a digital realm as a form of escapism. And so I think the point where the purpose of that for a lot of other people need to not be themselves.

..People use online for escapi

Researcher 23:38
Do you think that kind of looking at other people who might be expressing themselves differently would influenced the way that you dress yourself? Maybe?

Participant 2 23:48
Possibly, possibly. I think if I looked completely out of place, I would start second guessing maybe the choices that I've made, I think, I think I would feel like that just day to day anyway walking about. So I suppose there is definitely an element of wanting to fit in. And if I really did stand out like a complete sore thumb and I thought, Oh, this isn't how everybody else is expressing themselves. And I think maybe, maybe I got the wrong invite. Maybe I you know, maybe I didn't get the dress code or something. And

..Speculative Language
..Wanting to fit in online
..Understand the digital dress

Researcher 24:24
just make a note there. And so from a fashion consumer perspective, where could you see digital fashion being utilised the most? Like what type of environments would you like to see for example? .

Participant 2 24:40
Can I be fairly broad with it? Is that okay? Yeah. Okay, so I think it could be potentially useful on the websites of brands who are trying to implement their product. And it might be useful for people to be able to see it on their real selves and their real figures to see if it's something that they would fit it or if they can match it with other items they have, I think it could then influence more sustainable decisions. Because you're thinking more consciously more carefully considerately about what it is you're purchasing. So I could see it being used there. And yeah, definitely I could see it be used the characters online in games. I could see it used in shops when you go in and you can do virtual fittings. It's it can be useful on programmes such as Clo 3d and other 3d modelling platforms in which you can see how efficiently a pattern is going to come out though. There is definitely room for error with that because they aren't perfect. And you do end up getting some wastage. Yeah.

..Try-On
Sustainable Behaviours

Researcher 25:53
Right. Okay, I am going to share my screen now. Stop sharing, I'm guessing you will share it again. Now I'm going to show you this image images. And I just want you to kind of so there's a few different varieties of like different environments, different digital fashion items, different avatars. And I just want you to kind of pick the ones that kind of stand out to you the most the ones that you feel like you kind of relate to or you like most and then just tell me, you know why? First of all

Participant 2 26:46
based on that the one in the middle at the bottom, is that a completely virtual world? Or is that using AR

..Real world girl and DF (+)
..Digital Scan in Underwate

..Blended World (+
Blended Worlds
..Blending of real a
..Digital Scan in Un
..DF marries digital and physical
..Digital World Attitudes and Imp

Researcher 26:56
Yes, it's a completely virtual world with but digitally scanned humans. So yeah, that Yeah, so a bit more towards the real body spectrum. But in the middle? Yeah. It is. It is. It isn't like a city is actually a digitally created world. Okay. Okay.

Participant 2 27:22
Because it looks very similar to our Gosh, what's the name of that product that just came out by Apple?

Researcher 27:29
pro glasses, the Pro? Yeah,

Participant 2 27:31
that's it. That one? It looks very similar to that. Yeah. So I think the one that stands out from me the most is possibly the bottom right, with the lady in the purpley pink dress. And then the one above who looks slightly like a very cool Laura Croft, underwater.

Researcher 27:55
That's me. Thanks. There you go.

Participant 2 27:59
Very cool. Laura croft

Researcher 28:06
Can you explain why these ones kind of stood out to you?

Participant 2 28:10
Um, perhaps there is a sense of realism that resounds with me. So the one that's meant to be you, I feel like that is an interpretation of an actual physical outfit that could be recreated. And then I think the bottom one is, again, it's taking reality into consideration in the environment and the person. And then it's introducing this digital garment. So I feel like it's kind of like, a marriage of the two worlds rather than just one over the other.

Researcher 28:42
Yeah. And do you think these environments, and just like looking at the variety of them, do you think that would impact like maybe what type of garment you might wear

Participant 2 28:59
just like looking at them? Yeah. Possibly, possibly, yeah. If I, if I saw, like trends popping up with lots of other people having it and wearing it, and then I thought, Oh, actually, you know what? I think I'd look quite good in that. Then possibly, I don't, yeah.

Researcher 29:26
Great. Okay. I'm going to stop sharing that. And we are going to move on to the next bit. But do you want a water break?

Participant 2 29:34
I'm okay, for the moment unless you need one. No, I'm good.

Researcher 29:38
I'm going to present a step away for a little bit, actually. But while I do that, I'm just going to pause this keep actually running to secs. So just to do in this section, and just clarify, would you like to purchase one of the items from the dress expert website Um, if so, this would require an additional 30 minutes of your time and a follow up interview, which will book in in about two, two weeks. Okay. Oh, I

..Intrigued about what others

Participant 2 30:12
don't I don't I don't know. I don't know. I said yes. I don't know the ones I've chosen.

Researcher 30:24
You don't have to choose now. Okay. Like, it's one of the dress X collection. So it might, you might pick something totally different. Okay, so go away. Okay, you have to, basically you have to send me an image of yourself with more kind of a bit tighter fitting clothes. Like, that's not too baggy. Send me that to me with your item that you'd like it's up to 100 pounds, it could be anything could be as accessory. It could be outfit, dress, whatever, send it to me, I'll send it to dress X. I'll get them to digitally tailor it, and then I'll send it back to you. And then basically, I just would like a follow up interview with you just to kind of understand. And also, the next question is, would you be up for sharing that image on social media? The benefit of the research? Again, that is voluntary, you don't have to do that. But I will be asking you in the next follow up about you know, your thoughts on when you receive the image? And also, if you did share it on social media? You know, I'll be observing comments and stuff. So you're kind of getting the drift. So yeah, would that be something that you might want to do?

..Intrigued about what others

Participant 2 31:39
Definitely, I think yeah, if I can go away and have a proper think about what it is then for sure. I would be open for that. And I'd be open for sharing it because I'm very intrigued to see what people would say, because it's, it's definitely not something I would do normally so.

Researcher 31:55
Amazing. Brilliant. Amazing. So I'm going to give you five minutes now or maybe just a little bit more maybe too late. You know half past if you need a little bit more time. Check in after five minutes and I want you to create and dress your avatar. Okay, cool. I'll turn off my screen and let you just carry on and do it yourself without me kind of observing you making you feel uncomfortable.

TRANSCRIPTION EDITED OUT - NOT NEEDED

Participant 2 37:08
on shape eyelid what's the difference oh great

Researcher 44:42
How are we getting on I hate I keep hearing lots of laughter

Participant 2 44:48
Oh I'm getting there sorry let me go into something a little bit more time experimenting. Could I have Could I have a couple of more minutes please

Researcher 47:27
But how are you getting on?

Participant 2 47:28
I'm done now.

Researcher 47:31
Yes. amazing seems like you were very invested in that process. I liked it. So can you tell me before we go into your avatar? And just from a fashion consumer perspective, what is your initial impression about this experience? Does it feel like a fashion experience to you? And and you know, what did you like? What didn't you? Didn't you like?

Participant 2 48:01
Yeah, it definitely feels like a fashion experience for sure. Like the amount of

option available is outstanding. And yeah, it makes it really hard to make a decision, I think.

Researcher 48:14
And would you like be purchasing anything? Do you think on this platform?

..Wouldn't pay
..Encourage more consumption

Participant 2 48:19
I don't think I would.

Researcher 48:21
Why?

..DF as a luxury
Physical v DF Utility
..Physical v DF Utility

Participant 2 48:23
Um, because I don't I see is a an I think this is like an absolute luxury. I don't see it as a necessity. And, yeah, I just think it wouldn't necessarily be the wisest decision to spend money on.

Physical v DF Utility
..Physical v DF Utility

Researcher 48:41
Okay. And so can you explain to me the choice of your avatar and how you've dressed.

..Created avatar she hopes pe

Participant 2 48:47
So I have chosen it, I think I've done it based on what I would like to look like and what I hope people could see me as and yeah, the different the different kinds of things that I think I would choose, if I was given the choice in real life as to what to wear, that is what I have chosen.

Researcher 49:06
Okay. And the same for like, even how your avatar is like created body shape, hair, everything like that.

..Avatar Embodiment (as a ve

Participant 2 49:15
Yeah. So I've tried to be as close to what I think I could look like, if that makes sense. You could look like life like with my hair, like I've chosen my body to be like just an average shape because the the avatars were a bit confusing. They didn't look that different. But like, I, I do sometimes wear my hair like that. And I would sometimes choose those kinds of clothing. I just don't have that particular set.

Researcher 49:47
Yeah. How important was the creation of the avatar to this kind of dressing experience?

Participant 2 49:57
I think it's quite important. I think you Yeah, quite important in terms of getting the correct likeness.

Researcher 50:03
Yeah. Do you feel more connected to this version? Would you say?

..Establishes to real-life self (

Participant 2 50:09
Yes, I think so. Because I could see it, how it could correspond to my, how I see myself in reality.

Researcher 50:20
Do you think it is more of like a true representation of yourself?

Participant 2 50:23
Yes, I

Researcher 50:25

think so. In comparison to maybe the items on dress X, for instance? Yeah. Yeah. Okay. And which experience do you felt like best satisfied? Your fashion consumer needs as it wasn't dress x? Or was it this particular experience on specific, like to Petco can ever say that? No.

Participant 2 50:52

..Context changes experien
..Context (+)

Gosh, it's so difficult because I felt that they were both two separate consumer experiences. With this one, I felt as if it was very gamified. And I could imagine myself entering a different kind of reality. Whereas with dress x, it felt that I could, it would be a picture I would have of my physical self. And that would be something I would share with other people. They felt like different experiences for different purposes.

Researcher 51:19

Yeah, and with the role of the Avatar, would you think it increases or decreases your kind of motivation to adopt digital fashion and consume it?

Participant 2 51:29

..Associate Eastern style with

I think it increases in this circumstance with the gamified version. I mean, this was an interesting experience, because there's definitely some Asian influence in it. And I can see how the fashion is massively influenced as well. So yeah, I think it would also depend, yeah, what kind of what kind of game I'm playing? And, yeah.

Researcher 51:54

So which one did you which one did you do thing?

Participant 2 51:58

DRESSX v Zepeto
..Wouldn't take hersel
..Increased Connection to Avata
..Lightheartedness

I think I prefer the Zepeto with the avatar because I felt more connected. And it was there was a playfulness, there was a light, light heartedness about it in some sense.

Researcher 52:11

Yeah. Um, how? How did this kind of experience make you feel about your style offline?

Participant 2 52:25

..Push boundaries
..Dressing Dreams

It made me realise all the things I wish I had. But it made me realise the options available. And I think it it also encouraged me to consider different outfit options that maybe I wouldn't have access to in reality.

Researcher 52:44

Could you see yourself consuming more digital fashion?

Participant 2 52:49

..Speculative Language
A DF Consumer?

Potentially, potentially? As it stands at this point in time? I'm gonna say no, but that doesn't mean I won't in the future.

Researcher 53:01

Do you think it could potentially drive more sustainable consumption?

Participant 2 53:11

For myself, yeah.

Researcher 53:18

Maybe I should rephrase that. And how do you think it could? Dry? Oh, I

Participant 2 53:22

Displacement Rate/Replacing

think it could. Okay, so I think it could if I wanted an outfit, which is not practical for use in real life, I can't really see myself using it. It's maybe not made at the best fabrics, or it's too expensive, then in that sense, then I can dress my avatar

Displacement Rate/Repl
..Online Version Dresses
..Disconnet between RL

in something that I wish I could wear then yes. But in other ways, that makes me feel a bit sad because there's this disconnect between my reality and my avatars reality, and it almost seems like my avatar is dressing better than I am. Yeah.

Researcher 53:59
feel a bit sad. Makes you feel so well, how might how might you improve these fashion experiences?

Participant 2 54:09
Online?

Researcher 54:11
They for you as like, it doesn't have to be a night it could be blended it could be physical, how do you feel like these particular fashion experiences could be? Yeah, like meet your needs as a fashion consumers anything lacking?

Participant 2 54:30
Like, sorry, do you mean like, is anything lacking in the digital sense or just in general?

Researcher 54:34
Just in general,

Participant 2 54:36
okay. So just in general, I think my my desire to make sustainable choices and consume sustainably is so it's so great that in some sense, I feel that my fashion is quite can be quite limited. And I know that there are lots of efforts and drives to improve that To get more sustainable options out there to get more organic options for materials out there to increase second hand use. And all of these options also aren't without their difficulties. So in some sense, it's a really difficult thing, because in some ways, there is no such thing as sustainable consumption as it stands. And so it makes it incredibly difficult for me to even buy clothes in, in the physical world, because I am so acutely aware of these issues that surround the fashion industry. And it makes me really, it makes me quite angry and quite upset. And it's not something I want to participate in. And yet at the same time, I also desperately want to express myself and feel the joy of fashion, which is at the root of it. Yeah, so I feel I feel quite limited in the physical sense. And that is something that the digital world as it stands could improve, you know, it could improve my choices to wear something a bit more outrageous or a bit more experimental. Without me feeling like I'd impacted the planet in quite in quite such a bad way.

Researcher 56:09
What would make that step then, for you to like, actually adopt it? Because you see your potential, but you're still a bit kind of, you know, you've said, I'm not sure if I would buy potentially what what do you think would kind of make that connection? Potentially?

Participant 2 56:25
Yeah, it's interesting, because it seems like all of the answers are provided by this online fashion platform. The extra step toward the extra step B. I think for me, it would be me needing to have a larger digital presence, because I don't think I have a large digital presence as it is. It doesn't seem to carry as much weight for me, I would much rather have those choices in the physical world. So I would need to either be much more invested in gaming or much more invested in in a virtual profile, I think to really make that step and that change.

..Larger Digital Presence
..Current Online Persona
..Investment in gaming o
..Invested in Online Self
..Current Online Persona

Researcher 57:05
Pretty well. That's it so I'm gonna stop recording. Yeah, stop

Participant 2 57:10

279 sharing the screen.

Appendix 28: Social Media Responses, with Thematic Analysis MAXQA (Study Two)...

.Surpr sed

< cl{t Marta Suarez
martitita_12
[)I

January is less busy

New Messages

6:40 AM

Reacted to your story



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New Messages

YESTERDAY 11:46 PM

Replied to your story



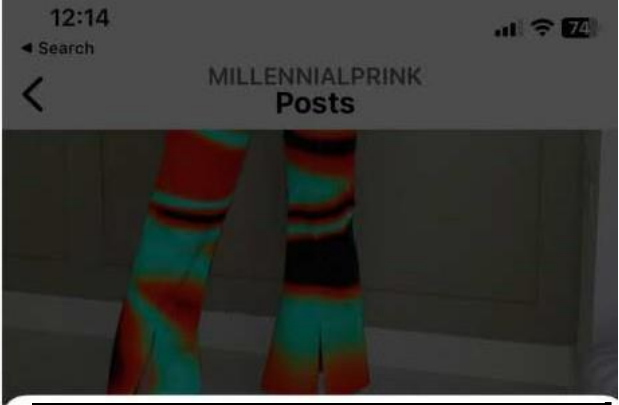
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Thought she mede t (2)

e Message...

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.Questions from followers
Leck e digital presence?
Do you have to wash It?



Comments

millennialprink 5d
@frenzie14 wow! Very interesting! What if you lack digital presence with which to share your digital garments?
Reply
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ollie.whyborn 5d
do you have to wash it?
Reply
0

mille_nnialprink 5d
@olhe.whyborn good question! Considering that I don't is it more sustainable as it d esn't release microfiber?? """"
Reply
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A d a comment for millennial

Questions. from followers
Sustatnabrl ty benefit
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onsumer cons1derat1on Try o

Comments

Integratea algltlsatlon w111 poslt1vely impact the levels of material waste/ fast fashion whilst it will hopefully increase sustainability awareness which would actually add value to clothing. Speaking of virtuality, having easier access to fashion virtually before buying would open up further options within the safe environment of your own home to explore your personal clothing desires can only positively impact society.

Reply

(0 **millennialprink** 5d

@frenzie14 wow! Very interesting! What if you lack digital presence with which to share your digital garments?

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Add a comment for millennial... g

.No mention of outfit ust her
.No mention of outfit ust her (1)

Comments

giulia.guzzinati 6w • • by author
so cool
Reply

jaslevell 4w • Author
@giulia.guzzinati • •
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katieljukes 6w • • by author
wow this is gorgeous
Reply

jaslevell 4w • Author
@katieljukes thank u love!!
Reply

ale.02v 6w • • by author
OMG SO PRETTY 'W
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jaslevell 4w · Author
@ale.02v THANK UU
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yilou.gmnz 6w · ❤ by author
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Played around wrth crop of mege for feed

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JASLEVELL
Posts

Follow

jaslevell



Liked by **lucyloaner** and **others**

jaslevell got to have some fun with a bit of digital fashion thanks to @dressx & @jademcsorley !!

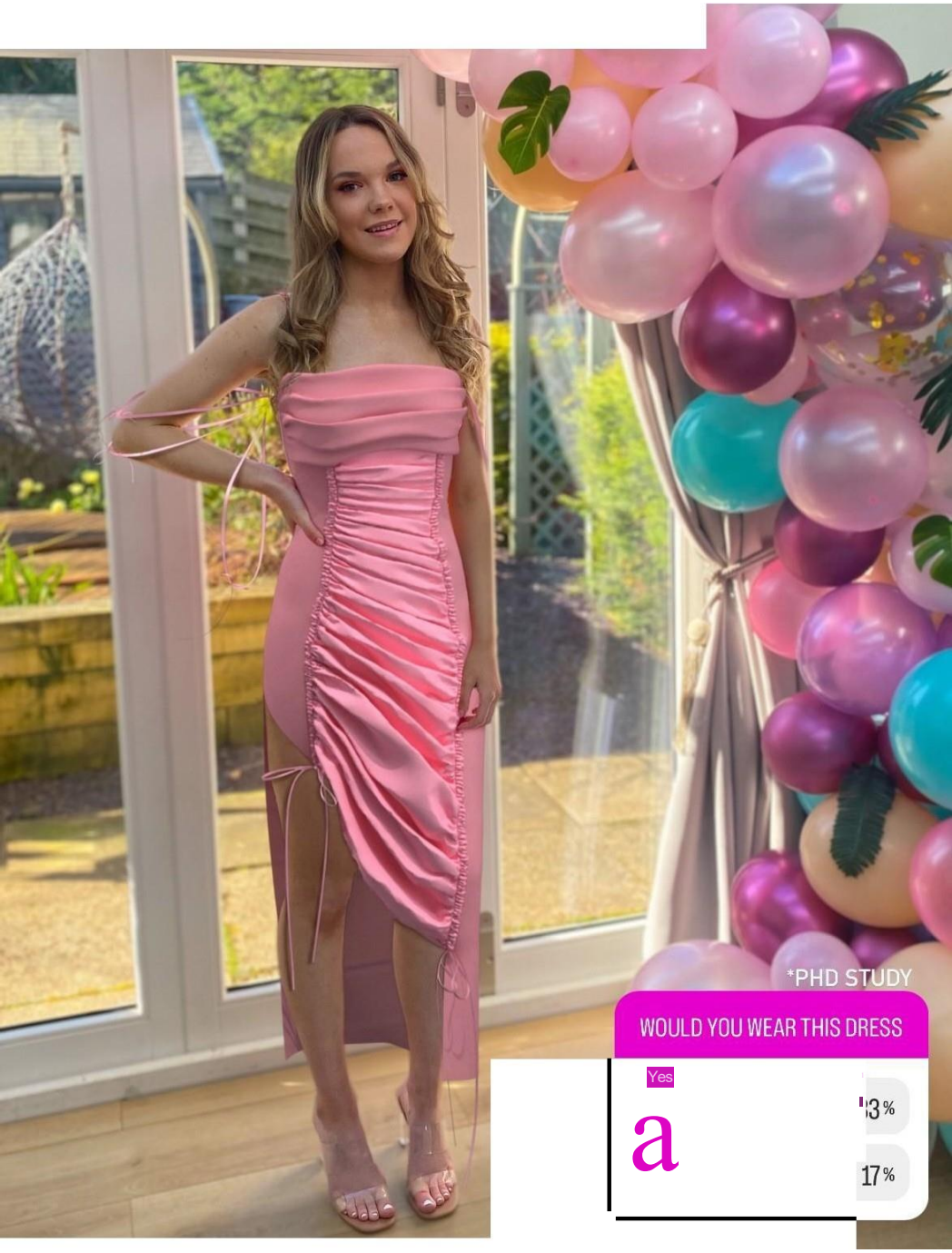
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DOES THIS DRESS LOOK REALISTIC TO YOU?
Yes
82%
No
18%



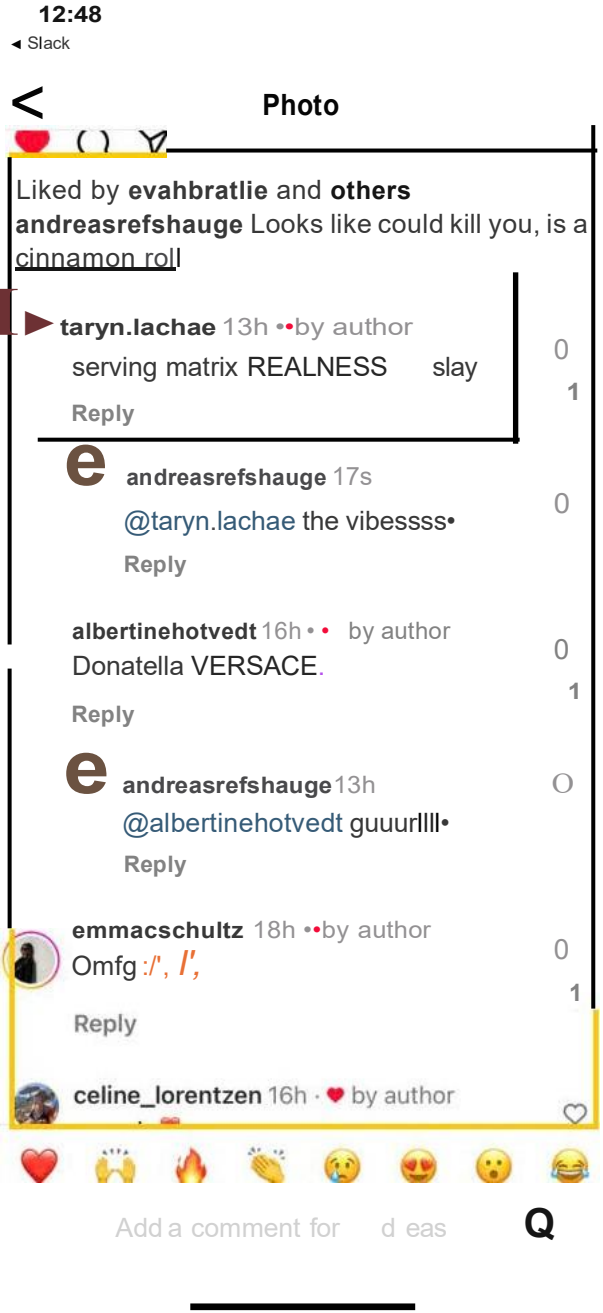



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WOULD YOU WEAR THIS DRESS
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Photo



celine_lorentzen · ""by au

woaah !

Reply

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could also kill <3

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mathildellefsen 18h ••by author

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Oufffffff dent look at me like that ••

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Comments

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@heccute LOVE U
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shellmoira 1w • • by author
I am beyond obsessed with you
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Holy shit I'm in love with u
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15:37

◀ Search

SWEETCHILLICHRISP

Posts



Liked by **keyannarayat** and **others**

sweetchillichrisp thanks for the new outfit

Comments

• . **sweetchillichrisp** 1w

@cpu_livy omg says you?! 😭 🥺 💗

Reply

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rubydlulu 1w • • by author

Absolute wonder being!!!

Reply

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• . **sweetchillichrisp** 1w

@rubydlulu says you •_ 🤲 🤲

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Add a comment for sweetchil... g



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livx.jpg 1w ••by author
so stunning !!!
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• , sweetchillichrisp 1w
@annahazlewood_ mommy O

Reply

missvioletwhite 1w
You look incredible n

Reply

• , sweetchillichrisp 1w
@missvioletwhite thank you

Reply

heyyitmerosie 1w •• by author
MOTHER

15:38

◀ Search

SWEETCHILLICHRISP

Posts



Liked by **keyannarayat** and **others**

sweetchillichrisp thanks for the new outfit

Comments



amelia.mozo 1w • • by author

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Reply

• . **sweetchillichrisp** 1w

@amelia.mozo me when I see u

😍😍😍😍😍

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Reply

View 1 more reply



lirielle 1w • • by author

my angel

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Reply

• . **sweetchillichrisp** 1w

@lirielle NO U 💗💗💗

Reply

❤️ 🙌 🔥 👏 😢 😍 😂



Add a comment for sweetchil... g



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Liked by **dOllydvrling** and **others**

sweetchillichrisp thanks for the new outfit @dressx @jademcsorley xox

e .. ... more

Appendix 29: Coding System MAXQDA (Study Two) 10 page extract example...

Code System

Code System	Memo	Frequency
Code System		1544
Mask & Ethics		1
Didn't want to create a dishonest avatar (1) (+)	30/03/2024 15:43 - Jadey Merged with code Avatar Representation > Mask > Didn't want to create a dishonest avatar	2
Online allows you to be whoever you want to be		1
People use online for escapism		1
Doesn't want to hide behind a unrealistic body		1
Doesn't want to hide but easier to express on social media		1
Representation of Self - Digtial	03/04/2024 20:52 - Jade McSorley AI subcode suggestions 1. Representation of Digital Self through Avatars - Mimicking physical appearance - Creating multiple avatars for expression - Using avatars for gaming or digital spaces 2. Preference for Personal Image or Avatar - Wanting to wear personal image - Using game avatar for representation - Choosing personal image for social media platforms 3. Separation of Digital and Physical Self - Not wanting to use own image for digital representation - Creating random characters for digital self	9

Holds part of me		1
Style Replication	01/04/2024 09:43 - Jade McSorley AI subcode suggestions 1. Personal Representation - Reflection of self - True representation of self 2. Style Preference - Everyday wear - Trying new and different things 3. Real-Life Replication - Dressing in real life	5
Personal Representation (+)	01/04/2024 09:45 - Jadey Merged with code Style Replication > Wants to represent self	1
Representation of style in different form - importance of looking good in a digtial avatar/world (2)		1
Affordability (+)	01/04/2024 09:59 - Jadey Merged with code Style Replication > Style Preference > Trying new and different things (ARTISTIC LICENSE) > Love to have but can't afford (1)	2
Extension		2
Extension of choice but beyond (+)	01/04/2024 09:51 - Jadey Merged with code Style Replication > Style Preference > Trying new and different things (ARTISTIC LICENSE) > Only reflects so much that she likes them (but not style replication)	3
Elevated Style (+) (+)	01/04/2024 09:50 - Jadey Merged with code Style Replication > Elevated version of real life style	7

	01/04/2024 15:33 - Jadey Merged with code Style Replication > Avatar is important to consumption (1)	
More edgier version		1
Fantastical (+)	01/04/2024 09:47 - Jadey Merged with code Style Replication > Style Preference > Trying new and different things (ARTISTIC LICENSE) > Only reflects so much that she likes them (but not style replication) > Would dress fantasy - not the real world	1
Recurring theme		1
Multiple Identities		0
Mixture of RL style and things she wouldn't wear IRL	Depends on price	2
Style Preference		0
Importance of Brands		0
Versace shoes		1
Not bothered about brands - but the possibility of doing something out of the real		1
DF value		0
Brand Familiarity		1
Enhances experience		0
Brand Support		1
Accessbility		0

Trying new and different things (ARTISTIC LICENSE)		3
Extension (1)		1
Fantastical (1)	01/04/2024 09:47 - Jadey Merged with code Style Replication > Style Preference > Trying new and different things (ARTISTIC LICENSE) > Only reflects so much that she likes them (but not style replication) > Would dress fantasy - not the real world	1
Recurring theme (1)		1
Elevated Style (1)	01/04/2024 09:50 - Jadey Merged with code Style Replication > Elevated version of real life style	7
More edgier version (1)		2
Extension of choice but beyond (1)	01/04/2024 09:51 - Jadey Merged with code Style Replication > Style Preference > Trying new and different things (ARTISTIC LICENSE) > Only reflects so much that she likes them (but not style replication)	4
Love to have but can't afford		2
Would pick items that insane because they are fascinating (ARTISTIC LICENSE)		1
Everyday Wear		0
mimic the outfit that I wear and wear in person		5
Real-life Replication (+)	01/04/2024 09:50 - Jadey Merged with code Style Replication > Dressed in similar styles to IRL	2

More aspirational style (+)	03/04/2024 21:00 - Jadey Merged with code Representation of Self - Digtial > Representation of Style > Cooler version (more trendy)	3
Completely different style because can't afford IRL		1
Importance of looking like a real piece of clothing (not video game)		1
Too far down the gaming route	Cosplay also	2
Default Reaction (+)	01/04/2024 09:48 - Jadey Merged with code Style Replication > Initial reaction to go for similar style	3
Reflection of style offline (+)	01/04/2024 09:48 - Jadey Merged with code Style Replication > Choose a reflection of style (DRESSX)	4
Styled as anime - not far off to what she likes/wear IRL		1
Impacts Avatar Style (+)	01/04/2024 09:52 - Jadey Merged with code Style Replication > Replicated style in Zepeto	3
Accessories		0
Accessorised with glasses sames as RL		1
Ethics		1
User autonomy for representation		1
remove parts they don't like		0
AI will replace models		1

Young people don't know when things are real - so digital self should look real		1
Harrassment online		0
Ownershop of data		0
Honest Representation / Real Image	03/04/2024 20:55 - Jadey Merged with code Representation of Self - Digtial > I think I'd want it to be a true representation of myself 03/04/2024 20:57 - Jadey Merged with code Representation of Self - Digtial > Real-self (+) > Wants to wear on image of self	4
Prefers image for social		1
More utility and exciting		1
DF allows her to be who she wants to be and not care about others		2
Honest representation of self		1
Fun experience replicating self		1
To build confidence		1
Looses meaning if not on real self		1
Prefer Avatar		0
In a game		1
if it's like completely not me in a digital space, I can really get into it		1

Wants a digital representation that doesn't look like her		2
Creating avatar increased interest in DF		1
Initially shocked if too real		1
Mutiple identities		3
Another version of self		1
Might be good to have real body and avatar as different representations		1
Reference to body	03/04/2024 20:42 - Jade McSorley AI subcode suggestions 1. Body image and self-perception - Thinking about how clothing looks on one's body - Concerns about how one's body looks in clothing - Comparing one's body to digital representations 2. Technology and body representation - Considering the accuracy of digital representations of one's body - Using technology to control how clothing looks on one's body	2
More body type options		1
Positives		0
Lots of body types (ZEPETO)		1
Diverse options		0
Body image		0
Might be shocked if it was too real - so prefer an avatar at first		1

Body shape important to replicate (+)	03/04/2024 21:06 - Jadey Merged with code Reference to body > Body image > Body shape important to replicate > has to be a replica of it has to be a good representation of what I look at how my body looks.	2
Practical reasons		1
Impact on mental health (+)	03/04/2024 20:46 - Jadey Merged with code Reference to body > Body image > Worry of body types impacting mental health	1
remove parts they don't like (1)		0
Discomfort facing the reality of her body (+) (+)	01/04/2024 10:37 - Jadey Merged with code Real feeling > Reference to body > Uncomfortable facing the reality of her body > feels a little uncomfortable. 01/04/2024 10:40 - Jadey Merged with code Real feeling > Reference to body > Uncomfortable facing the reality of her body (+) > I also felt slightly uncomfortable. Choosing what I would look like, like my body. So that was a little uncomfortable because I	3
Control		1
Doesn't want to hide behind a unrealistic body (1)		1
Body Friction (Real v Unreal)		1
Changed avatar body shape		2
Kept normal body type subconsciously but would have done bigger if felt being realistic		2

Assumed Perceptions of DF		0
Need to be a gamer (+)	01/04/2024 14:48 - Jadey Merged with code Assumed Perceptions of DF > Associated with Gaming	3
Like a Tik Tok filter		1
More sustainable		1
Thought it was going to be expensive		2
Associated with designer items		1
Assumes everything connected isn't real		1
Not realistic		1
DF potential		6
A form of media influence		0
Influence offline stlye		1
Society Evolution		0
Consumer mind-shifts (+)	03/04/2024 10:03 - Jadey Merged with code DF potential > Society Evolution > Consumer mind-shifts > Needs to move past own preceptions of self and others to appreciate DF (1)	1
Online presence may become even more important		1
Create Experiences		0
Adding sentimentality through experiences		1
Blending IRL retail with DF		2

Reduces effort of changing rooms		1
To Inspire		1
Styling Tool (+)	02/03/2024 13:02 - Jadey Merged with code DF potential > Idea Generation 03/04/2024 09:59 - Jadey Merged with code DF potential > Experimenting with Style (+) > Styling Tool 03/04/2024 10:02 - Jadey Merged with code DF potential > To Inspire > Styling Tool > To Inspire Styling of Exisitng Wardrobe	4
Digital Wardrobe		1
Bring movies to life		1
Expressiob beyond RL		1
Could replace inspirational sites like Pinterest		1
Accessibility to Couture		1
Time Investment		0
If spent more time in the metaverse or on socials then would buy		1
Technical Requirements		0
Embed subscriptions and gamification		1
Needs technology to advance and items to look more realistic		1

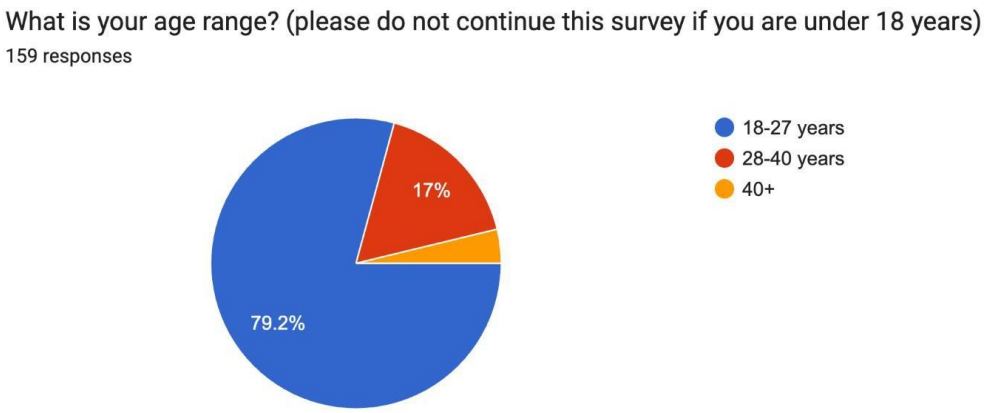
Appendix 30: List of Coding Maps within Chapter 5

1	Fashion Purpose
2	DF Purpose and Value
3	Aspirational Expression
4	DF Choice and Reason
5	DF Practical Uses
6	DF Affordability
7	Digital World Preference
8	DRESSX
9	Zepeto as Gaming Experience
10	Sustainability Attitudes
11	Sustainability Behaviours
12	DF Sustainability
13	Assumed Perceptions of DF
14	Speculative Possibilities
15	Extension of Identity
16	Importance of Authentic/Honest Representation
17	Avatar Re-embodiment as Aspiration and Empowerment
18	Image v Avatar (DRESSX v Zepeto)
19	Body Dissonance

20	Digital Style Impact
21	Not Sustainable (Category DF Sustainability)
22	Pre-Purchase Consideration (Category: DF Sustainability)
23	Limitations/Blockers
24	Lack of Utility (Category: Limitations/Blockers)
25	Fashion Consumer Requirements for DF
26	Blurred Lines (subconscious filtering)
27	Digital Ethics Impact on Society

Appendix 31: Survey Results (Study Two)

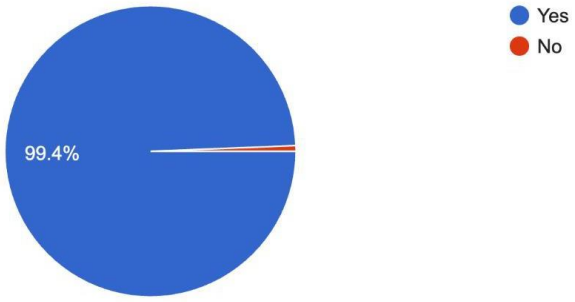
Question 1



Question 2

Do you have access to the internet?

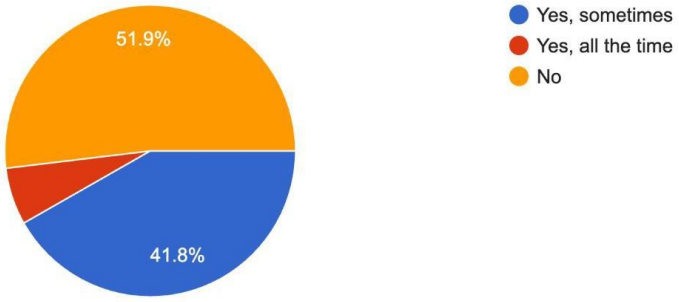
159 responses



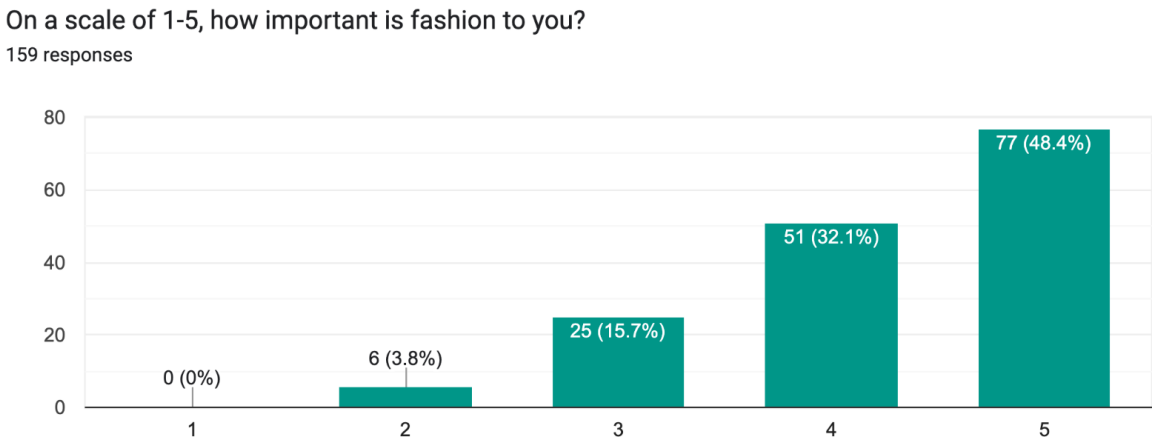
Question 3

Do you play video games?

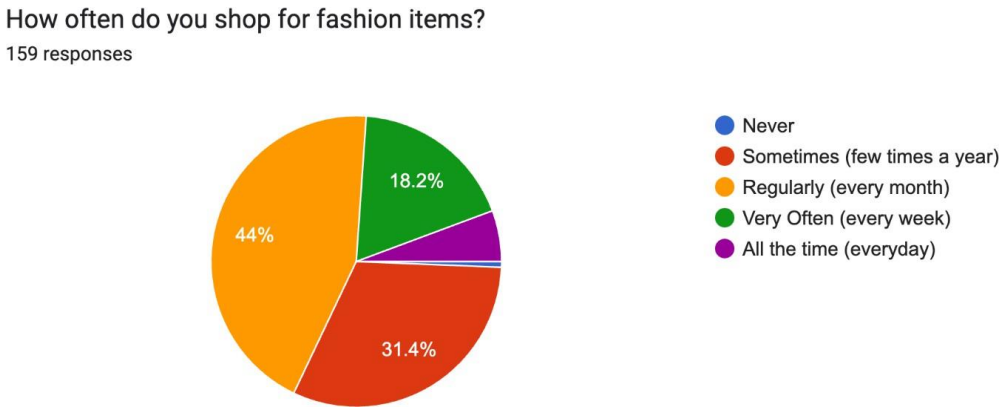
158 responses



Question 4



Question 5



Question 6

What does fashion mean to you?
Fashion for me is a means of self-expression, a source of confidence, and a captivating and enchanting industry to explore.
express myself and my daily mood
Fashion is incredibly important to me both in terms of my own wardrobe as the most

significant form of self expression, and as an art form to be appreciated and learned about without purchasing clothes. I think that those are two different sides of fashion which for me, intersect a great deal, but may not for others.
fashion is my life
Fashion choices can elevate how you feel in a situation. It is important to figure out your own style and what works for you for it to have that impact.
I appreciate good style and good quality clothing. I have very little interest in trends, luxury, couture or fast fashion. In a professional context I care about how I look and the image this presents to people. But even though I feel I have good self-awareness I dislike how fashion/the fashion industry contributes to making me feel dissatisfied with what I have and that there is always something 'more' or 'better' still to get
It means being able to express myself and reflect on my environment and what aspects of my personality I wish to display in a particular context
it's a life attitude, decorating for a beautiful life
it's been my career, my passion and my hobby
Fashion is a very important and integral part of my life. It helps me to express myself and show my creativity in a material way. It helps me to feel confident, comfortable and safe.
Fashion is a big part of my life. I've always been naturally interested and fascinated in the field, wanting to 'make clothes' from a young age and trying to dress differently / more like me than adhering solely to what is in style. I believe that what we wear affects how we behave and can also send a certain message about us.
My mum worked In fashion so I grew up with it being a big influence & it's naturally become my interest too. Putting together an outfit is almost therapeutic & brings me to enjoyment. Fashion makes me think about a lot of things, from high end fashion, Vogue world to micro trends & tiktok viral trends.
It's one of my strongest forms of self-expression. I also often use it as a self-defence mechanism.
Fashion, to me, is a means of self-expression and empowerment. It goes beyond just

clothing; it's a way to convey personality and mood. It allows me to explore different facets of my identity.
I find it to be an exciting means of self-expression and expression of creativity, and I am always inspired by other people's interpretations of fashion and styling. I am also interested in fashion design as a craft and have a strong appreciation for the skills and knowledge that go into pattern development and fashion manufacturing. Overall, for me, fashion makes the world a more colourful and expressive place and encourages creativity in the wearer.
I like the idea of clothing as a form of expression, I like the cultural nuances around fashion and the fact they can be works of art. We can be walking talking art.
I'm interested in fashion and I love shopping but I'm not fashionable and don't always stay on top of current trends. I often look at celebrities for fashion inspiration but can't get my own style right.
Good looking clothes make you feel good in them and give a good first impression to people
I looooove fashion! Doesn't mean I spend lots of money but I think it tells a lot about me...also fashion describes my mood...meaningful moments in my life and all the different changes throughout the years... funny how a simple piece of fabric can make a person so so happy some times!!
To me I don’t really care about fashion because if I like something and is comfortable to wear then I will wear it
It’s an expression of my personality and forms a hobby as well. Who doesn’t like to look good because it also makes you feel good.
Fashion is really important in my life as it makes me feel happy and different.
I want it to portray my personality but also be comfortable
I feel it is expensive. I have a style I like and it suits me but ‘high’ fashion isn’t something I want/need. I find it impractical for day to day life in the north of England. If I were to purchase something it would need to be re worn multiple times over many years.

Fashion is how I dress, if I have a new dress that makes me feel comfortable, It makes my feelings of self- confidence change to a better condition.
It’s a way to express myself without people knowing anything about me
Self expression, confidence, creativity
A way of expressing myself but also a reminder of my family. A lot of the clothes I wear were given to me by my mum or grandma. Fashion doesn’t come intuitively to me but I love people-watching when I’m out and the way we dress is a statement of our character and interests.
Dressing well helps make me feel more comfortable in my day to day
It makes me far more comfortable in my own skin. It allows me to express my gender identity in such a clear way which is extremely important to me as a non-binary person.
It’s a form of expression, I like to dress hyper feminine wearing thing I wanted to when I was a little girl. Small things like hello kitty earrings bring me so much joy and being a adult I can find ally buy the clothes I’ve dreamt of from a young age. Fashion is also a hobby of mine, I like a lot of kawaii/Lolita fashion which is really hard to find in the uk so I like search daily so takes up a lot of my free time. When I wear pink it always makes me happy I think without fashion my life would be a lot more dull.
衣食住足りて、礼節を知る、…"小声。 義務教育や礼義の躾けは一通り受けても、海外で まるで人間扱いされなかった、その理由を突き詰めて考え抜いた時、圧倒的に自分に足りなかったのは 衣類や着る楽しみだったんだ、って漸く解った。 人は 或る程度 服を用意しないと、田舎町の外で通用しないし、何処で在れ 満足に暮らせない、…"微笑。 bfの恥に成りたくなくて一生懸命頑張ったけど、結局 駄目だった、…"頷。~
fashion allows me to express myself and has allowed me to find community in other individuals and groups that are interested in the same fashion items and styles as me. It

gives me confidence. I'm interested in fashion because it gives me an opportunity to be creative and I view it as a way to create art from existing objects. It makes me feel powerful and helps me feel secure in my identity. It allows me to express different moods and emotions and show the different facets of my personality. One day I might want to look cute, another intimidating, another sophisticated, etc. It also allows me to show other people my interests e.g. t-shirts with prints such as bands I like, shows I like, arts and brands that I like.
I want to look appealling but am not bothered much beyond that
I believe fashion has always been a part of my self expression as I am someone who does not express much with my emotions or words.
fashion needs to be functional and have a purpose for me
It's a presentation to the world and a form of self-expression. It's nice to see it on others but I don't tend to explore my style a lot or make a lot of purchases
Fashion reflect society, whether people are trying to escape the hardships of life or meerly trying to enjoy and flourish in its fleeting beauty. Fashion is also key for self-expression and confidance, with oneself and with others.
fashion is a way to express myself. it is a subject of interest to me. It's a topic that genuinely interests me. It encompasses more than just shopping for clothes; it also involves staying updated on brand news, learning about materials used, exploring new production methods, and discovering sustainable alternatives, among other things
For me fashion to understand myself better and also to express myself with what I wear and what color I pick to reflect my mood and feelings.
Fashion is literally my life
Expression, confort zone. I am passionate about sustainability, I studied sustainable fashion and I don’t buy fast-fashion brands nor buy new stuffs; however, when I feel depressed or in bad mood, buying things (vintage, preloved, depop, markets) make me feel in control.
Fashion is very important to me, it allows me to reimagine and reconnect with who I am.

I don't have personal feelings or preferences, but I can provide you with a general understanding of what fashion means to people. Fashion is a form of self-expression and a way for individuals to convey their identity, creativity, and personal style through clothing, accessories, and overall appearance. It encompasses a wide range of elements, including clothing trends, colors, fabrics, styles, and cultural influences. Fashion can be a means of reflecting one's personality, culture, or even societal values. For some, fashion is an art form, a means of artistic expression through clothing design and styling. For others, it's a way to conform to societal norms or express their affiliation with a particular group or subculture. Fashion also plays a significant role in industries such as retail, design, and entertainment. Ultimately, the meaning of fashion is highly subjective and can vary greatly from person to person. It can be a means of empowerment, self-confidence, and creativity, or it can be seen as a practical necessity or a way to fit in with societal expectations.
fashion is my main channel of self expression - I love the feeling of experimenting with my clothes & styling and the confidence that a good outfit can give me. it's my outlet for creativity!
I love being able to express myself through my own personal style.
Feeling confident
I've always loved fashion and the ability for you to create your own world or identity with styling choices. There are days when I want to be percieved as one thing and others where I want to hide under my clothing. On a personal level it's fantastical however on an industry level it feels a bit seedy, exclusive, undiverse- everything wrong with the modern world
If I'm dressed well, I feel 100x more confident, it's definitely one of the main ways that I express myself.
Fashion is how I feel that day. If I am not happy with what I am wearing, it will impact my confidence and my day massively!

I work in the fashion and textiles industry (specifically flax/linen & hemp) so I am immersed in it pretty much every day. As a Fashion Futures alumni, the ecological transition of the industry is something I follow closely - personally and professionally. Fashion for me is inherent to our personalities and permits us to show a part of ourselves, fashion is also art and a lot of its aesthetic parts has always fascinated me. The fact that is it possible to translate so much via cloth shows how deep it is embedded in the matrix of our societies. Fashion makes me feel great but also bad at times (eco-anxiety plays a part in this). I also place a lot of meaning in my daily attire and can feel wrong if the clothes I chose to wear that day do not fit how I feel or how I want to appear to the world. I think clothes can convey different energies and therefore meaning.
I define fashion as 'clothing' which are pieces to last a long time in my wardrobe and around my identify as I tend to buy timeless pieces that can be worn in different decades and stages of my life
fashion is making myself comfortable and making myself me, the current version of me, a way of finding me and being able to fine likeminded people around
Fashion is the field in which I work, something I've always wanted. It's therefore a big part of my daily life, if not its centre. Fashion is also the space when I want and try to have a positive impact, my mean of communication and expression of choice.
daily mood
A way to express myself but also be really comfy in what I am wearing, how it makes me feel and how other look at me.
Fashion has always been an important medium for self-expression for me, as well as a way to build and find community. It has allowed me to enter the world as myself, connect with my family members and ancestry through their fashion interests, and build community through the exchange of clothes.
A way to express myself. I feel better after dressing up or choosing my outfit for the next day.
it is important, I like to dress nicely but it does not mean anything really regarding my person (I think I am more important and worth more than how I dress)

Fashion is the means through which we portray key facets of our identity to society
A creativity outlet
Fashion is one of the most important things in my life and always has been. I've always loved using it as a form of expression. It's what I studied in university and it's now my career
Fashion is my job & passion, I mostly immerse myself in sustainable fashion as I feel it is really important to change consumption habits and educate around the importance of responsible disposal, manufacture and design from a business stand point.
It's a way of self expression showing people exactly who I want them to think I am before even speaking to them
Makes me feel better about myself
Fashion to me is the way I express myself and gives me a different level of confidence.
Fashion is just clothes to me, I don't think too deeply about it I just wear things I like and make me feel good
Fashion is important in my everyday life to express myself and feel confident within myself. Fashion and clothing is fun, and I love seeing what other people are wearing as well.
A good way for people to express themself
Fashion gets me to express myself in a personal way with my clothings.
Fashion to me is the way I express myself. If I wear an outfit in which feel good in, my mood is instantly better. Even on down days, by putting on my favourite clothes it gives me a boost of confidence and happiness. I work in a boutique where I see woman scrutinise themselves everyday, fashion is a way that these woman can make themselves feel good and seeing them put on an outfit in which they feel best in really shows the importance of fashion.
Fashion is individual to everyone which makes it unique and feeling put together is very

important to how it makes you feel and how confident you are.
Fashion is a big part of my everyday life, I enjoy keeping up on trends, Marketing campaigns, shopping and seeing what brands have to offer
a form of self expression
Fashion is my way of expressing who I am, and who I want the world to see me as. Fashion was my tool to help me understand different ways to understand my gender and sexuality. Fashion makes me feel queer, empowering, sexy and confident.
Fashion means so much more than just clothing and style. It's a form of self-expression, and a reflection of personality. It's a way to communicate without words and to showcase individuality and celebrate diversity.
It means a lot! I work in fashion, it makes me feel happy and confident when I’m wearing something I love. It gives me a purpose and gets in the the right mindset for what I’m doing that day.
Really important to me as it’s my career and what I’ve dedicated my studies to, it’s a creative outlet and a way to make art that can also be wearable
Expression and personality
I’ve always cared about fashion but I started caring even more after watching The True Cost which lead to my decision to study Fashion at uni. So now it is very important in my life and upcoming career. It makes me feel both positive (inspired, content and hopeful) and negative (hopeless and angry at fast fashion).
It describe my personality, who I am, what is my style
It's a way for me to express myself and for me to get an artistic boost
Fashion means so much to me, it builds my confidence and shows my personality.
Being comfortable, standing out, expression
Fashion is a way I can express myself

Fashion is how I express myself depending on what my mood is or how I want to feel that day, that is when I decide what I want to wear.
Fashion is a way to express yourself and make yourself feel confident in who you are
I think it is a way of self expression but also I am a firm believer in if you look good you feel good. I am studying a fashion course so I am surrounded by fashion all the time. Although I say I shop everyday, I really only scroll second hand sites. I think it's a a way for me to find my more personal style and that way I can create a look that is more unique to me and represents me. So to me, fashion excites me and keeps me motivated.
Fashion is more than just clothes, its a way of exspressing yourself
Fashion means a lot to me as is it what I study and I enjoy purchasing new items.
It makes me feel confident when I wear trendy clothes and feel good with myself as I have my kind of aesthetic that I fit in
Fashion for me is a way of expression, I have been study fashion design in Spain and now I am doing BA fashion management with marketin
Fashion for me shows personality, I think I'm not alone on that. It can be an art form - which is the best kind, it can give confidence and creativity. I think it's important for how you want to be seen and portrayed.
Fashion is important is showing someone's personality
The ability to express a personal style and appear as an individual! Fashion has been such a source of joy I decided to peruse a degree and a career within the industry.
It is the way I express myself daily. It also acts as an armour, day to day, while I navigate challenges and daily tasks. Fashion can act as a mood brightener, confidence booster, and help bring forth my positive energy.
Fashion is both my hobby and profession.
I find fashion a way of expressing myself and having fun. Having on the right outfit gives me a confidence boost too! I don't often buy clothes, and never spend time buying basics

for my wardrobe - but when I buy something, it's just usually one piece of clothing I've seen online (usually tiktok) that I become obsessed with and have to have!
To me, good fashion is an indication of having your life together and being able to appropriately dress for the occasion. It's a sign of respect not just to yourself but to everyone else around you
Fashion is the ultimate art form. One side of the spectrum is people who will wear anything and not care, while the other side of the spectrum allows people to be extremely experimental and expressive using clothing. You can tell a lot about a person before they open their mouth, just based on how they’re dressed. As I’ve grown up I’ve started to care less and less about my personal style, for a long time during my early 20s I didn’t really understand who I was, and I used to base who I was from what style I was dressing for at the time. Since learning how to design and make clothes however, I really did find who I was. And the craftsmanship and expertise that goes into making a garment is unmatched.
it gives me a tool to show my identity
Fashion is important to me because it allows me to use the ideas which I create in my head by experimenting with my own style and adapting to this through trends and my own lifestyle. I enjoy being able to place an outfit together mentally and then physically wearing it as I find it inspires my creative process even further.
Fashion is one of my main in interests and driving points to peruse opportunities in life. It portrays who we are with out speaking and can show who you are and what you stand for within on the outside.
Fashion, personally, is my personal favourite host of art, imbuing meaning and thought into inanimate cloth. Fashion makes me feel various emotions depending on the artist’s work, however the industry as a whole makes me feel rather sad, designer’s soulful work is reworked for mass consumption for mere profitability, and many houses opt for boring and trendy designs so as to not alienate consumers. Designers are subject to mass scrutiny for creating runway looks, because the average layman views anything that isn’t highly practical as an insult to them, as evidenced in the comment section of nearly any runway look.

I work in fashion so it's an essential part of my life, but I also have a lot of resentment towards the industry as a whole for the problematic systems and messages it broadly continues to push (I work in sustainability). Sometimes it feels overwhelming to know the rate at which people continue to buy new pieces of clothing because of the capitalist social norms of constantly having new things to wear or 'retail therapy' to cope with the pressures of daily life. However, I also like clothes a lot on a personal level, and the best feeling is stumbling upon a second hand garment that makes you feel amazing (Traid I love you xx).
Fashion is one of the most important things in life for me. I think it’s the most public way of self expression, and the personal connection we have to clothes and the way we dress is something special and unique.
i like fashion and new trends, however i do not like my body shape and find it very difficult to find new clothes that fit me and my style. because of this i tend not to shop for clothes unless essential and then i tend to buy items in a sale just because i hate wasting money on something i feel looks medico.
Fashion is beauty. And beauty is objective. It is an artform that is being tarnished in the name of self-expressionism.
Fashion helped me find who I truly am, helps me express my self and help my confidence.
It’s a way of standing out and expressing myself
It is a form of expression and identity.
I believe that fashion, from a broader perspective, serves as a medium for expressing one's identity and personality. It is also a means of storytelling and a tool for making statements. Personally, I am constantly surrounded by fashion. In high school, I viewed fashion solely as the creation of practical clothing to wear. During my undergraduate degree, I saw fashion as both art and design catering to specific groups of people. Now, pursuing my master's degree, I perceive fashion as an agent for change while simultaneously addressing its historical environmental impacts.
Fashion is first thing people judge you on.It creates a part of you that you want to portray

to others.
That’s where my heart stays, as I’m in show business which is acting, it’s really important for me to be on date fashion.
It means looking stylish.
A tool to express myself
I wasn't interested in fashion until I heard the idea of bringing fashion practices to virtual worlds. Mainly because of my curiosity to understand why we want to transfer so many practices from the physical world to digital worlds. I think of fashion as a way of relating to others, a way of building identity, as an individual or as part of a group.
Fashion has previously been a very restrictive thing for me as I had to abide by a strict religious modesty code, so once I broke free from religion it was a way to rediscover myself and who I really am and also explore my gender through mixing both masculine and feminine elements.
Fashion gives me the ability to have a unique style, give people a good first impression before meeting me, and allows me to have a creative element to my every day life
Fashion is not a hugely important part of my life, beyond making sure I have suitable clothes for work and visiting clients and have comfortable clothes for everything else.
Conveys Identity.
An expression of my individuality and opportunity to provide variety & excitement in my life
Fashion makes me think of timelines and cycles
Confidence and Armor I used to protect myself. Also differentiate myself from others.
It means a lot - it means fun, joy, freedom of expression, and practicality. It enables you to live the way you wish. It can be cosy, it can be cool, it can lift your mood, and it can sometimes make you feel sad, like when you can't afford something or when you see people mistreat clothing or throw it away.

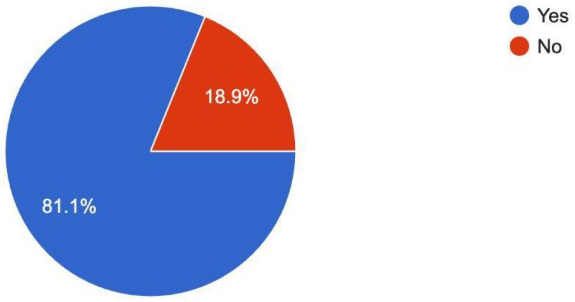
Fashion is something that can be used to define yourselves, it sets a personality that you want to show. To look confident as a person.
Fashion is a nice trend to follow but putting your own twist on it.
Everything
Very important
It helps define who you are and can also be super empowering. It’s an outward projection of self in a way you want to be seen.
Fashion is incredibly important to me as i believe it allows you to express yourself without words and you can feel your best and most confident self. It important as i am a fashion student at teesside university and i am starting my own clothing brand so it is not just a passionate is a career and hold so much power within communities, ethnicities and religions.
Shoes off your personality
Fashion is an expression and an extension of me. It’s important that I feel good in what I wear, but also that I look good too. I also enjoy fashion from an arts perspective.
Fashion for me is not massively important but it plays a role in over all expression. Fashion can dictate perception of material status, personal motives and also exude a sense of self.
A way to express self-identity
Self expression
Ability to express myself
one of my biggest enjoyments in life
Fashion is an art to me. I believe it is my form of expression of who I am and what I believe. It is probably one of the most important aspects of my life. It shows my creativity and way of thinking.

Fashion is a way of life for me. It’s how I express myself without saying a word
To me: fashion speaks when words fails. I
Fashion means communication, to my is a tool to let people know who I am. It is massively important in my life and it has the power to improve my mood and góceme confidence
I feel like my clothes are a réflexion of my personality, they are also like a way of feeling confident in my skin
expression, empowerment, self confidence, happiness
Fashion is my main form of self expression but I do think social validation plays a big part
I want to work in fashion and also I want to influence people with my own style. It's the form to communicate my character and a great area to apply all creativity that one has.
Fashion gave me confidence and speak my personality.
I work as a pattern cutter so fashion is my livelihood - I love making things and interpreting a designer's sketch into a 3D object!
Self Expression
Fashion allows me to express who I am, sometimes I think it is also about status. I don’t necessarily keep up with trends because I’m aware of the climate crisis and the fast fashion industry’s impact on the planet. But I love a new product that is high quality and shows who I am and what I love.

Question 7

Have you heard of digital fashion?

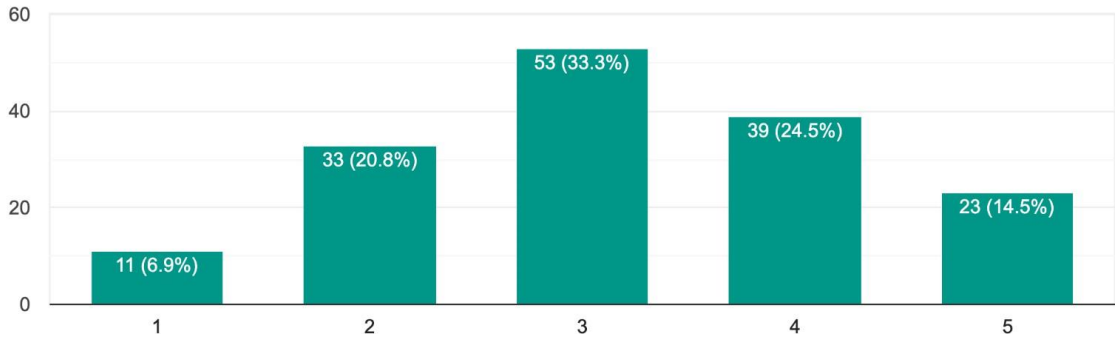
159 responses



Question 8

On a scale of 1-5, how interested are you in the idea of digital fashion?

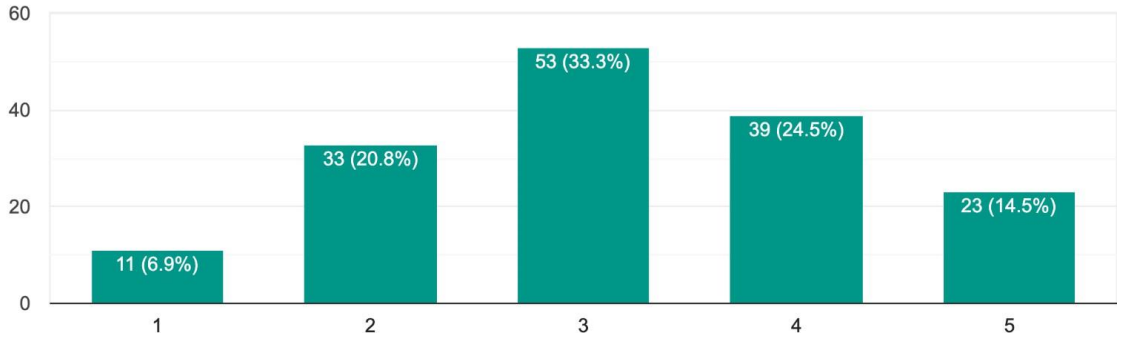
159 responses



Question 9

On a scale of 1-5, how interested are you in the idea of digital fashion?

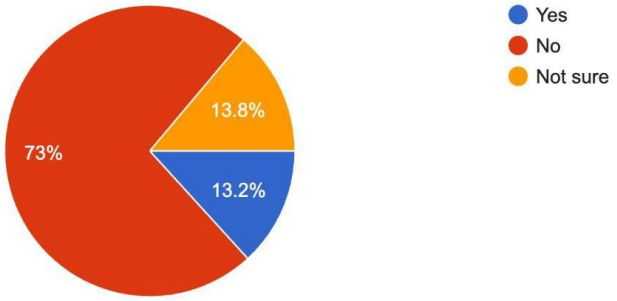
159 responses



Question 10

Have you ever bought a digital fashion item?

159 responses



Question 11

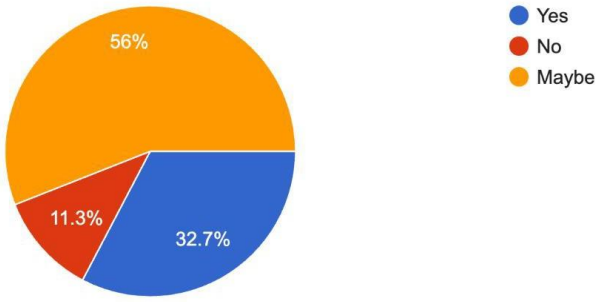
If so, can you describe what and where?
In game skins and cosmetic items in a variety of games
it's a digital outfit skin of my social media character
I bought a virtual dress at Dressx.
I think it was something from an early incarnation of the rematerialized (Karinna Grants start up)
Skins on a video game

I think I have bought a pants.
digitally made (3d software/ computer) fashion items
通販の事か、もしかして、…"小声。
Skins in Fortnite
I've bought a few digital fashion items. Some of my own designs but also looks from othe designers, mostly on DressX, but also on brands' own platform, such as The Fabricant's marketplace.
NA
I modeled for my friend's digital fashion line, currently on DressX, and through that experience I bought one of her digital accessories in order to support her business accomplishments!
A few 3D pieces of digital clothing - I can’t remember where from.
You can build and create avatars in games and purchase clothes for your characters.
Not sure if video game character skins would count
Moschino pack on sims 4
The Sims 4 and their branded 'Stuff Packs'
I use digital fashion software everyday. One of my business’ is digital fashion business, where I offer digital fashion services to startup or established fashion brands to help save them money & reduce their environmental impact. I often purchase digital fashion garments from the official CLO3D marketplace as they download ready to be used in CLO, which is very helpful for my work. However I have never purchased a digital fashion garment as a individual buyer for recreational purposes from websites such as dressx
an jacket in dress x

On games such as GTA and Fortnite I have purchased skins and items for my character
Avatar outfits for various games, (PlayStation)
no idea what digital fashion is
I have spent a lot of money on mobile games, purchasing digital fashion items known as skins, specifically for League of Legends and the Chinese mobile game Wang Zhe Rong Yao.
I guess skins for video game characters.
In various digital platforms like Amazon, Zara, Burberry.
N/A
Tommy Hilfiger digital outfit on Ready Player Me, Nike outfit on Fortnite
Video game cosmetics as digital fashion
I bought a hoodie on Clo3d Closet. It was an oversized black hoodie and i’m obsessed with it.
When I was a teen I used to spend a lot of time on the website “Stardoll”, in which I’d spend money for my avatar’s clothes
I just feel that it's an essential thing for me to have a material things.

Question 12

Do you think digital fashion is more sustainable than physical fashion?
159 responses



Question 13

Please could you explain your answer for the previous question
Digital fashion has the potential to be more sustainable in certain aspects in a way that it can help to reduces the need for physical samples, production etc.. which can lower carbon emissions and waste associated with traditional manufacturing processes
It won't generate water pollution or waste.
Of course there is an impact involved with running online spaces, but compared to the impact of physical waste it is significantly less
cuz I the digital fashion also caused the waste of electricity
It is hard to give a simple answer. If it fuels overconsumption in physical products then no. It is all relative to how it might change the behaviour of someone - perhaps younger - who would like to play and explore their look. Being able to do this digitally and minimise the consumption is certainly better.
I am not yet convinced that digital fashion offers us a meaningful alternative to the 'physical' fashion industry. Digital might be a new way to design, interact with or experience fashion - but currently it's as well as physical clothing, rather than instead of. If digital fashion can be shown to reduce consumption, and the industry can move towards de-growth then I would change my opinion, but I do not see any evidence of that at this point.
It may be in the sense that no physical items need to be discarded or sorted at the end of

their lifecycle; the production and manufacture of physical items are also more intensive on the Earth's ecosystems and in many cases extractivism. However, digital fashion also comes at the cost of energy and electricity, which is often not efficiently or ethically generated. Energy production for digital garments can therefore also cause pollution.
Digital fashion is a new trend, but it lacks physical authenticity to a certain extent and can only be described as enabling more possibilities for fashion.
I see digital fashion as another way of encouraging over consumption
I don’t understand what digital fashion covers and I don’t understand it’s necessity.
Without having much prior knowledge, I believe that it would be more sustainable in terms of not having to actually create a garment from resources and thus less waste / energy / water needed etc - however I wonder how much energy and storage space is needed for digital fashion
I don’t know much about digital fashion. Virtual fashion shoes, & trying on does sound super cool though. I definitely shop online (new & second hand) way more than in person now so I could see things/myself heading more towards digital fashion.
I think that depends on your definition of the word sustainable. On one hand, digital fashion doesn’t use raw materials in the same obvious way that physical fashion does. It does however use energy. I’d say that the semantics surrounding sustainability concerned with economics and society (rather than issues to do with ecology) would sway me to say that physical fashion is far more sustainable. The key differentiator being that where we are now, digital fashion is not a necessity.
In physical fashion, the production of clothing generates significant waste, including fabric scraps, unsold inventory, and packaging materials. Digital fashion eliminates these waste streams because it exists solely in the digital realm, with no physical materials involved.
I think it's more sustainable if an individual wants to buy fashion for the express purpose of showing off lots of different looks, especially on digital platforms like social media, without any real desire to wear these looks again. In this scenario a digital fashion item could fulfil that same desire and ability to create looks without the environmental impact of buying something to wear it once and pass it on. It could also give people the same opportunities of self-expression that a physical piece could have, and perhaps even more so if a greater range of designs were available digitally for the price point they'd be willing

to pay.
I think it has the potential to be useful for communicating fashion in the digital world rather than people buying something once to wear on insta etc but digital has a carbon footprint too and I’m not sure how that differs from the regular carbon footprint of clothing
With it being digital it means that it will be more sustainable but it won't stop the fast fashion industry and high street stores churning our clothes.
People prefer to see and touch before they buy
Everything is becoming digital so why not fashion be one of them
Because physical fashion allows you to see in person and give you the opportunity to try the piece of fashion before marking your decision if you want it but it
It’s not a physical garment or item of clothing. Not being able to wear an item of clothing doesn’t speak to me though. I am a tactile person.
Not sure
I don't know what it is, but if it means the clothes only get made when ordered, then, yes
Not sure what it is
I think no, because people always love to see the clothes in front of them.
Because it’s over the internet
Yes because your not physically consuming anything so there will be no waste
It depends on the server/crypto platform it’s running on plus what aspect of physical fashion it’s being compared to
Digital fashion is an interesting concept but has no impact on regular people in real life. It’s elitist and built on the privilege of having access to technology. Even though it doesn’t use physical materials, it uses up energy
Unsure of what digital fashion is - so can’t be certain. It seems like it would be if it’s

removing manufacturing process but depends on process involved (i.e if it involves huge amounts of energy like bitcoin mining etc etc)
Not buying physical garments but still fuelling consumer need for things
Not having the carbon footprint of ohysical production has to be better for the environment surely?
Yes technically it is but I feel like will we ever be able to wear digital clothes on a day to day basis? I just don't think that it's advanced enough just yet but I don't know what the future will bring.
流行に乗れなくても、社会の流れぐらいは、把握しなきゃいけない、って思って、何点か購入してみたけど、全般的に良かった、と感じた、..."照れ笑い。 好きな子が気に入ってくれたら、もっと良かったんだろうけど、生活水準に開きが在って、そこまでは　望めて居ない、~
It allows people to create media/photos of themselves in items that they would otherwise only wear once without having to produce a physical product
Would use less resources but i would still be buying physical fashion items so it would make no difference
Of course it's environmental friendly but then it's real life utilisation is non existent. But I feel in terms of financial sustainability this isn't a great investment.
There is also an impact from the storage of data, which as it increases will be difficult to sustain so I would not call it sustainable or more than physical as it is complex to compare
I don't know enough about it to give a yes or no answer, but digital formats tend to offer more sustainable options in other fields so it could translate to fashion as well
I don't believe digital fashion will replace physical fashion and I don't see how it can replace many of the aspects of physical fashion - I do believe there is some value in digital fashion in aiding alleviate trend-related fashion, and hyper short-term fashion products - but I also know that digital fashion creation and stocking is highly consumption

heavy in terms of energy, which crates a new problem of its own.
Digital fashion could potentially be more sustainable compared to physical fashion. In this context, with digital fashion, there is no need to manufacture physical garments, which eliminates the use of chemical materials in production, reduces energy-intensive processes, minimizes waste, and decreases the demand for rare natural materials. However, it's essential to acknowledge the environmental impact associated with servers and data in the case of digital fashion. This raises the question of whether digital fashion is genuinely more sustainable.
I do think digital fashion is sustainable than physical fashion as less waste is generated , it harms the environment less, there is no greenwashing involved to sell a product!
It is definitely more sustainable as it does not as it does not involve water or materials in order to create a garment.
Yes, if we use digital tools to improve the design process and avoid materials waste due to virtual samples creation. But I don’t understand the concept of buying digital garments.
Because it allows to experience fashion without making use of physical resources.
Digital fashion has the potential to be more sustainable than physical fashion in some aspects, but it also has its own set of challenges and considerations. Here are some factors to consider when evaluating the sustainability of digital fashion compared to physical fashion: Reduced Material Waste: Digital fashion eliminates the need for physical materials like fabric, which can result in a significant reduction in material waste. Traditional fashion production often generates substantial amounts of textile waste, from the cutting room floor to unsold inventory. Lower Carbon Footprint: Digital fashion can have a lower carbon footprint because it doesn't require the transportation of physical garments or the energy-intensive manufacturing processes associated with traditional fashion. However, the environmental impact of data centers and the energy used for digital rendering should also be considered. Decreased Water Usage: Physical fashion production often involves significant water

usage for activities like dyeing and washing fabrics. Digital fashion reduces the need for these processes, which can help conserve water resources.

Reduced Transportation: Traditional fashion relies on global supply chains that involve the shipping of materials and finished products across long distances. Digital fashion can eliminate the need for these transportation-related emissions.

Virtual Try-On and Fitting: Digital fashion allows customers to virtually try on and customize garments, reducing the need for physical try-ons and returns, which can contribute to lower carbon emissions and less clothing waste.

However, it's essential to consider some potential drawbacks and challenges of digital fashion sustainability:

Energy Consumption: Digital fashion relies on powerful computers and servers, which consume energy. Data centers that support digital fashion platforms can have a significant environmental impact if not powered by renewable energy sources.

Electronic Waste: The production and disposal of electronic devices used to access and interact with digital fashion can contribute to electronic waste, which poses its own environmental challenges.

Virtual Fashion Consumption: Some argue that digital fashion can encourage excessive consumption as people may feel the need to constantly update their digital wardrobes or create new virtual looks.

Limited Physical Engagement: The absence of physical garments may lead to reduced emotional attachment to clothing, potentially increasing disposability.

In conclusion, whether digital fashion is more sustainable than physical fashion depends on various factors, including the specific practices and technologies involved. While digital fashion has the potential to reduce certain environmental impacts associated with physical fashion, it also presents its own set of challenges that need to be addressed to ensure sustainability.

in terms of use of resources: potentially yes. i think it's an exciting innovation and a great

way to experiment a bit more, but it obviously doesn't have that tactile quality of physical fashion, and the ability to see something 'in real life'. in terms of longevity i'm not sure how sustainable digital fashion actually will be; from what i've seen so far it only seems to interest people who really love to be creative with their fashion & experiment a lot, i don't think it's as relatable or engaging for people who aren't actively interested in it already.
i personally think physical fashion will always outperform digital fashion
I don’t know what digital fashion is?
I don't understand what carbon footprint it leaves
I'm not sure what it is
I don't know too much about it but I can imagine there are definitely some cons that should be evaluated when compared to physical fashion
It is more sustainable because it has never been made physically, but I do not feel the need nor the interest to purchase a digital outfit. It does also raise the question of scalability, availability and the impact big computer servers have on the planet.
The issue with digital fashion is that you can't try before you buy, meaning you're more likely to return it and waste it buying purpose compared to physical fashion
i don't know much about the sustainability of digital fashion, but it sounds like it should be more sustainable. however, with the trends and the new order of physical fashion, i can't be very sure about that
I think it would bring less waste but it will detach people from reality
I work in the digital fashion fiel so I'm aware of the incredible difference in resource use between physical and digital fashion. I also know that, yet, digital fashion has an impact and that it has to be taken into consideration.
Not have too much of an impact on physical word.
NA
I think that it is more sustainable than physical fashion, mostly because it does not

contribute to physical waste nearly as much than the physical fashion industry.
It is more cost-effective. For example, since there's no physical product, there's no need to do delivery (that leads to no gas emission produced because of delivery).
Not sure what it is
I don't know a lot about this
It depends on the physical clothing in question. Second hand/ remade clothing is inherently sustainable whilst fast fashion items are not
I struggle to see how tangible a digital garment could be
Sustainable in terms of environment- clo3d etc allows less wastage. Not making physical garmets. However, ethically can be some downsides and not realistic to make a full move to digital fashion
It can be but it also may not be as yes physical fashion is a real product that’s been made and has a carbon footprint but digital fashion also has a digital footprint that may or may not be bigger than a physical fashion item. However, I would need to research the difference as it’s not something I’ve ever looked into
Nothing is going to really stop people from buying mass amounts of fast fashion but it may slow a few people down in there consumption
Because it’s not real product being wasted
I understand it's a more sustainable approach to the fashion industry however I don't see how it can give a person the same level of confidence that physical fashion gives.
I think it is because the clothes aren't actually being made but I don't think they're a substitute for regular clothes so I don't think you can really compare their sustainability.
It reduces the amount of overconsumption within the industry and reduces the amount of garments produced.
Doesn't have the same impact as physical fashion

It don`t uses fabric
I believe digital fashion is a way to help overconsumption which ultimately Leeds to excess textile waste. Influencers buying hundreds of garments o showcase within their content is extremely damaging to the environment, therefore digital fashion is the way forward.
Potentially as buying digital fashion may make the consumer not want to go and buy that item of clothing as they have it digitally already.
As you can have multiple clothing items and when you are done with them they don't go to landfill or impact the environment
it doesn't require physical fibres which use a lot of water and can have high carbon footprints as they are transported around the world and often have limited recycling properties.
I feel that it is sustainable as it isn’t as destructive as the "real" fashion industry is, but is it sustainable in the long run as we humans become more digital. Are we in the future going to loose conection to the real world, and always be connected online?
Digital fashion has the potential to be more sustainable than traditional because it eliminates the need for physical garment production. Digital fashion exists purely in the digital realm, reducing the environmental impact associated with these processes.
Idk what digital fashion is so I can’t say conclusively either way
Although digital isn’t completely clean, it’s better than physical garments that might end up as pollution.
I would be keen to know more about it as I don’t know a lot about digital fashion. But maybe from a perspective of a way to tackle the west something once for social media problem, it’s a way to be seen in multiple outfits reducing waste. I’m currently learning CLO 3D and planning patterns digitally also reduces fabric wastage.
Unsure
though sustainability is at core of my interest in fashion. Digital fashion is not something I’m too passionate about therefore I’d need to make more research into that to be able to

answer the question confidently. I’m quite interested in Clo3d tho and believe it can provide a more sustainable sampling process especially for bigger brands.
It does not harm the environment
I don't have the knowledge to answer if its more sustainable, since I dont know
Yes because it is coded, it’s not a physical thing being made by a worker and by materials.
Overall yes but there is still environmental impact from computers, servers, etc
Not physical so wont end up in landfill but what makes technology isn't fully sustainable
Because digital items are not physical therefore no fabrics are getting wasted.
It won't stop people buying physical items
It doesnt create physical waste
Im not sure
Yes, because digital fashion doesn't contribute to material waste
The clothes don’t need to be made physically
There is not contamination to the environment
I think it depends on where it comes from.
I think digital fashion is more sustainable than physical fashion because is digital and is not going to landfills so it saves the environment
I feel like it doesn’t appeal to all Consumers I feel like a better for realistic sustainable approach is to promote rental services, consider more the lifecycle of garments, up cycle and educate consumers on the effects of fast fashion!
In the presence of social media and a digital world, I can see how using digital fashion would help reduce vast amounts of waste. However, I feel that fashion is very tactile, and

although much of our lives are now digital, I believe we draw connections and emotions from what we wear and what others wear in the physical world. I do believe digital fashion can help with reducing waste, however I do not believe it is a solution for the majority of people, especially those in older generations who have less of a digital presence.
Obviously because of the lack of tangible resources that go into developing digital fashion it is more sustainable.
Creates less waste
If it's digital, it will last longer than physical fashion
If we are speaking about digital fashion in terms of software in the design process, then yes it’s incredibly sustainable. It cuts out 95% of the sampling process which inevitably ends up in landfill, alongside all the waste from the samples. If we’re speaking about digital fashion as an individual consumer, I’m not so sold on the idea of that yet, and I don’t see it going as mainstream as a lot of people think it will. Maybe for the really into tech & really into fashion people, it’ll be a cool addition to their hobbies, which will of course provide some sustainability, but for more casual fashion people, I can’t see this becoming a regular part of their life at all.
it reduces waste in the industry and less physical production
Maybe it’s sustainable than a physical fashion
Technology can create the outfit and pre plan the chosen fabrics and materials for the garment therefore pre planning the process of creating the fabric may be more sustainable in the long run
It's not being made physically so there is no pollution in raw material sourcing/ procurement, manufacturing and shipping. However, both will use energy although digital fashion is probably far less.
Digital fashion creates no real textile waste, thus not being as damaging.
In the sense that producing digital garments doesn't use up physical materials, it is more sustainable than producing the same garments physically, but it does still require tech / resources / energy and ultimately, I personally don't think it's essential to daily life,

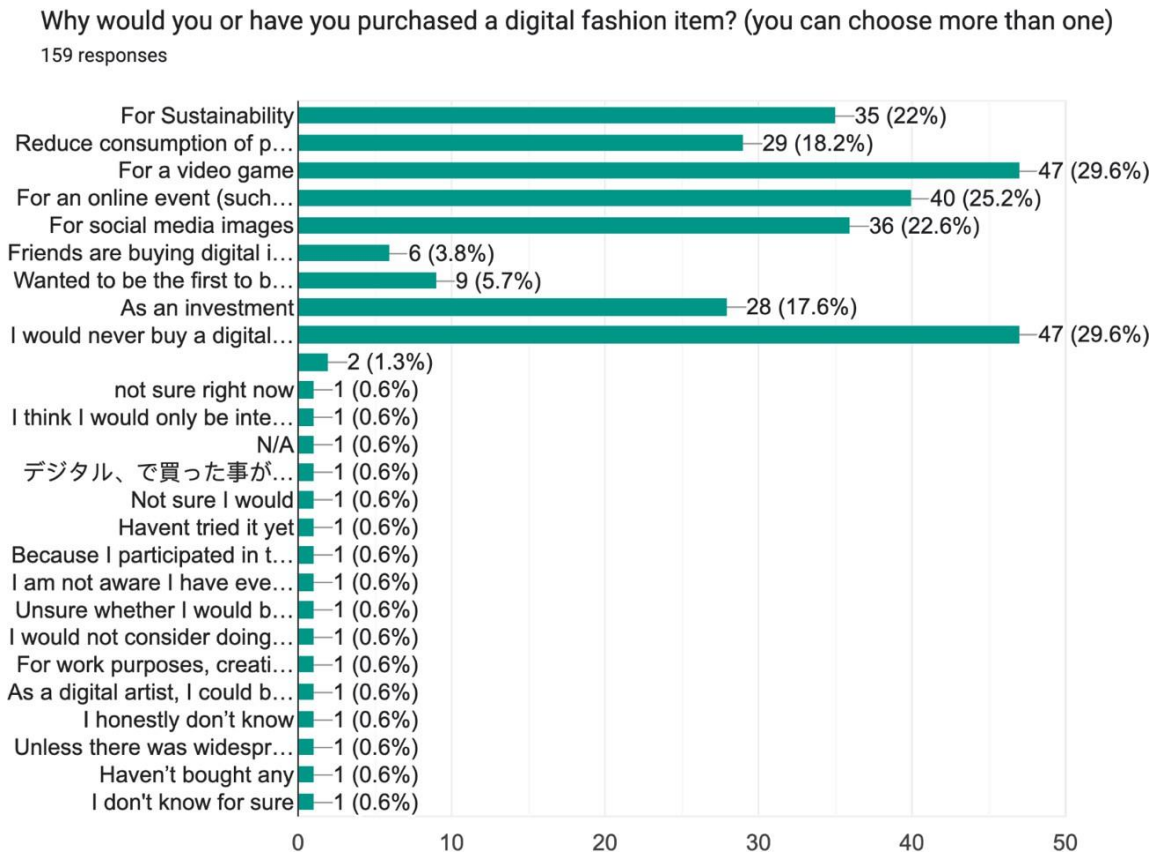
whereas physical clothing is, unless becomes okay to go about your life starkers. So for me, it hinges entirely on how you're defining 'sustainability'.
Digital fashion is inherently less destructive for the environment and workers. However I believe that materiality and the ability to physically collect clothes is what makes them special. Instead of switching to digital fashion, I believe that pathways towards more sustainable physical fashion need to be examined.
not 100 % sure but i think its because digital is just pixels and not real whereas physical fashion is real made with actual material.
Digital clothing will be monetised to the maximum and the best way to do this is by giving it value as if it's an NFT.
I never studied about it, but I think it can be pretty sustainable because you are not using real material so no waste or anything.
Involves no physical production/no waste
Yes because things could be made to order.
I believe that digital fashion and physical fashion can coexist, as neither is more sustainable than the other. I truly believe that digital fashion is an important step towards reducing waste in the physical fashion industry. However, regardless of how sustainable digital fashion may be, the demand for physical fashion will not change.
Because its fully virtual so you won't be covered up.
I’m not sure as it feels the same
I think people will continue to become more interested in it I.
It does jot require the physical resources to be produced, there for it is waste-less
I'm not sure what resources are required in the distribution of digital fashion items compared to physical ones. Perhaps some of the problems related to the physical fashion industry would not be relevant in the digital realm, but the latter could bring its own challenges. Will fashion designs be disposable? (think automatic message deletion). Or could they be interchangeable items? (NFT) Will it be a luxury, a necessity or just a

practical decision? The digital fashion industry does not replace the physical industry, it is an addition. but perhaps moving some practices to the digital world could balance the excess of physical production.
Its still require people to work on it, require energy resources to be done, and people in real life are still in need to cover their bodies and express themselves in actual world
It would remove waste fashion, however the power required to create the item initially and all the server usage for the garment to be rendered for as long as it needs to needs to be taken into consideration.
It can be sustainable. However, I wonder how you can wear it. If you are talking about the previous design in the digital world, the answer would be yes.
Reduced material consumption, minimal waste, extended lifespan. However it’s important to consider the energy consumption such as hosting sites for digital outfits/fashion.
Maybe my understanding isn't right, but if something only exists digitally it must be more sustainable than something that exists in the physical world because it wouldn't need any materials or transport to bring it to you.
While in theory it probably is, digital space isn't entirely without environmental consequence. And ultimately we still need to cloth our physical self so digital fashion will likely be additional to our normal physical fashion purchases.
Limited production required and virtually zero transportation
Don't know enough to make informed decision
It’s different since digital fashion presented through avatar but physical fashion present by yourself. The place of fashion practice is different which makes it hard to compare them.
Unsure
The energy required to produce digital fashion is concerning - and as it is a new field of emergence within design, there are currently limited parameters or policies in place to reduce the emissions from digital fashion production, particularly in the metaverse, which is a similar situation to the Wild West at the moment.

It is more sustainable in terms of environmental aspects. Digital fashion would not require sourcing, manufacturing, shipping Although, there would be unemployment which could lead in increasing crime rates. A lot of economies will be at loss and will have to shut down. There could be a geopolitical tensions.
Not entirely sure what it is but from what I can guess it’s second hand items online which is more sustainable as it’s getting reused
Less physical items
I don’t know what digital fashion is
Digital also creates a huge footprint
Of course it is more important as it reduces the production of clothing and there is no waste. you can also see if someone likes a digital item if the item is to be sold before producing it.
It don’t used physical material, so nothing is being made
In terms of reducing things like fast fashion, yes it is more sustainable. However, we of course still have to wear clothes, so it doesn’t fully eradicate the need. I also don’t have much of an online presence so I don’t think it’s really for me.
I’m not super sure on its sustainability factors
I think the fact that it is not a physical resource makes it more sustainable, but I'm not sure about the environmental impact of generators/electricity - haven't looked into it, only have read headlines about it being more sustainable from Vogue Business
I think digital fashion has less environmental wastage
Cheaper
it could decrease our pollution but also put a lot of people out of jobs etc
It can save on materials but replacing the human aspect of fashion is a major loss as well

It depends on the use
The world is going more digital so should fashion
It has less repercusssions to the environment
I don’t think it is the ultimate solution for fashion sustainability and I also think it depends on how the consumer behave, but if people invest in digital fashion for physical clothes that they would just wears once, then its better
depends on the sourcing of the digital outfit (NFTs are not sustainable)
It is more sustainable but not completely sustainable and just convincing us that we need both and feeding overconsumption
I think that it's might definetely help with oversoncumption but it's still can be a waste of money
Digital fashion is sustainable because we are not physically producing many clothes most of the masses are using 1 article at a time and the waste rate is on the higher side plus in this Influencer world fashion brands are collaborating with influencers and offering them clothes that they wear once and post on the social media, in that case, digital fashion will help the brand maintaining the sustainability.
It would obviously save fabric and resources (and carbon as a result) but I'm not sure digital fashion would replace the need for physical fashion.
Anything digitally created can be replicated physically if we ever feel the need. So, it only increases the risk of unsustainability, in my opinion.
There is a chance digital fashion could address the fast fashions industry’s mass production and the worlds over consumption. Digital fashion could mean more virtual dressing: stopping people from buying fast changing trends online, trying them on and sending loads back (therefore creating an impact on carbon emissions?!?). There are various ways it could aid sustainable goals but I’m unsure how…also because we live in a very materialistic society - people will always want to touch and feel fabrics and garments

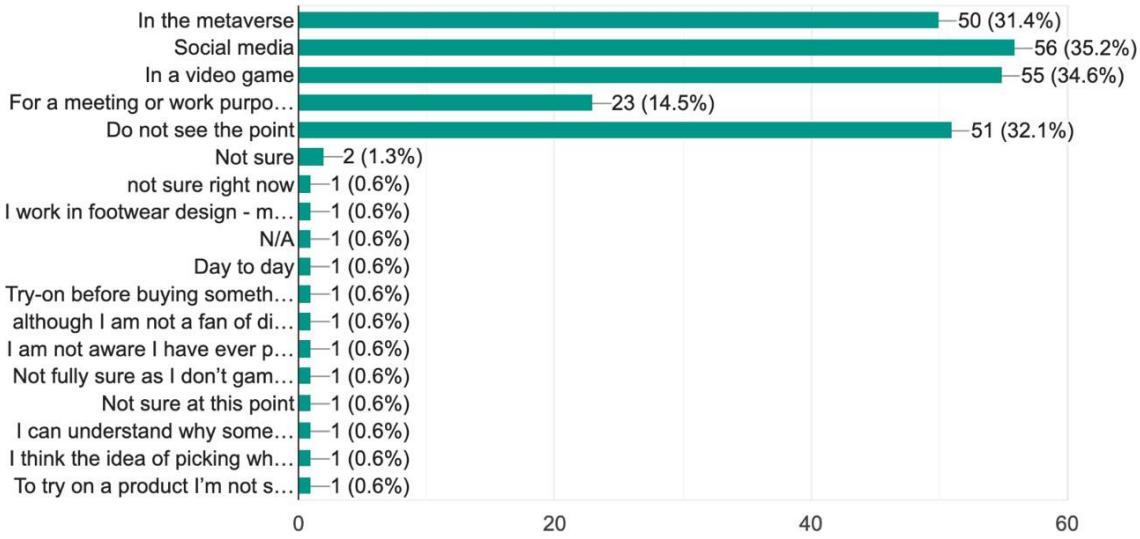
Question 14



Question 15

Where would you like to wear a digital fashion item? (you can choose more than one)

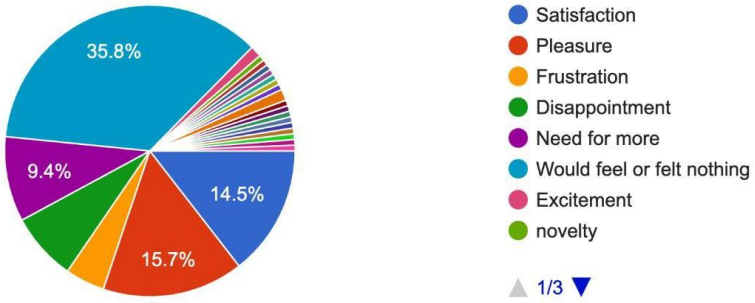
159 responses



Question 16

What do you think you will or have felt from purchasing a digital item?

159 responses



Question 17

Please could you explain your answer for the previous question

To be honest I do not really know what I will really feel about it, I can imagine pleasure and excitement because it is something new and quite interesting but I also anticipate a degree of uncertainty, as the experience of owning digital items is different from physical possessions
generate a new experience
As with any other purchase there is an element of satisfaction, especially if it is a purchase I have been considering for a period of time - something I tend to do perhaps more with digital items
I buy everything for pleasure
Not too sure as I haven’t bought any. I would have to have a reason where it would be fun to do so.
Given my personality and temperament I just don't think I am the ideal user or target audience for this type of product
I would feel frustrated because it is not something physical that I can engage with, and physicality is very important to me in developing an emotional connection to my garments.
The form of digital media is amazing, I was involved in a digital fashion exhibition through which I got to see myself virtually dressed in styles that I hadn't tried before, which I felt was fun.
am open to the possiblity
I don’t understand the need for this, I understand why someone would want to, I just don’t see the point
Something new and different to use
I woudnt have the satisfaction of seeing/ feeling the item in person. I wouldn't get the excitement of plaguing on online order, waiting for the item & then finally seeing it in person. The anticipation is removed. As someone who doesn’t play video games & I struggle to see my use of a digital item.

To be honest, I can’t fully wrap my head around the whole concept of digital fashion. I’ve never been a gamer either. As strange and as imperfect as the real world can be, I think It’s where I’d rather be.
Digital purchases can grant access to exclusive or creative content, such as limited-edition digital pieces or special in-game items. Owning something unique can be a source of pleasure.
I think I would find it enjoyable to be able to customise an avatar to be an accurate representation of myself, and through the digital fashion, be an expression of styles or designers that I am interested in to anyone that sees it.
I like to stay down with the kids
I'm not big on social media or in the digital world so I don't think digital fashion would work for my lifestyle at the moment.
Haven t bought digital fashion
It gives me that feeling that I bought something(shopaholic here!)
Because I can’t physically wear that piece of fashion and if I don’t like it in the future then I can’t return it
It doesn’t engage with my senses apart from sight. The significance of touch and feel is extremely important when it comes to clothing for me.
I feel good when purchasing a digital item
I don't believe you will have enough. And now I know what it means
I think it might be a ‘fake’ piece of clothing. If so I’m out. Don’t have the money for that and people that do should donate food to the homeless
I don’t feel any thing honestly.
I haven’t purchased a digital fashion before, so I didn’t feel anything.
Knowing I can play around with styling etc without needing to have a physical item

I appreciate the tactile quality of physical fashion
I would feel like I wasted my money
A similar feeling to purchasing regular clothing or buying a movie online. Still a purchase that gets to be consumed
If it was for a video game like sims, would be happy with it
I dont think it’s for me personally
Because it’s not something I can wear all the time. When I buy physical clothes it gives me so much joy with the fabric and texture. I like to be able touch things
単一民族国家で　混血に生まれて、体型の特徴が、そうじゃない同年代の女性達と、かなり隔たりが在って、 オンライン上にしか無いサイズや長さが手に入って、着る喜びを多少取り戻した気分で、多分嬉しかった、 同じような悩みを持つ人達の参考に、というか、気候が寒く成って実際着るのが　ちょっと待ち遠しい、かな、…"微笑。
I enjoy character customisation in games and it would be fun to be able to buy clothes for my character if I think they really suit my virtual character or wish I could own the item myself
Being able to look different in a game is fun but unless the game itself is free or very cheap fashion should also be free in the game or have an option to obtain it for free
I remember buying digital fashion in games as a kid which used to make me feel happy but then as I grow and want to invest my money where the growth is, this area seems to be disappointing in terms of growing money.
There seems to be no function so i would be disappointed, feels like a quick gimmick
I don't see any instance where I would spend money on digital fashion, so I don't feel any

strong emotions about it
I would assume that by purchasing a digital garment one is satisfied with its use
I am intrigued by the idea of acquiring digital fashion items. it raises questions about the future of the fashion industry (the evolution of the real value of clothes, the know-how, professions, way of consuming, the needs, etc). That's why I am curious, not to consume, but why not to try purchasing an item in order to understand the emerging trend.
I think there is need for easier access to digital fashion
I would love to see the whole process of making
Not sure about feeling something…
I think I would be encouraged to buy more so my first purchase feels like a long term investment.
For Pleasure
i think i would want to actually be able to wear the item, rather than just seeing it on a screen!
personally would prefer something i could wear out
Other than a virtual meeting, I dont think I'd use digital fashion personally because wearing clothes is about a feeling.
It feels a bit disappointing to not have access to a physical version
If it's not a physical item that I can wear, I'm not sure if I really understand the purpose
From what I have seen, it just seems very fake (obviously) and I like the feel of buying a real item. Feels like the only purpose buying it is to show off online, which I don't see the point of personally.
I remember playing Animal Crossing back when it was only available on Nintendo-DS, and was obsessed with customising clothing and choosing outfits for my character. It was

so much fun.
Intriguing to know if it would have the same feeling you get with physical purchasing
I am into physical a lot. I am collecting vintage and don't buy any new clothes except underwear. What interests me in the clothes I buy is the quality, garments, technology and the original idea. None of these can be found in digital fashion for me
?
I mostly find this very funny and playful, especially when the item can be used "instantly" onto a picture or via an AR filter
-
I am not aware I have ever purchased a digital fashion item.
Personally, I can only see myself buying a digital item if there is a specific meaning behind it- if it's to support a friend, or if I'm really into a video game and I want to look cool.
Because I did something that might be beneficial for the environment
Doesn’t mean anything to me
I don't know anything about it, so my answer could change if I was more educated. I don't see the point in paying for something that does no physically exist.
Brief joy seeing the images, and then probably a sense of “well that’s that”
Due to dopamine induced rewards from social
I wouldn’t enjoy it as I want to be able to physically have the item especially after spending money on it
It neither brings me pleasure nor disappointment. I’m just interested in the idea of it and support it
Because it isn’t physical and I don’t have that instant gratification after buying physical

clothes
I don’t see the point on spending money online when. Don’t have it in real life
By need for more I mean i would want it physically
I would have spent my money on something I don't physically have which I think is a bit of a waste
I don't see any physical value gained from purchasing a digital item. I like to see and feel what I have purchased.
I don't see the point as, to me, it's a waste of money. Why buy something digital if you can't experience it in real life.
I personally would not feel anything.
Frustration as I can't see the garment physically as fashion to me is being able to wear a garment and feel good in you clothes however I do feel I would be doing my part in sustainability.
I wouldn't feel anything as I think I would only buy digital fashion for an event but I wouldn't ever use it so would feel no satisfaction.
If I was playing a video game I would be satisfied that my character has an outfit I like
I would buy it as an investment in hope of financial gain rather than pleasure or satisfaction from the digital item itself.
I fear it would not satisfy me as much as real physical clothes do
When first entering that universe, I would definitely aim for more.
Probably would be nice to have cool clothing in a video game
It would feel like it would be one item of physical clothing I didn’t collect
I’m not sure if I would get the same feeling as buying a physical garment and being able to wear it in real life social situations

I feel it would lack substance
I predict feeling very neutral about it due to my limited knowledge and interest in this
I am not interested into any digital fashion
I would feel cool
Cause I can personalise my character with in game currency.
Some video games require to buy a pack without knowing what skin you will get
Its not physical
I wouldn't purchase something digitally as I don't see the point in paying for something I won't physically have.
it makes me happy when i have something new
I am honestly a bit confused by the concept. I don't think digital fashion is going to slow down the consumption of physical fashion because you can't wear it in person. That kind of takes away the point of buying clothes.
never bought a digital item, so its har to think about how I would feel
I enjoy buying things
I just don’t see the point it doesn’t excite me
I do not see myself purchasing a digital fashion at the moment
depends on how much I wanted it
Disappointment, because I can't wear it in the real world.
A short sense of satisfaction however I don’t think it would reduce the regularity of buying actual garments.

I have not purchased any digital fashion, however when I purchase a garment, the physical item and touching the fabric is what excites me. I am not sure I would have the same feeling with digital fashion.
Not sure how I would actually feel
You get it immediately, it automatically fits, no waste
I just don't see the justification of spending money on a digital fashion that will only be used digitally on occasion
I cant help but imagine a lot of people who purchase for social media purposes, feel disappointed at the final result. As in my experience, it never looks 100% real or indistinguishable, which I imagine a lot of people expect when purchasing
its cool to have what no one else has
I would need more if it helps global warming
To create something digitally and to be able to see the work in action would be satisfying as it has taking time and planning to process the garment
Having obtained certain skins in games it requires sometimes 100s of hours of game play and achievements to purchase them therefore can be used as a status symbol to other users who can see it.
I usually feel like I've been duped into buying these items shortly after purchasing, as they hold no real artistic meaning for the most part, and are just crudely spewed out at an overpriced rate (considering the items are not physical).
I think I'd want the equivalent physically if I was buying something digital. My love for and interest in fashion is very material and feeling based which I just don't see myself ever getting from digital fashion, so I think I would only spend money on digital if there was a physical counterpart (which I'm aware kind of counteracts the sustainability element of digital fashion).
I see a lot of appeal to the physical, not the digital.

because the item is not physical
I do not buy much goods anyways as I don't feel the need to, or gain pleasure from having physical items. Therefore I believe that digital fashion items would be a waste of money and I wouldn't gain anything from it.
As mentioned before I’m always playing video games in consequence for that I’m always playing different games. I always end up buying “skins” in the moment I feel good, but after stop playing that game I feel like I wasted money.
Not physical, can’t actually use it or I see no use in it
Sustainability purposes
In my experience, I buy digital fashion because it looks pretty or cool. I also have a tendency to collect all the digital fashion items or skins of specific characters. When it comes to limited editions, I definitely will buy them. All of these give me a great deal of satisfaction when I see my collection of digital fashion."
Can't describe it because I don't have any specific experience in this.
It’s easier option to get it delivered than going and getting stuff
I'm not that interested in digital fashion
I think the physical touch of the fashion item that you spend money on is incomparable
I think I would buy fashion items only for video games or virtual world events. And in that case it would be like building a new identity, a specific costume for an event. That sounds exciting
Just spending time playing the game and manipulating my avarat
I think I would've felt as though my money hadn't gone to anything tangible and therefore felt like a waste.
Probably, you will see your avatar in the metaverse very well dressed.
When wearing digital fashion from brands I love in the physical world, I get a sense of

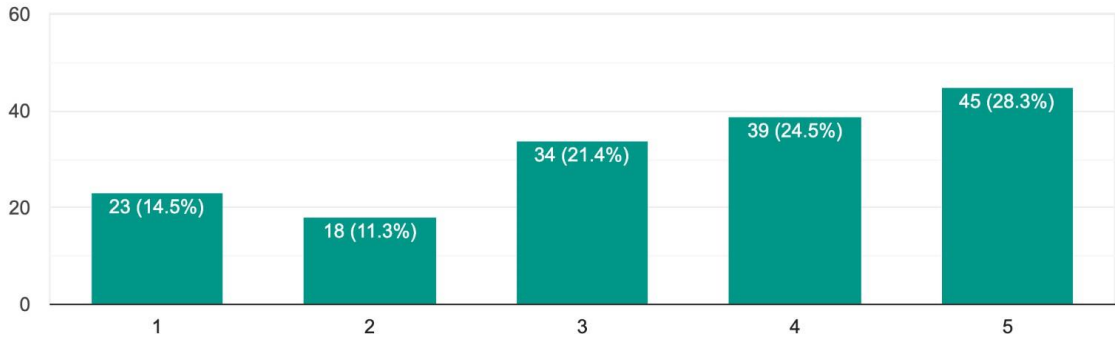
cohesion across my physical and digital persona
At this point I can't see what I would get from purchasing digital fashion.
Because physical fashion is both aesthetic and functional I see a value in it based (though not solely) on it having utility. I think ultimately I'd be annoyed with myself for spending money on something digital that plays a purely aesthetic and rather un-enriching role.
I can't see myself deriving energy from a digital fashion item
Satisfaction in being happy with image
Playing with game cosmetics feels good.
As it currently is - I feel that digital fashion design, while it has come a long way, still has further to go, as it appears very clunky, garments have a slow processing time when rendered onto the body in a platform and often look like it fits poorly on the body. This would make me feel disappointed as I would have spent a fair amount of money on a digital garment that doesn't look good - so I might as well invest in a physical garment.
The investment might give me a return or might not
Not sure
Does not really interest me
Has no benefit to my life
If you could print digital fashion for the real world then amazing…could be way more sustainable. In the digital world I’m not sure I get it yet
It nice to see a digital item on an avatar and seeing how it looks so lifelike without actually feeling the quality you can tell from how it looks it is a great quality item and sometimes digital fashion can be more affordable as well.
It’s just a form of digital clothing
Having never done it, I’m not sure. I would imagine the would happy, yet sad that I couldn’t physically wear the clothes.

Sorry above. I bought as more of a joy to mix with friends
The lack of tangibility and the fact that you'd probably wear the item once
At this moment I feel happy cause I made an initiative to the future of fashion
I don’t know much about it
i think it would bring out a lot of questions
Being sustainable makes me happy
If it doesn't exist it doesn’t have much purpose
I like feeling good about things that interest me
What I love about fashion is in to wear the clothes
I think I would feel like I’m part of something very unique and wether you like it or not, pretty amazing and futuristic
as of now i find myself uninterested in items i cant wear MYSELF, as i’d see it as a void investment
I don’t see the point
I've never experienced so I'm not sure, but it's really important for my self-esteem to see myself in the mirror in real life wearing clothes I love. And I'm not sure that I feel something if I wear clothes digitally.
I don't know if I would feel something right now.
I think it would be a novelty for me therefore I would find it exciting.
Frustrated because whatever I buy, especially in terms of fashion, I would want to touch and feel. So to not be able to do that, I would feel frustrated.
It’s more satisfying to try on a product virtually instead of buying online, waiting for arrival, trying on and sending back (which impacts carbon emissions).

Question 18

One a scale of 1-5, how important is creating your digital body before dressing your avatar or digital human?

159 responses



Question 19

What would you like your digital version to be?

159 responses



Question 20

Please could you explain your answer to the previous question
Having a digital version of myself makes me feel like I would create something quite different, I choose a fantastical approach to craft a more heroic version of myself, something beyond the reach of real life. It's exciting and will make me feel in a way more powerful like in a video game
I could feel there is a connection between me and the avatar. Make myself feel not alone
I think if the avatar or depiction is too fantastical it no longer represents me, and is therefore less personal. Like a game character with variable skins and items, you can project your personality onto that character but it will never truly feel like yourself. Equally

I think there needs to be a middle ground, as an exact digital human would limit creativity in my opinion and somewhat defeats the purpose of having an avatar.
Because the significance of digital fashion for me is that I can do some fancy or exaggerated costumes that are difficult to realize in real life.
Digital engagement needs to be a bit fun, and I don’t think a replica of myself is what I would I would like to look at as a digital version.
I haven't ever explored representing myself digitally, so would not want to rule out any options for more creative expression
If I were to have a digital version of myself, I'd rather it be realistic so that I can see what clothing would like in real-life
The digital format would be better if it was closer to the real thing.
think i have?
I think there is already too many digital representations. I think a version of you that was more of a representation of you would be interesting.
Doesn’t have to be replica but should be distinguishable
If it was me I’d get a better idea of how the clothes would look on myself
Brrrr. Pass
Digital replication would give me a sense of immersion in the virtual world.
I would want it to look like me but without any of the bad parts that I am self conscious about.
I would like the opportunity to express the various sides of my personality
I don't know. I feel like a digital replication could be deceiving.
It is important that my digital avatar represents me since i am the creator

I still want to be me...just digital
Because having avatar in games is something I have grow up and most social media app use avatars as people profile pictures
It’s quirky to have an avatar because I see the real me every day. Adds an element of fun.
Not sure
To be recognizable but also make the avatar more like I would like to be and can't be IRL
Too many people spend time in front of computers not knowing their neighbours or spending time with friends/family. If you have the time and money for avatars and digital fashion purchases you most likely have a mental health issue from not participating in the world and are looking to fill a void that can only be overcome by being of benefit to others in person
Not sure
Not really sure. I’m between the first and third one.
Have a play with new ideas but still feel like they fit my personality and style
I wouldn’t want to create an exact replica of me, it feels creepy!
It can be comforting to have control over how i shape myself and represent my looks with less limitation
If it wasn’t realistic then it wouldn’t feel like it’s worth spending money on - like dressing a sim as opposed to dressing myself
Avatar that I could dress how I want
I’d want it to look like me but elevated, almost how I wish I looked in reality.
I would want to be the best form of myself, give myself touch ups and just edit my body to how I would ideally want

差異や違いが大きすぎたら、多分　此処まで強く、重圧に耐えられなかった、と感じたから、
I have phases of struggling with the my self perception of my physical appearance. It's nice to be able to create a version of myself where I have full control of my appearance. It's also enjoyable to do on an artistic level
Depends on where I would be using the avatar
Everyone wants to portray a certain image online, hence an avatar based on expression would be helpful.
not sure
The benefit of the digital avatar that I imagine are to be able to see and "feel" what certain garments or outfits would look on me, so the closer it looks to me the better
it represents me the most. a real me in the digital world
An avatar that has these elements from my style but isn’t exactly resembling me!
I am not sure how I would like to be, but I guess similar to me
Me but a cuter version like big eyes and cartoons characteristics
I think it is fun to be represented but not necessarily in a realistic way.
I would a digital replication
for example my avatar on silver studio (previously genies) looks like me to an extent - but she's a more expressive & experimental version. i like the opportunity even to play with things like piercings, hair colours & cuts, makeup etc
i would want it to fully look like me and represent me
NA
I have to be able to imagine it in real life, even though it will never translare to real lfe

It's more fun if its a representation, rather than having to be a complete replication of myself
I wouldn't want a direct replication as I want there to be a clear line of what is real and what is fake
If i had to create an avatar, it would not be fantastical not a replica because I like the option of being slightly different, since it is not the real world.
If it looks exactly like me, then it would create a more virtual reality of what my personal experience of physical shopping would feel like
if there's a space to play around and add myself some details such as a tail or a third eye for instance, why shouldn't I do it
I would like it to bee how I see myself
I think that a representation of me, a digital, slightly improved maybe, version of me, would be the digital persona I would be the most at ease with. I am not so comfortable with picking a different gender, skin colour or even body shape when it comes to digital representation. I think that it raises ethical question to use attributes in the digital world that people might suffer from having in the real world. For example, selecting a female character as a male, because it might be an advantage in a game, whereas being a woman in the real world might bring difficulties and disadvantages.
I have never had the need to create a digital version of myself so I am not sure how it would look, but I would probably create the body before I dressed it.
I think the whole point of fashion and especially digital fashion is to be able to express yourself in a fantastical way. When I was younger and would play video games, my avatar would always be an expression of myself and how I felt at the time, but never something practical garments that I could just physically purchase, because that is where the enjoyment and fun comes in.
I think it should be my exact replication since it's me but in digital version
Just be a replica of me online not something different

It’s important to retain your physical, tangible identity so as not to lose yourself
Realistically a true representation of oneself to enable authenticity
I’m not interested in digital avatars
It would be interesting to use digital fashion as a wardrobe space where you can see what suits you before having to try things on or buy them
I like having an elevated version of myself on display
Just want it to be like me
I think if i were to make a version of myself digitally it would be more expressive and creative opposed to a replication of me.
So it looks somewhat like me but I'm not that bothered
I'd want my digital version to look the same as me so I know what different types of clothes would look like on me.
So it has the same representation as me
not sure
I would want it to look like me so it feels more real
If I was to design a digital version I would want it to be a representation of me and not someone else.
It's a way of creating a character based off you but this time you can choose how you want them to be represented- almost like an alter ego
its not real
I want the metaverse to see me as I am, for example if it is for a work event I want my peers to still recognise me in the real world.
I would probably change some things to not make an copy of myself.

I want to look like me but it could be cool to add extra elements
I would want it to represent me as I’m proud of who I am and I like how I look!
Only experience I have of creating avatars is to make ot look like myself
I would like to represent myself as closely as possible but still have some fun with it.
a digital replication sounds too scary and the expression too abstract
I am not interesting into metaverse or any digital version
I thing it would be fun to see me as a digital character
Alter ego
Depends on where this digital body is. If it’s a video game it wouldn’t have any relation to me
Its fiction
I make online characters look like myself if need to make one.
i need to be able to picture myself in it
If you have the opportunity to create yourself in an image you think best represents you, why wouldnt you?
I would want a replication of me so don't feel so it doesn't feel so new and different
I think the met averse and digital platforms can be a place to express yourself without having to face the physical world, a place you can trial out styles before committing to them
I think if it looked like me it would be creepy
the version of me that I like
I am not sure

I would want it to reflect myself.
I feel that if this is something I am creating, I would like it to be fun, exploratory, and expressive. I enjoy the idea of reimagining something that already exists (even me!).
I would want my avatar to be more or less like me but cooler
I definitely like my digital self to be an expression of me and not just a replica - in games or when creating avatars I like to look similar to myself - but change my hair, eyes, various features etc
Many games do not have features that are a direct replication of my own
I think realism is the key to a successful metaverse, and the reason why it's dropped so much in popularity is that the environments just look terrible. I think people would be much more interested in playing and engaging if it was super realistic, or even a hybrid between a digital replication and and expression of you.
its cool to show my identity as another character
I would like to create something different which can't be done in real life
An avatar that you can have as your own and connect through a digital game and relate to can be inspiring
Having elements of yourself but utilising the features of online that are out with the bounds of reality. The digital world can be used as escapism therefore why not change how you appear to create something different you can't do in real life.
I like to create an elevated self, something that is either impossible in real life or implausible to sustain.
I don't feel the need to have an avatar with a likeness to me, I think it's much more fun to be able to play around sculpturally and artistically with an expression.
If I had the chance to rebuild myself, I would like for it to be connected to how I feel as well as how I look.
if I'm digital, i would want a better body shape, i.e. thinner, bigger breasted, nicer hair and

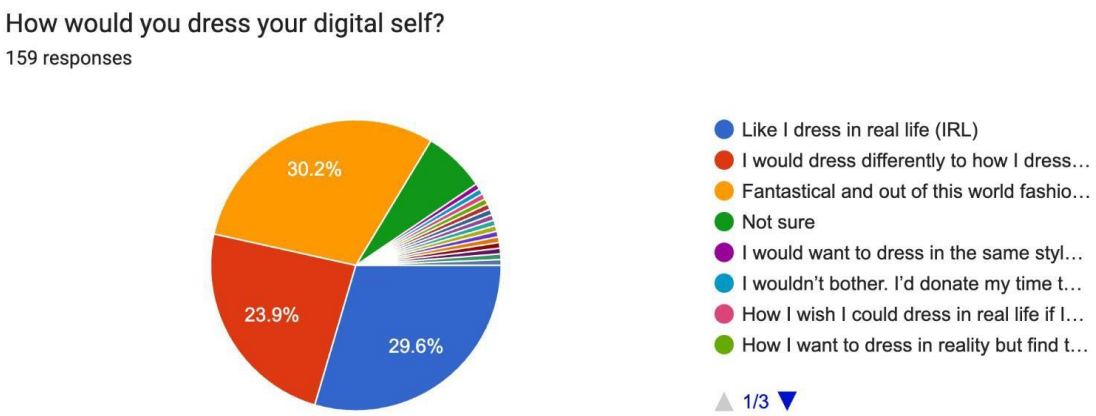
makeup (flawless)
I am true to myself. I do not feel the need to make a completely different person to represent me.
Always god to have a creative touch to things.
It would be too strange if it’s exactly like me
New way of expression
I think that the answer to this question really depends on the situation and environment. In formal and professional settings, I prefer a representation to reflect myself accurately. However, in gaming or creative environments, I would like it to be the expression of myself. Nevertheless, I don't want a complete digital replica of myself as I find it unnecessary since online meetings are readily available, and why bother to create a digital replica.
Like an animal or maybe a creature that I feel connected to.
Im not much fond of it. But if I were to create I’ll do it on personality than on my skin and body shape
I would want it to be a true representation of myself
If it is my version then it should be exactly how I look and express myself , otherwise I would loose interest
A replica could be my choice for some situations. But exploring other identities sounds exciting, in contexts like videogames, virtual parties, friend meetings...
I don’t like to lie about who i am and how i look like
I like minimalism and find joy in distilling down my identifiable characteristics (such as ginger hair, pale skin and blue eyes)
I rather visualise my avatar as close as myself as possible. That would be cool because those who know me could recognise me.

Being able to express myself in a digital form, allowing me to showcase my style, identity and personality. This is also key in work meetings in the Metaverse, it’s important I look like myself and professional when talking to clients and colleagues
I would imagine people would want to create a digital version of themselves without the negative aspects they see in the physical version.
I think ultimately any of the above are fine, it feels dependent on the digital forum/platform you will be engaging in. I'm not sure I'd like a full digital replication though as the other options do offer a level of anonymity.
N/A
Ability to make changes
Avatar could be edited all the time, I would like to try something not like myself but stick to my own aesthetic.
This seems like a happy in-between as a real-life version feels a bit creepy to me, whereas I'm not into fantasy roleplay, so that seems too far the other end. A semi-realistic avatar seems cute.
If the future is meta verse then, I would want my digital version to just be an expression.
Would make myself better
More realistic
Not sure
Whole new world to me!
You can be whatever you would like to be , almost like you are living another life within the digital realm.
Something that looks root real is kind of creepy
It’s a nice thought to have a version of you that is completely you yet doesn’t look the same. Sometimes it is difficult to express yourself without being hindered by how you

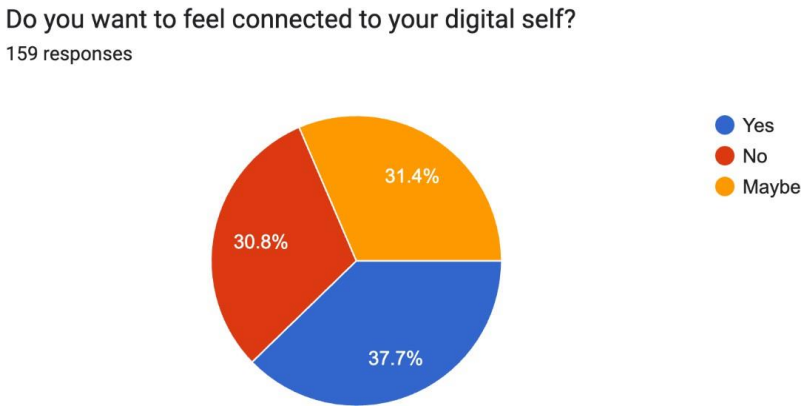
look.
I do it mainly in gaming and for me it’s all about enjoyment what resonates with my fun.
Probably more fantastical eg. fae or something supernatural element
I feel more related if it’s a digital replication
Would want in to be similar
i would like to see myself as a digital avatar
I would like it to be a close representation of myself
A perfect expression a visual imaginary character
Just do not anyone miss using my images
I would like it to be loyal to my personality/ style
I would be scared if it would be too much like me, but I would love it
I like seeing myself in the digital word, if I’m going to wear digital clothes i’d like it to be me
The only reason I would create an avatar would be for a game or social media Like Snapchat. From past experience I always replicate what I look like, I don’t know Why I just do
I don't want to be used for creating deep fakes for example, so ,y digital version should rather be an expression and not the exact copy.
I think I don't have a take on this right now as I'm not very aware of Digital fashion nor have I tried
I would like it to represent me but recognisably be a 'digitised' version of me, i.e. not entirely human/lifelike - it may have an avatar 'look'
I would want my digital avatar to look like me because falsifying that does not sit right with

me.
I would attempt to create a digital twin of myself but I think whilst using this technology you're more likely to form and develop a version of yourself that you want to see.

Question 21



Question 22



Question 23

Please could you explain your answer to the previous question
Of course, if I chose to immerse myself in the digital world, create my digital self, and acquire digital garments, I would prefer to maintain attachment to it. I don't want to merely be a basic avatar in a video game, but rather, I aim to cultivate a meaningful and

authentic digital presence, one that reflects and extends my real-world identity
I want it to represent partial of myself
Similar to my last answer, if I don't feel connected to my digital self then it defeats the object of it being my digital SELF, it would just be a character with a customisable outfit or appearance.
While I will tend to favour fancy and over-the-top digital outfits, I still dress according to my own aesthetic when creating my digital persona, and I still want the avatar to feel like me when I show it to others
Should be an imaginary version of myself… but as I am not into games I think I need some sort of recognition
I can't imagine a scenario where I would want or use a digital self, so I'm not sure the extent to which I would or would not want to feel connected to it
I'd feel more comfortable being connected to my digital self as I could then keep an eye on it, and I would feel less concerned that someone might be manipulating my online profile or appearance.
It would be great to feel things in the digital world that you can't experience in real life and get infinitely closer to the real thing.
i want to like my digital avatar/feel good about it
I don’t understand how you would feel connected with a digital character
I would want them to reflect who I am
I feel like there are so many social media platforms & apps, so I’d prefer not to have another platform or presence to thing about.
The idea frightens me.
Building connections with digital self is essential for participating in online communities.
I would want to feel like it still accurately reflects parts of me that I would want to show the

world, but I wouldn't want to feel fully immersed in the digital world, I would want there to still feel like there was a bit of a degree of separation.
I don’t want my digital self to be totally different to me
I'm not very digital forward and all my accounts are private. But if I bought digital fashion I'd probably be more likely to step outselide of my comfort zone.
Scared of AI
A want a digital version of me
Because it is me and having the freedom to choose what I wear
In parts yes. But a digital space allows one to be more creative when expressing themselves and that’s important.
Not sure
I'm not sure that would be advantageous to my mentor state
Waste of time that would make me ill.
Maybe
Of course I want it to be something like me someway.
I’m unsure if I would want to be
I don’t care about having a digital self
Representation is important - i think in the context of video games, the character is meant to be an extension of you
Same as above
I want to feel it’s an extension of me
I dont know if its something that’s very important to me

I’m not 100% sure about this question. If you mean emotional connection I don’t think so, because a character can’t feel pain and I would want them to live the life in the game doing magical things I wouldn’t be able to do in IRL
繋がりが在ったり、逸れたり、季節性のイベントに負けたり、正直　迷いは多かったけど、今まで　ずっと楽しかった、って言える。
I feel that however I were to create my digital counterpart I would feel some sense of connection to it due to my own creativity having been put into its creation
Depends on where it's used, if I wanted to be immersed I would want to feel connected
Not sure.
we already are different versions of ourselves across digital platforms from instagram to linkedin so i wouldn’t necessarily need to feel connected to one digital self
I am not sure what the question means, but I tend to prioritise connection with other human beings, ,not myself and definitely not my digital self
I don't know, connected in what way?
I am yet to explore it! But it does seem interesting
I am confused with the previous question
Me but without bad feeling and anxiety
I already put energy on my digital self as it is, I am not sure if it would be healthy to feel even more connected.
NIL
i want to feel like she's an extension of my personality
i don’t think that i would
Don’t care about a digital version of me enough

It has to feel like a fantasy
I don't feel the need to be connected to an artificial being as it has no feelings or consciousness itself
It's cool to try out things you perhaps wouldn't IRL, however I wouldn't want to get too attatched
I guess since it is my digital self I would feel automatically feel connected in some ways, because it is a projection of myself.
Again, the importance of having my real life self replicated in a digital sphere is important if I want to get a true replica of what digital shopping/fashion looks like
depending on what the future world will be, but honestly no
?
I think that if the importance of our digital personas continue to gro, it's important to feel connected to our digital selves so that we feel accountable and responsible for their actions. I'm saying this with regards to the current social media platforms, where people sometimes seems to feel like they can do or say things without being accountable for it, as if the screen acted as some kind of protection. I think that if the importance of our digital selves continues to grow with our increasing number of interactions with the digital space, a strong feeling of connected with one's digital self might help strengthening the notion of accountability in the digital world.
I guess as a representation of myself online I would need to feel connected to it to make it feel like it was a version of me.
I don't think I need to be emotionally attached to my digital self, but having a connection is important.
Since it's me but in different form, I would like to make it as similar as me in the real life and feel connected when I see the digital version.
It’s just a version of me curated it’s a facade

I wouldn’t want to feel as though I was becoming to enamoured with something digital
I would expand the ideas of fashion digitally that are not possible financially
Not interested in it
I think the online avatar should simply be an avatar, once you place a connection behind it I feel asthough it starts to become more than realistically it actually is.
It’s not real
I dont have a digital self
I think a digital version of myself is more like a toy to be creative with rather than connect with
I don't really have any desire to have a digital self
I have no urge to create my digital self.
I don't have a digital self and would rather invest my time into real life experiences rather than online
not sure
It would be interesting to see a digital version of myself and live through it but also I want connect to my real self and discover who I really am
As an avatar although it may look like me will not feel connected as it is on a computer not in real life.
So your digital self still defines you in some aspect
im not sure
I am very proud of the person I am, my life hobby is fashion and I want the digital world to see that as well. And if we become more digital in the future I still want to serve some good looks !

Since it is a representation of my i would like to feel connected to my digital self
Somewhat I guess
I’m not sure!
Unsure on this
It is me, just online
honestly not sure at the moment
I wold not do any digital action for social media
It's fun to see me in a digital world or in the metaverse
I’m not sure how connected I will be to an avatar
Again depends on where this digital body is located
Its not real
I want it to look like me.
it makes it feel more real
If it's representing myself, I'd want to maybe feel connected to it. But I am also not so interested in it so I probably would not care
I wouldn't so futuristic
As digital personas are becoming more important so will our perceptions of our digital selves
Seems scary
In which way is this possible?
depend on how much I'm putting into it

Maybe, because it can be something interesting.
NA
I don't see a need to feel connected to a digital representation of myself as I feel it doesn't truly exist for any purpose other than a creative outlet. For me, it is an opportunity to try something new outside of my comfort zone, and then translate that into the physical world.
Not sure
I want to feel connected to my digital self, and have it as a kind of extension of myself
I don't see the appeal
I think depending on how invested you get, you could really have your digital person doing everything that you really want to do, but haven’t for whatever reason. This could be great, but also damaging if you’re too connected
for it to be a representation of what I think
Yes sometimes
I feel this could inspire you further through having a digital version wearing fashion you haven’t ever seen yourself in could potentially inspire you and bring you out of your comfort zone
Inevitably you would feel associated with the digital version of yourself as it is you and your mind controlling it.
The digital self is just that, digital, and not something I believe I should get lost in or ‘connected’ with.
I think I would only be interested in engaging with my digital self if I felt connected to it in some way, but equally if I had designed the avatar and picked the clothes then I think a connection is inherent.

I am not as attracted to the idea of a digital self.
i live in the real world, having to deal with real life issues, i cant hide in digital format for example: in a game.
Were I to have a digital version of me, I'd want to feel connected as in it belongs to me. Not an emotional connection.
I feel like me an my digital person are the same people
I don’t have a digital self
I haven’t tried it
To be honest, we are living in a highly digitized world, and I have made friends using my digital identity. Although some of them may not even know who I am in real life, my digital self is still a part of me.
It's a part of me .
I don’t see any reason to be connect to digital self where, when I’m myself a person who portrays all the emotions.
It would be two separate identitys
I did not really understand that question well
I haven't felt that before. Still I have some concerns about the effect of changing constantly the way I represent myself in virtual worlds. But yes. I will love to feel a true connection to my my virtual representation.
Personally i hate to lie, so in my digital self am just almost replicating my actual self
I want anyone that I'm interacting with online to feel as if they are actually interacting with me personally
Yes, I want to feel I am the same person.
Becuase I see it as an extension of my physical self

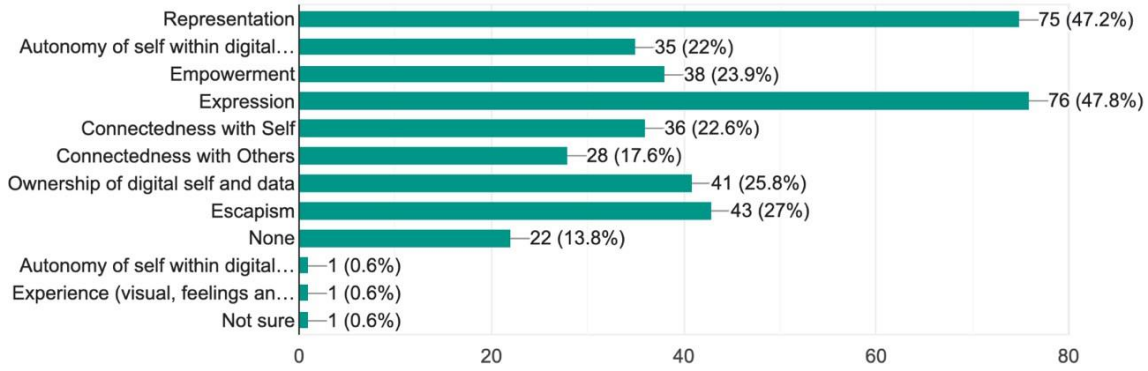
I would prefer to stay in the physical world and can't see myself engaging with a digital self any time soon
It's not a hard 'no' but I don't want to develop any low level split personality disorder. We might not have complete control over our digital selves, i.e they could be erased so I wouldn't want to develop too strong a connection.
Very different concept to my life
Still belongs to me
It is supposed to be an extension of myself, whether is physical or mental.
I would like to feel that I have control over my digital presence, so perhaps that is a form of connection.
I will have to connect for the digital version to have an expression of me
It’s me, I’d like to feel a connection to myself
I don’t feel connected to the digital world
I don’t feel connected to a cartoon
I think there is a danger of blurring the lines between real life and digital life! They need to feel separate I think
I’d like to explore more into digital fashion as i believe it is becoming more popular and more desired in the fashion world. I am currently working on clo3d and my skills are getting better and it is interesting to see what the limits are.
I would like to feel slightly connected, but I think if your all consumed by it, it could end bad
It don’t really have a digital presence, so I don’t feel connected to it.
Depending on the games you can feel attachment but it really depends on the game in my case and the way people perceive that digital avatar

No digital avatar
Not sure about the question
Not too close
i’ve always liked these kinds of animated replicas of oneself eg; the sims
I don't want to be too attached to the virtual world
Someone with similar personality and preferences but different persona
I would like to feel connected because I feel like it would be a representation of me
I think you can express things vitally way differently than irl
it’s something i can’t really feel attachment towards
It me playing the game so I would like it to represent me in every way
I'm not sure
Yes, if I want to try digital fashion in the future it should be like me
It's hard to know as I've never had a digital self, but it may make me feel happy to have a connection.
To feel connected to anything, there has to be feelings and emotions involved and I do not think a digital avatar would be able to emote any of that.
I think as a human I will always feel disconnected to digital beings/digital world.

Question 24

What are the most important things for you regarding your digital self? (you can choose more than one)

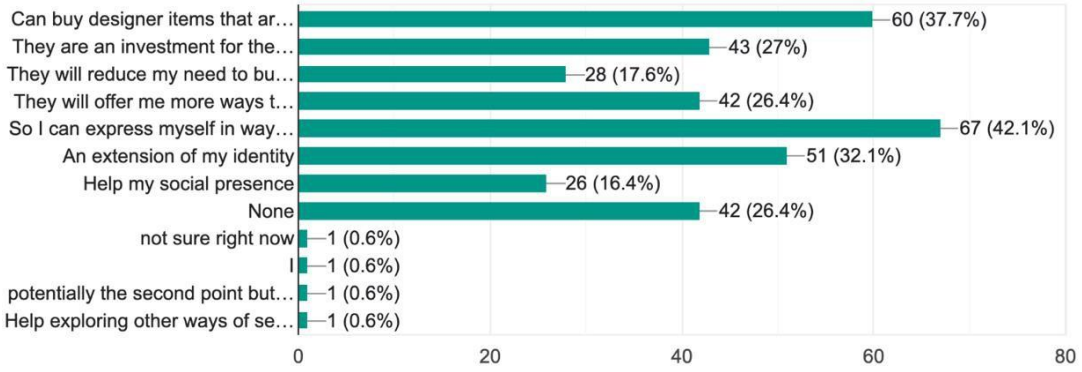
159 responses



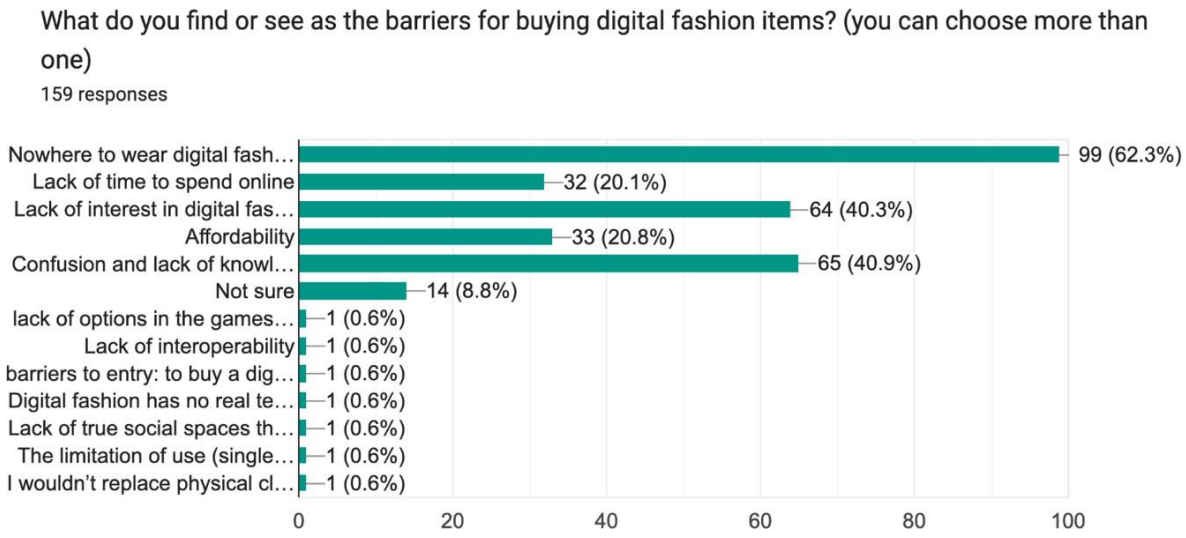
Question 25

What do you see the benefits of buying digital fashion items being? (you can choose more than one)

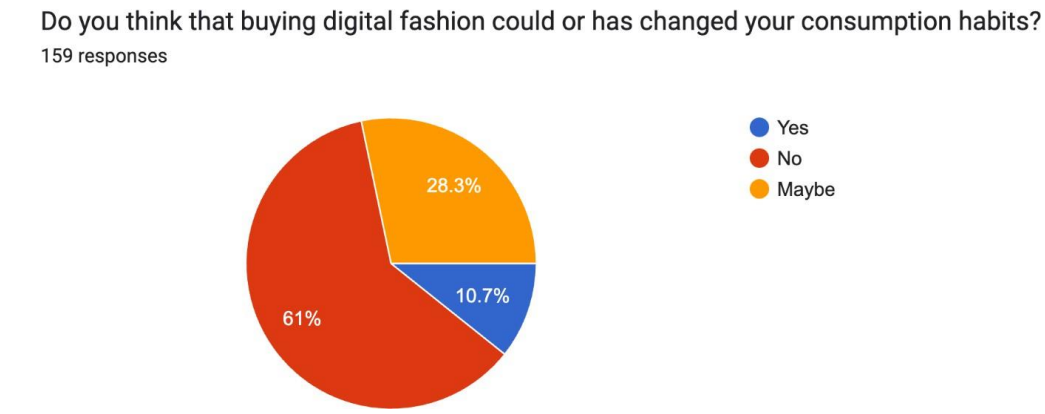
159 responses



Question 26



Question 27



Question 28

Please could you explain your answer to the previous question
No, I don't believe buying digital fashion will change my consumption habits. I view digital fashion as a separate and complementary aspect of my style expression and it's more of an exciting addition to my fashion interests.
for some physical garments that I am not sure I will like it for a long time , I may purchase a digital version first.
It hasn't so far, because it is not closely integrated with my life, but I hope that it can

provide a more sustainable way to experiment with fashion without buying and wasting clothes I grow tired of
For me, virtual clothing is very much an occasion to show off. I don't think the current digital platforms are able to fulfill my need for display. Online virtual social communities are still not as lively and diverse as offline ones!
I don’t think I am in a stage of life where my network engage significantly online for it to make a difference to my normal consumption.
I think it is a rapidly evolving area - so I want to keep an open mind that in the future it may feel more relevant or accessible to me and become something more meaningful to me - even if that is not the case now
As I have not yet purchased a digital garment, this is difficult to conclude, but it could allow me to wear things that I cannot afford in real life. Therefore it may increase my digital consumption and I believe my non-digital consumption would stay the same.
I prefer offline shopping, digital fashion lacks authenticity, it can be fresh to try but I don't want it to be a replacement.
nothing to say
Because I think society has a different understanding of ‘newness’. Think this would be another way to consume, not a resolution to the issue
Might be up buying less physical items ?
Possibly. Although I don’t know enough. I do have a lot of clothes & forget what I have in my physical wardrobe, id worry I’d forget what items I have online when I can’t physically see them every day.
Potentially - it could if I know more about it!
While I have purchased digital fashion before, it was only for the novelty, and my need for physical fashion still exists. But as the Metaverse and Web 3 get better and better, I may acquire more digital fashion in the future.
I don't personally buy a lot of fashion items anyway, and the things I do buy, I will only buy

after a long period of consideration and then usually keep for 5+ years, so I don't think for me personally digital fashion would replace or change my consumption of fashion. However, I appreciate that it would have a positive effect on those who do regularly buy fashion pieces to wear only one or two times just for the purpose of having their image captured in a particular look.
It could mean I would buy something that is elaborate that I wouldn’t buy in the physical world because I know I wouldn’t wear it
I haven't bought digital fashion so that question is not applicable to me.
I stick to my budget
Hopefully my shopping habits for physical things will decrease.
Because it could for me to try new things out and I might like it not
I haven’t bought any and I would stick to my same sense of self in the real world.
Maybe
I won't buy digital fashion
I wouldn’t do it therefore no change.
Yeah, people may start buying more online stuff.
I haven’t bought digital fashion before.
It could deter people from the need to shop for “retail therapy”
I don’t intend to buy digital fashion so it wouldn’t impact my habits
physical and digital worlds are separate
Depends on affordability- if it’s a lot cheaper it would be a good way to try new things or experiment with fashion or even just buy wish list items - but if it’s not affordable then I would be more likely to spend money on tangible items

It’s still fuelling my need for new things
Don’t believe it’s something i’d partake in
I feel like if it got more advanced there would be a possibility, maybe if the price went down and it was something that could be commonly purchased. I feel a good way would be to make a filter on tiktok or somewhere that the garment could go viral where people could try it on and digital fashion could be experienced by all
時々、一生懸命創意工夫した人達が居た痕跡や、作り手自身の顔が見えて、着る楽しさや知識の肉付け、に成る、多分ね、…"小声。 また　機会が在ったら、買いたいな、って、…"微笑。
the items I would buy digitally would be in video games exclusively. I don't have any interest in purchasing items to wear digitally for myself, only for the characters I create, so I wouldn't be purchasing these items in real life anyway whether that's because they are unaffordable or they don't exist physically.
Still buy clothes in reality the same as I would without digital fashion existing
N/A
maybe it would even increase as i would want the digital item to wear in my day to day
Buying is not the same as trying on. If I could try on clothes digitally, then I might order online less- be sure I love everything I order and it fits me- and send back less. But in this context, I would not spend money just to try something on, and so it would not change my consumption behavior.
we still need to wear physical clothes, for now at least.
I might buy less of physical products maybe but I am unsure if that’s the way I would like it
I haven't bought any yet
I prefer to express myself in the real world. My digital version would be just for fun

I am not into buying clothes I do not need, so I think my habits would remain the same.
NIL
maybe if i bought something in the meta verse that would help me to decide whether / not it would be something i could see myself wearing irl
i would still buy physical pieces
Haven’t bought it
My consumption habits tend not to change with trend cycles
I'm not interested in buying digital fashion that I cannot wear myself
I love buying real clothes and the value they hold
In this time and place I don't feel the pull to purchase any digital fashion for an avatar. If I was to play Animal Crossing again maybe, but I did like that it was free and not monetised in the game (not using real tangible money).
Not sure it will have benefits depending on how useful I'll find it
i can't come up to the idea of how it can affect my consumption
I still buy whatever I would have bought before
When I buy physical pieces, they're usually ultra-practical, every day wear items. This is typically the type of purchases that I don't see being replaced by digital fashion in the near future.
I dont buy digital fashion
I don't think that digital fashion right now is something that will be groundbreaking to the masses- it's very targeted to specific audiences that have the time, resources, and abilities to buy. I also think that it will be difficult for digital fashion to break the emotional connection that people carry within physical objects that they buy- the tangibility of an object or garment is what keeps people connected to the object/garment, and if it's fully digital, those lines are blurred.

In my opinion, it won't changed my consumption habits directly, but little by little as I dive more into digital fashion.
Don’t do it
I don't know enough about it to answer
The real world still exists alongside the digital one, so you would be upping your consumption
N/A
I haven’t bought digital fashion
Either way the clothes are not physical so will always be limited to the fact that when people see you in person you cannot wear your purchases.
Nothing will beat a physical fashion peice and the work that goes into it think Couture
I don’t do anything different
I think as the metaverse expands my desire for digital fashion could change but as of right now it doesn't affect me
I have not and will not be buying digital fashion
I don't want to purchase a digital fashion item, I prefer the physical garment.
Because when people over consumed, they want physical things
not sure
I would still want to wear physical garments on my own person to wear out rather than just online
I think although its a good idea, I don't think the consumer will be interested as they cant wear it themselves.
I don't typically buy digital fashion but I can see the interest and find it fascinating

more spend on digital less on physical
I still want to buy fashion in the real world as I am a collector, but the metaverse would be a new platform for me to collect fashion
not sure
I doubt it would change my habits
Purchasing garments online means a garment wasn’t purchased physically
Maybe I would buy more digital fashion as it doesn’t have the impact on the environment, I limit myself In the real world to be conscience of my consumption
I don't have that much of an online presence to see a need to buy digital fashion items.
Even though I’m currently not interested in digital fashion I cannot see it changing my consumption habit even if I was. I’m already trying to make quite conscious choices.
I dont plan to buy ant digital fashion item
It depends on the way it would make me feel. If its just fun and I feel a way to express myself, then maybe it would change my consumption habits
I still like to have physical products.
I haven’t any likely won’t buy digital fashion outside of character skins in video games
Don't have a need for digital clothing
I don't buy digital items
i prefer real clothes
It would not stop me from buying clothes I could wear out. But also, I am someone that does already express myself through fashion in the real world
im not sure

I haven't brought a lot of digital fashion
Maybe but I think phisical clothes will always make me more happy
I did not buy digital fashion
im not very interested in digital fashion where I am in life right now
Maybe, because I can spend less money on physical clothes, which are not save for our world.
I already try to rent/ buy key pieces to be more conscious
I can see myself prioritizing the purchase of physical fashion items. As I am not a person who is heavily invested into digital worlds, so I would find it difficult to justify the investment.
Have never bought digital fashion before
I would still prioritise buying real life fashion to wear day to day, digital fashion would be a fun thing to try once in a while
I have never bought digital fashion
Although fashion is my job and one of my biggest interests, I don’t see digital fashion replicating or replicating any of my physical garments anytime soon
I buy to dress in social media, digital can end that
Maybe
Yes, as you may feel like changing your own style and the need to purchase new clothes with the constant ideas flowing which could lead to over consumption.
it has the possibility if a platform arose where these items genuinely mirrored real life
If anything digital fashion has just reinforced how important physical fashion is, and how true meaning and art is more commonly found in our physical dimension, where we can see, hear and smell the art or fabrics involved.

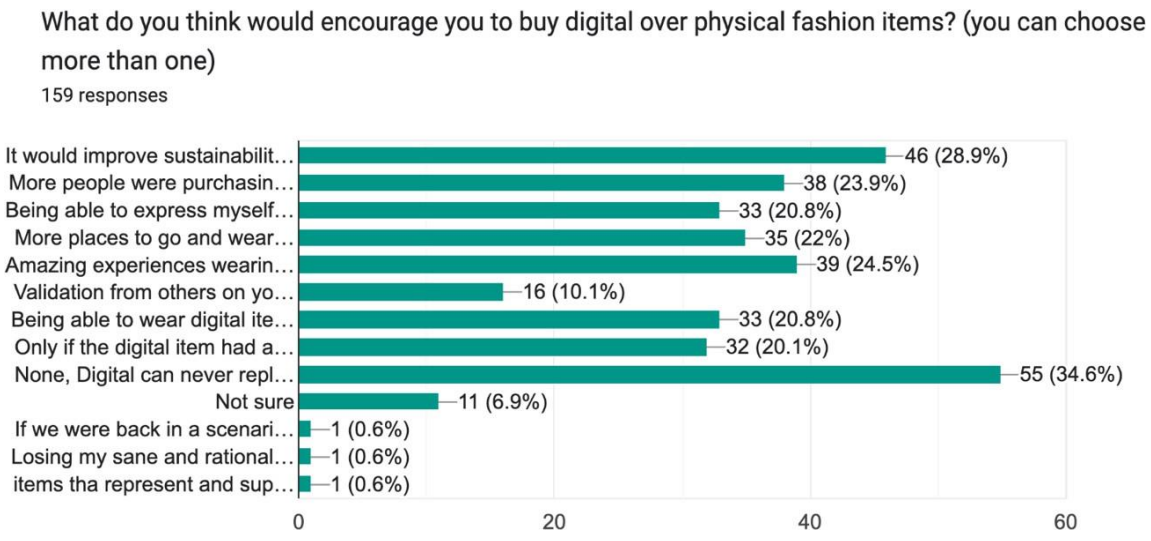
I try and keep my consumption low anyway and ultimately, I buy clothes so I have things to wear that make me feel good when I'm out having fun in the world. Spending time online isn't something that I would want to replace being out and about, so possessing digital garments wouldn't really help curb my consumption any further.
I think it wouldn’t be enough satisfaction, as I get a lot of satisfaction from things taking up space.
my son loves fortnight and COD, to which I've spent money giving him credits to buy "skins" for his characters. These skins have no improvement in playing power within the game , so I find it hard to see the benefit, other than he likes to show his friends his new outfits,. I personally feel its a waste of money, but its important to him, so I allow it, but bare in mind he is 13 and doesn't quite appreciate the value of money just yet.
I don't buy stuff unless I need them.
Maybe in a future dar away, maybe not right now. I really love the real outfits and go out wearing them.
I’ve never bought anything digital
Buy less physical items
The purchase of digital fashion does not affect any of my physical consumption; it is just an additional part of my overall spending on fashion. My need for digital fashion and physical fashion are unrelated, and I see them as separate entities. It is like a separate investment for my digital self and physical self.
I would buy it once for an experience but not often because I don't need it.
I’m not sure as I always like to experiment with fashion.
It has potential to influence people in the future.
My consumption habits come from my need to physically dress and express myself .
My consumption habits do not include many fashion items. Not in physical nor in digital life

I still need to wear clothes in actual life. In general i do not buy unless what I actually need, so nothing changes
I don't purchase too much usually so an avatar item wouldn't make much change to this.
I have neve bougth digital fashion. I just use what is available in the avatars provided.
I love fashion! The more options the better
Potentially would help in identifying items someone wanted to buy, and can see that people would want to match online and offline.
By and large I buy only what I need from a physical fashion perspective. As a result there's not much room for me to buy less physical fashion. If I did buy anything digital it would be additional but would likely only be a one off or rare purchase.
Don't buy
Don't know without trying
I don’t think it affects any of my physical fashion and spending.
Maybe
It may make me buy fewer physical items. However, it will only supplement my consumption habits in another area rather than curb them - the urge to consume is not reduced but only transferred to the digital world.
We might start buying things more frequently
I’ve never actually bought anything
Not sure of the answer
It hasn’t changed
It won’t change physical consumption habits I don’t think
I personally love wearing clothes within real life as i feel this is where i express myself

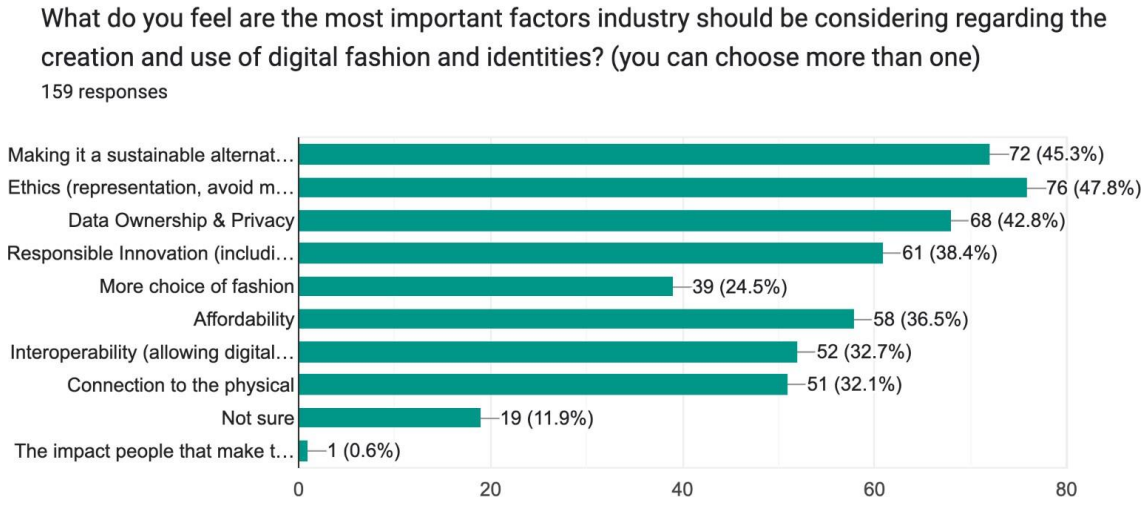
most.
You still need clothes to wear in real life too
It’s something new that I have never tried before, so it could impact my consumption habits should I try it in the future.
Not sure on its effects
I still need to wear clothes in real life, I think it would 'add' to my consumption, not replace
Buying less make a better environmental impact
I’ll still buy physical items
i like the creative control of physical styling and wouldn’t like to give it up
I haven't yet, I would still need to understand it more. Not sure on the use of where it would be purposeful.
Haven’t experienced yet
Can't tell
I would save money and time
I didn’t buy a nothing yet
- i still like to feel clothing
Have never bough digital fashion, does not interest me
If I start using it a lot than yes
As I said I haven't used digital fashion yet
I think I would still need to buy physical items for real life weddings and events etc, digital fashion would be an add on rather than a replacement.

I haven’t indulged in purchasing anything digital.
Could decrease consumption and over production, less sampling and supplier making products. Overall could impact carbon emissions.

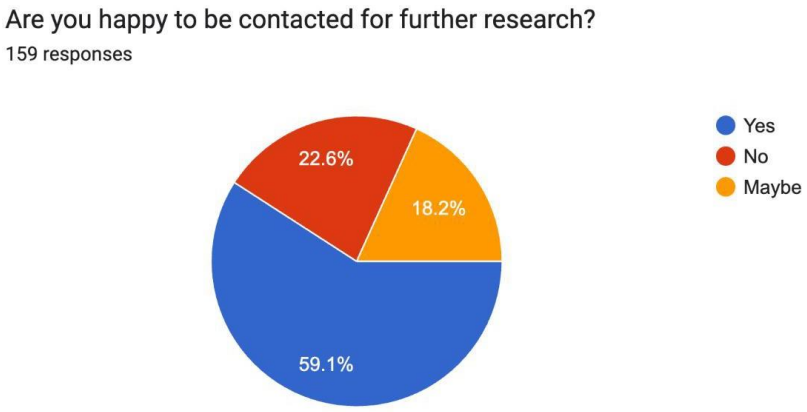
Question 29



Question 30



Question 31



Appendix 32: Thematic Analysis of Open-Ended Questions using ChatGPT4 (2024) (Survey Results, Questions 6, 10-11, 12-13, 16-17, 19-20, 22-23, 27-28)

Questions 6: What does fashion mean to you?

1. Self-Expression and Identity

The most recurring theme is fashion as a primary mode of self-expression. Many respondents mention using fashion to convey their personalities, moods, and identities without speaking. It helps them display their creativity and individuality, often reflecting different aspects of who they are or how they feel at a given moment.

Example Responses:

- "Fashion allows me to express myself without people knowing anything about me."
- "It's a form of expression and identity."
- "Fashion is my main channel of self-expression."

2. Confidence and Empowerment

Fashion is often seen as a tool for boosting self-confidence and empowerment. Many respondents highlight how wearing clothes they love or feel good in makes them feel more confident and positive in their daily lives.

Example Responses:

- "Good looking clothes make you feel good in them and give a good first impression to people."
- "Fashion means so much to me, it builds my confidence and shows my personality."
- "If I'm dressed well, I feel 100x more confident."

3. Creativity and Art

For many, fashion is a creative outlet and a form of art. Respondents appreciate fashion as

an artistic expression, sometimes linking it to their professional or personal pursuits in design, styling, or craftsmanship. The idea of fashion as wearable art, where one can experiment with fabrics, colors, and styles, is central to their experience.

Example Responses:

- "Fashion is an art to me. It shows my creativity and way of thinking."
- "We can be walking talking art."
- "I view it as a way to create art from existing objects."

4. Connection to Personal and Cultural History

Fashion also serves as a connection to family, ancestry, or cultural heritage for some respondents. It enables them to connect with their past, loved ones, or communities, and express their cultural identities.

Example Responses:

- "A reminder of my family. A lot of the clothes I wear were given to me by my mum or grandma."
- "It helps me express my self and helps my confidence."

5. Sustainability and Ethical Considerations

Several respondents express concerns about the environmental impact of fashion, especially regarding fast fashion and sustainability. They prioritize ethical consumption, reuse, and support for sustainable practices within the industry.

Example Responses:

- "I'm passionate about sustainability, I studied sustainable fashion, and I don't buy fast-fashion brands."
- "I love clothes but struggle with the industry's push for constant consumption."

6. Fashion as a Profession

For a subset of respondents, fashion is central to their careers and professional identity. Many work in fashion-related fields, whether as designers, marketers, or in textiles, and they view it as a life passion as well as a source of livelihood.

Example Responses:

- "Fashion is my job & passion."
- "I work in the fashion industry; it's a big part of my daily life."

7. Escapism, Mood, and Mental Health

Fashion serves as a tool for emotional regulation for some respondents, helping them navigate their mental health or lift their mood. It can be used to influence their feelings or help them escape from daily stress.

Example Responses:

- “Putting together an outfit is almost therapeutic.”
- “Even on down days, putting on my favorite clothes gives me a boost of confidence and happiness.”

8. Functional and Practical Approach

Some respondents focus on the functional aspects of fashion. For them, fashion is less about trends and more about practicality, comfort, and suitability for their daily activities or environment.

Example Responses:

- “Fashion needs to be functional and have a purpose for me.”
- “I have a style I like, but ‘high’ fashion isn’t something I want or need.”

9. Dichotomy Between Personal and Industry-Level Views

Several respondents express a conflict between their personal love for fashion and their dissatisfaction with the broader fashion industry. They note issues like exclusivity, fast fashion, and unrealistic standards promoted by the industry.

Example Responses:

- “On a personal level, fashion is fantastical, but on an industry level, it feels seedy, exclusive, and undiverse.”
- “I love fashion but have a lot of resentment toward the industry for problematic systems.”

Summary

These themes illustrate the multifaceted nature of fashion, ranging from personal identity and creativity to concerns about sustainability and industry practices. For many respondents, fashion is not just about clothing but a deeper expression of who they are and what they believe.

Question 10-11: Have you ever bought a digital fashion item? If so, can you describe what and where?

1. Digital Fashion in Video Games

Many respondents mentioned purchasing “skins” or cosmetic items for video game characters. These digital fashion items enhance the visual appearance of their avatars in games like Fortnite, Sims 4, League of Legends, and other gaming platforms.

Example Responses:

- “In-game skins and cosmetic items in a variety of games.”
- “Skins on Fortnite.”

- “Avatar outfits for various games, PlayStation.”
- “Moschino pack on Sims 4.”
- “I have spent a lot of money on mobile games, purchasing digital fashion items known as skins, specifically for League of Legends.”

2. Purchases from Digital Fashion Platforms

Several respondents noted purchasing digital fashion items from dedicated digital fashion platforms such as DressX and The Fabricant. These platforms allow users to buy virtual garments that can be used for social media or creative purposes.

Example Responses:

- “I bought a virtual dress at DressX.”
- “I’ve bought a few digital fashion items, mostly on DressX but also on brands’ platforms like The Fabricant’s marketplace.”
- “An oversized black hoodie from Clo3d Closet.”

3. Support for Digital Fashion Designers

A few respondents mentioned purchasing digital fashion items to support friends or other designers, showing how digital fashion is becoming part of creative and entrepreneurial circles.

Example Responses:

- “I modeled for my friend’s digital fashion line on DressX and bought one of her digital accessories.”
- “Some of my own designs, but also looks from other designers.”

4. Use of Digital Fashion in Professional Contexts

Some respondents use digital fashion as part of their work, particularly in fashion design or business contexts. They purchase digital fashion items for practical purposes, such as in 3D fashion software like CLO3D, rather than for recreational use.

Example Responses:

- “I use digital fashion software every day and purchase garments from the CLO3D marketplace for work.”
- “I bought digital fashion items as part of my digital fashion business to reduce environmental impact.”

5. Nostalgic or Early Digital Fashion Purchases

Some respondents mentioned early experiences with digital fashion, such as purchasing clothes for avatars on platforms like Stardoll during their youth, reflecting the long-standing presence of digital fashion in certain online communities.

Example Responses:

- “When I was a teen, I used to spend a lot of time on Stardoll, where I’d spend money on avatar clothes.”
- “I think it was something from an early incarnation of the Rematerialized (Karinna Grant’s start-up).”

6. Ambiguity About Digital Fashion

Several respondents were unsure if their purchases counted as digital fashion, especially in gaming contexts where they bought character skins or avatar items. This suggests some confusion about the definition of digital fashion.

Example Responses:

- “Not sure if video game character skins would count.”
- “No idea what digital fashion is.”
- “I guess skins for video game characters.”

7. Fashion Brands Entering the Digital Realm

A few respondents noted purchasing digital fashion items from well-known physical fashion brands, such as Tommy Hilfiger and Nike, showing how mainstream brands are expanding into the digital space.

Example Responses:

- “Tommy Hilfiger digital outfit on Ready Player Me, Nike outfit on Fortnite.”
- “In various digital platforms like Amazon, Zara, Burberry.”

8. No Experience with Digital Fashion

A notable portion of respondents indicated that they have never purchased digital fashion and are either unfamiliar with the concept or have no interest in it.

Example Responses:

- “N/A.”
- “I haven’t bought any digital fashion.”
- “I just feel that it’s essential for me to have material things.”

Summary

The responses show that digital fashion purchases are most commonly made in gaming environments, where users buy skins and avatar outfits. However, there is also growing interest in digital fashion platforms like DressX and The Fabricant, especially among those who want to experiment with fashion digitally or support designers. While many respondents are familiar with digital fashion through video games, others use it for professional or entrepreneurial purposes. There is also a segment of respondents who either haven’t bought digital fashion or don’t find it relevant to their lives yet.

Question 12-13: Do you think digital fashion is more sustainable than physical fashion? Please could you explain your answer for the previous question

1. Potential for Reduced Environmental Impact

Many respondents believe that digital fashion has the potential to be more sustainable because it eliminates the need for physical materials, reducing waste, water usage, and carbon emissions from transportation and production.

Example Responses:

- "It won't generate water pollution or waste."
- "Digital fashion reduces the need for physical resources."
- "It does not involve water or materials to create a garment."

2. Concerns About Energy Consumption

While digital fashion eliminates physical waste, several respondents express concerns about the energy consumption required to maintain digital fashion infrastructure, such as servers and data centers, and the carbon footprint associated with them.

Example Responses:

- "Energy production for digital garments can cause pollution."
- "Digital fashion has a carbon footprint too, due to the servers required."
- "It still requires energy, and the environmental impact of data storage must be considered."

3. Uncertainty and Lack of Knowledge

Many respondents express uncertainty about what digital fashion is and how it works. This lack of familiarity leads to mixed feelings about its sustainability compared to physical fashion.

Example Responses:

- "I don't understand what digital fashion covers."
- "I don't know enough about digital fashion to answer."
- "Not sure what it is, so can't say conclusively."

4. Digital Fashion as a Complement, Not a Replacement

Several respondents highlight that digital fashion currently exists alongside physical fashion rather than replacing it, questioning its overall impact on reducing physical consumption. Some also point out that people will continue to buy physical clothing despite the rise of digital fashion.

Example Responses:

- "Digital fashion is a complement to physical fashion, not a replacement."
- "It's more sustainable, but people still need real clothes."

- “Digital fashion won’t stop the fast fashion industry from producing clothes.”

5. Overconsumption and Consumer Behavior

Some respondents worry that digital fashion could encourage overconsumption, particularly in digital spaces like social media. While it may reduce physical waste, it could still fuel consumerism in a digital form.

Example Responses:

- “Digital fashion can encourage overconsumption, just in a different form.”
- “It may fuel a need for more digital outfits, which doesn’t solve the issue of overconsumption.”
- “Digital fashion may help with fast fashion trends, but people will always want to consume.”

6. Digital Fashion for Social Media and Influencers

Respondents note that digital fashion could be beneficial for influencers or social media users who need new outfits for digital platforms. In this context, digital fashion could reduce the waste from buying clothes just for online appearances.

Example Responses:

- “It’s useful for people who buy clothes just to wear once on social media.”
- “It allows influencers to show different looks without producing physical items.”

7. Skepticism About Practicality

A number of respondents are skeptical about the practical use of digital fashion, questioning whether it can provide the same tactile satisfaction or emotional connection as physical clothing. They also question whether it will be widely adopted.

Example Responses:

- “I don’t feel the need for digital clothes; I’m a tactile person.”
- “I’m not convinced digital fashion will replace physical fashion in real life.”
- “Digital fashion doesn’t give the same level of satisfaction as physical clothing.”

8. Ethical and Social Impacts

Some respondents express concerns about the broader social implications of digital fashion, such as its accessibility and potential job losses in the traditional fashion industry.

Example Responses:

- “Digital fashion could be elitist and accessible only to those with technology.”
- “It could lead to job losses in the physical fashion industry.”
- “There could be geopolitical tensions and economic losses if digital fashion takes over.”

9. Technology and Innovation in Fashion Design

Respondents who are more familiar with digital fashion mention that it could play a significant role in improving the fashion design process by reducing waste during sampling and prototyping stages.

Example Responses:

- "Digital tools can improve the design process by avoiding material waste from samples."
- "It cuts out the sampling process, which usually results in waste."

10. Long-Term Sustainability Concerns

Some respondents raise questions about whether digital fashion is a long-term sustainable solution. They argue that while it may reduce certain environmental impacts, it cannot fully replace the need for physical fashion.

Example Responses:

- "Digital fashion can be more sustainable, but physical clothing will always be necessary."
- "I'm unsure if it's a long-term solution for fashion sustainability."

Summary

In summary, the key themes suggest that while many see the sustainability potential of digital fashion—particularly in reducing physical waste and resource consumption—there are concerns about energy use, overconsumption, and the practicality of fully adopting digital fashion. Additionally, a lack of widespread understanding of digital fashion limits its acceptance as a sustainable alternative to physical fashion.

Question 16-17: What do you think you will or have felt from purchasing a digital item? Please could you explain your answer for the previous question

1. Excitement for Novelty and Innovation

Many respondents express feelings of excitement and curiosity about purchasing digital fashion items. This excitement stems from the novelty of the concept and the possibilities it presents for creativity and experimentation.

Example Responses:

- "I can imagine pleasure and excitement because it is something new and quite interesting."
- "Being able to look different in a game is fun."
- "It would feel like I'm part of something very unique and futuristic."

2. Frustration or Disappointment Due to Lack of Physicality

A significant number of respondents express frustration or disappointment with digital

fashion because it lacks the tactile experience they value in physical fashion. They miss the sensory engagement, such as touching and wearing clothes, which makes the digital experience feel incomplete or unsatisfying.

Example Responses:

- "I would feel frustrated because it is not something physical that I can engage with."
- "I wouldn't enjoy it as I want to physically have the item."
- "I like the fabric and texture of clothes, and digital fashion doesn't offer that."

3. Curiosity and Openness to Experimentation

Several respondents are open to experimenting with digital fashion, expressing curiosity about its potential. They see it as a way to explore new styles or engage with digital environments, even if they haven't fully committed to the concept.

Example Responses:

- "I am open to the possibility."
- "I think it might be fun to customize an avatar and explore different styles."
- "Intrigued by the idea of acquiring digital fashion items."

4. Neutral or Uninterested Feelings

A number of respondents express neutral feelings toward digital fashion, often because they have not purchased it before or do not see its relevance in their lives. They show a lack of enthusiasm or understanding of how digital items could enhance their experience.

Example Responses:

- "I don't feel anything honestly."
- "I don't think it's for me personally."
- "I am not aware I have ever purchased a digital fashion item."

5. Tactile and Sensory Importance in Fashion

Many respondents emphasize the importance of tactile experiences in fashion, such as touching and feeling the fabric, which they feel is lost in digital fashion. This sensory engagement is a key part of what makes fashion enjoyable for them.

Example Responses:

- "The significance of touch and feel is extremely important when it comes to clothing for me."
- "It doesn't engage with my senses apart from sight."
- "What I love about fashion is wearing the clothes."

6. Skepticism About the Value of Digital Fashion

Respondents who are skeptical about digital fashion often express doubts about its value, both in terms of personal satisfaction and financial worth. They question why they should

spend money on something that doesn't physically exist or offer practical utility.

Example Responses:

- "I don't see the point in paying for something that doesn't physically exist."
- "I think I would feel like I wasted my money."
- "There seems to be no function, so I would be disappointed."

7. Connection to Gaming and Virtual Worlds

Several respondents associate digital fashion with gaming, particularly with customizing avatars in virtual environments. For these respondents, digital fashion can be fun and satisfying within the context of gaming, where it enhances the virtual experience.

Example Responses:

- "I enjoy character customization in games and would have fun buying clothes for my virtual character."
- "If it was for a video game like Sims, I would be happy with it."
- "It gives me pleasure in games to see my character dressed in cool outfits."

8. Concerns About Sustainability

A few respondents mention that purchasing digital fashion could contribute to sustainability, as it reduces the need for physical production and waste. This aligns with the idea that digital fashion could be a more eco-friendly alternative to physical fashion.

Example Responses:

- "It feels like I would be doing my part in sustainability."
- "Because I did something that might be beneficial for the environment."
- "It would be nice to try on products digitally instead of ordering and returning them."

9. Temporary or Fleeting Satisfaction

Some respondents express that purchasing digital fashion might bring brief satisfaction or pleasure, but they also predict that the novelty would wear off quickly, leading to a sense of emptiness or dissatisfaction.

Example Responses:

- "Brief joy seeing the images, and then probably a sense of 'well that's that.'"
- "I usually feel like I've been duped into buying these items shortly after purchasing."
- "It would give me temporary pleasure, but I would want the physical equivalent."

10. Need for More Education and Awareness

A portion of respondents indicate that they lack enough knowledge or awareness about digital fashion to form a strong opinion. They express interest in learning more about the concept before making a purchase.

Example Responses:

- “I don’t know much about it, so my answer could change if I was more educated.”
- “I would need to learn more about it to understand the appeal.”
- “I’m confused by the concept and would need more information.”

Summary

In summary, the themes suggest a broad spectrum of feelings toward purchasing digital fashion, from excitement about its novelty and potential to frustration due to its lack of physicality. For many respondents, the sensory experience of physical fashion plays a crucial role in their enjoyment, while others are intrigued by the possibilities of digital fashion, especially in gaming contexts or for sustainability reasons.

Question 19-20: What would you like your digital version to be? Please could you explain your answer to the previous question

1. Enhanced or Idealized Versions of Themselves

Many respondents express a desire for their digital version to be an improved or idealized version of themselves. They want to maintain a sense of identity but enhance their appearance or eliminate traits they are self-conscious about.

Example Responses:

- “I’d want it to look like me but elevated, almost how I wish I looked in reality.”
- “I would want to be the best form of myself, give myself touch ups and just edit my body to how I would ideally want.”
- “If I’m digital, I would want a better body shape, i.e., thinner, bigger breasted, nicer hair.”

2. Expressive and Creative Freedom

Many respondents view digital avatars as an opportunity for creative expression, allowing them to experiment with appearances, styles, and even fantastical elements that wouldn’t be possible in real life.

Example Responses:

- “I like to create an elevated self, something that is either impossible in real life or implausible to sustain.”
- “Why not add myself some details such as a tail or a third eye?”
- “Digital fashion is about expressing yourself in a fantastical way.”

3. A Close but Not Exact Representation

Several respondents prefer their digital version to be a close reflection of themselves, with some creative liberties. They seek a balance between realism and expression, allowing them to remain recognizable while still having fun with their appearance.

Example Responses:

- “I would like my digital avatar to be similar to me but cooler.”
- “I would want my avatar to look like me but slightly different or more stylized.”
- “I want it to represent me, but I like the idea of playing with features like hair color or piercings.”

4. Realistic Replication for Practical Purposes

Some respondents prefer a realistic replication of themselves for practical reasons, such as using digital fashion to see how clothes might look on them in real life or for professional purposes.

Example Responses:

- “If it looks exactly like me, then it would create a more virtual reality of what my shopping experience would feel like.”
- “I want my digital version to be as close as possible to me to try on clothes virtually.”
- “I would want it to look like me for authenticity, especially for professional settings.”

5. Escape from Reality or Exploration of Alter Egos

Several respondents see their digital version as a way to escape from reality or explore a different side of their personality. They might create an avatar that reflects an alter ego or embodies traits they don’t have in real life.

Example Responses:

- “It’s a way to create a character based off me, but I can choose how I want them to be represented.”
- “I would create a version of me that is more powerful, like in a video game.”
- “Digital avatars are a chance to create something different from real life.”

6. Maintaining Authenticity and Realism

Some respondents value staying true to themselves and are uncomfortable with creating a digital version that deviates too far from their real identity. They prefer their digital representation to be an authentic reflection of who they are in real life.

Example Responses:

- “I would want my avatar to represent me because I am proud of who I am.”
- “It’s important to retain your physical, tangible identity so as not to lose yourself.”
- “I prefer realism because it keeps me connected to who I am in the physical world.”

7. Discomfort with or Lack of Interest in Digital Versions

A number of respondents express discomfort with creating a digital version of themselves, either because they find it unsettling or because they don’t see the value in it. They may feel that digital avatars don’t hold personal meaning for them.

Example Responses:

- “I find the idea of an exact digital replication creepy.”
- “I don’t see the point in creating a digital version of myself.”
- “I am not interested in digital avatars.”

8. Context-Dependent Preferences

Some respondents emphasize that their preference for their digital version would depend on the context in which the avatar is used. For example, a professional setting might require more realism, while gaming environments might allow for more creative freedom.

Example Responses:

- “It depends on where this digital body is. If it’s a video game, it wouldn’t have any relation to me.”
- “In formal settings, I want my avatar to be realistic, but in creative environments, I’d prefer something more expressive.”
- “The answer depends on the situation—realism for work, creativity for fun.”

9. Combining Identity with Fantasy

Some respondents mention that they would like their digital version to be a hybrid, maintaining recognizable traits while incorporating elements of fantasy or creativity. This allows them to express both their real and imagined identities.

Example Responses:

- “A representation of me, but with fantastical elements.”
- “It would look like me but with additional features I wouldn’t have in real life.”
- “I want my digital avatar to look like me but allow for creative elements that aren’t possible in the physical world.”

10. Ethical Considerations

A few respondents bring up ethical concerns about creating digital avatars, particularly in using attributes or identities that they feel may trivialize real-world struggles. They are cautious about how they portray themselves in digital spaces.

- **Example Responses:**
- “I don’t feel comfortable picking a different gender, skin color, or body shape as it raises ethical questions.”
- “Creating an avatar that is too different from reality could be deceiving.”

Summary

In summary, the responses reflect diverse attitudes toward creating digital versions of oneself. Some prefer enhanced or idealized versions, while others seek to maintain authenticity. Many enjoy the creative freedom digital avatars offer, using them as a form of self-expression or escapism. However, there are also respondents who find the concept

unsettling or unnecessary, with preferences largely depending on the context in which the avatar is used.

Question 22-23: Do you want to feel connected to your digital self? Please could you explain your answer to the previous question

1. Desire for Authentic Representation

Many respondents express a desire for their digital self to be a meaningful representation of their real identity. They feel that if their digital avatar reflects who they are, they would want to feel connected to it as an extension of themselves.

Example Responses:

- "Of course, I want it to be something like me in some way."
- "I want to feel like it's an extension of me."
- "Since it's me but in a different form, I would like to feel connected when I see the digital version."

2. Creativity and Self-Expression

Some respondents enjoy the creative possibilities offered by a digital self, where they can experiment with appearance and style. For them, connection to the digital self is important, as it allows them to express different aspects of their personality in new and imaginative ways.

Example Responses:

- "It's cool to try out things you perhaps wouldn't in real life, but I wouldn't want to get too attached."
- "In parts, yes. But a digital space allows one to be more creative when expressing themselves."
- "I want to expand the ideas of fashion digitally that are not possible financially."

3. Concern About Losing Touch with Reality

Several respondents express concern about becoming too connected to their digital self, fearing it could blur the lines between real life and the digital world. They worry that overattachment to a digital identity could negatively impact their real-life experiences and sense of self.

Example Responses:

- "I wouldn't want to feel as though I was becoming too enamored with something digital."
- "There is a danger of blurring the lines between real life and digital life."
- "I don't want to develop any low-level split personality disorder."

4. Indifference or Lack of Interest

Some respondents express indifference toward feeling connected to their digital self. They either don't see the point in creating a digital avatar or don't believe it would evoke strong emotions.

Example Responses:

- "I don't care about having a digital self."
- "I don't really have any desire to have a digital self."
- "I don't see a need to feel connected to a digital representation of myself."

5. Separation of Digital and Physical Identity

Many respondents prefer to keep their digital self distinct from their real identity, using it as a creative outlet or a way to explore different personas without feeling emotionally attached. They want a clear boundary between their physical and digital lives.

Example Responses:

- "I don't feel the need to be connected to an artificial being as it has no feelings or consciousness."
- "I think the online avatar should simply be an avatar. Once you place a connection behind it, it starts to become more than it actually is."
- "I see it more like a toy to be creative with rather than something to connect with."

6. Pragmatic and Context-Dependent Connection

Some respondents express a desire to feel connected to their digital self in specific contexts, such as professional or shopping environments, where the digital version serves a practical purpose. In these cases, connection is important for ensuring that the avatar accurately reflects their real-life appearance or intentions.

Example Responses:

- "If the importance of digital personas grows, it's important to feel connected to them to feel accountable."
- "I want it to look like me to see what digital shopping or fashion would look like."
- "I would need to feel connected to it if it's a representation of myself in a professional setting."

7. Skepticism or Uncertainty About the Concept

Many respondents express uncertainty about what it means to feel connected to a digital self or struggle to understand the concept. They are unsure if they would want or need such a connection, often due to a lack of experience with digital avatars.

Example Responses:

- "I'm not sure what the question means, but I tend to prioritize connection with other human beings."
- "I'm confused by the previous question."

- “I haven’t explored this concept enough to know if I would want to feel connected.”

8. Automatic Connection Through Personal Creation

- Some respondents believe that because they are responsible for creating their digital self, they would naturally feel some level of connection to it. This sense of connection comes from the personal effort and creativity involved in the design process.
- **Example Responses:**
- “I guess since it is my digital self, I would automatically feel connected in some ways.”
- “I would feel connected because I put my own creativity into its creation.”
- “If I designed the avatar and picked the clothes, then I think a connection is inherent.”

9. Avatars as a Tool for Exploration

Several respondents view their digital self as a tool for exploring new aspects of identity, style, or behavior. While they want to feel somewhat connected to their avatar, they see it primarily as a way to experiment with possibilities they can’t realize in real life.

Example Responses:

- “It’s fun to see me in a digital world, but I don’t want to become too attached.”
- “It could inspire me to try new things or get out of my comfort zone.”
- “A digital self is a representation of me, but it’s more about creativity and exploration.”

10. Connection as a Reflection of Digital Engagement

Some respondents acknowledge that they already engage with a form of digital self on social media and other online platforms. For them, feeling connected to their digital self would be a natural extension of their existing digital identity.

Example Responses:

- “We already are different versions of ourselves across platforms, like Instagram and LinkedIn.”
- “I have made friends using my digital identity, so yes, I do feel connected.”
- “My digital self is still a part of me, even if they don’t know me in real life.”

Summary

In summary, the responses reveal varied perspectives on the importance of feeling connected to a digital self. While some see it as an extension of their real identity and value that connection, others prefer to maintain a clear separation between their digital and physical lives. Many respondents are open to creative expression through a digital self but

are cautious about becoming too attached to a virtual persona. Additionally, some are indifferent to the concept or uncertain about its relevance to their lives.

Question 27-28: Do you think that buying digital fashion could or has changed your consumption habits? Please could you explain your answer to the previous question

1. No Impact on Physical Consumption

Many respondents believe that digital fashion will not change their consumption habits, particularly because they see it as a separate entity that complements rather than replaces physical fashion. They continue to value physical clothes and don't think digital garments can meet their everyday needs.

Example Responses:

- "I view digital fashion as a separate and complementary aspect of my style expression."
- "I still need to wear clothes in real life, so I don't think it will change my habits."
- "It won't change my physical consumption habits."

2. Potential to Reduce Physical Consumption

Some respondents feel that digital fashion has the potential to reduce the need to buy physical garments, especially for one-time occasions or for experimenting with new styles. They believe it could curb impulse purchases or reduce waste from buying clothes they won't wear frequently.

Example Responses:

- "It could mean I would buy something elaborate digitally that I wouldn't buy physically because I know I wouldn't wear it."
- "It may make me buy fewer physical items, but it will supplement my consumption in another area."
- "I might buy less physical products, but I'm unsure if that's the way I would like it."

3. No Interest in Digital Fashion

A significant number of respondents express disinterest in digital fashion altogether, stating that it doesn't appeal to them or align with their lifestyle. For these individuals, digital fashion is unlikely to impact their consumption habits because they don't see a reason to engage with it.

Example Responses:

- "I haven't bought any digital fashion and don't plan to."
- "I don't see a need to buy digital fashion items."
- "I prefer real clothes and have no interest in digital fashion."

4. Skepticism About Its Relevance

Some respondents are skeptical about the relevance or practicality of digital fashion in their lives. They acknowledge its potential but don't feel it's currently integrated enough into their daily lives or networks to significantly change their consumption habits.

Example Responses:

- "I don't think digital platforms are able to fulfill my need for fashion display."
- "I don't think I'm in a stage of life where my network engages significantly online."
- "It's difficult to conclude because I haven't purchased digital fashion yet."

5. Interest in Trying Digital Fashion

Several respondents express curiosity about the potential of digital fashion and are open to exploring it in the future. They see it as a way to experiment with fashion, potentially leading to changes in how they approach physical consumption.

Example Responses:

- "I haven't bought digital fashion yet, but I'm open to it."
- "I think it has the potential to influence consumption habits, but I would need to try it first."
- "It's an evolving area, so I'm keeping an open mind about its future relevance."

6. Digital Fashion as a Tool for Experimentation

Some respondents view digital fashion as a way to experiment with styles they wouldn't commit to in real life. This could lead to fewer physical purchases if they feel they can satisfy their desire for novelty through digital experimentation.

Example Responses:

- "It could allow me to try things I wouldn't buy physically."
- "For physical garments I'm unsure about, I might buy a digital version first."
- "It allows me to experiment with styles without wasting clothes I grow tired of."

7. Concerns About Overconsumption

A few respondents worry that digital fashion could lead to overconsumption, particularly if it encourages constant purchasing of digital items. For them, it could simply transfer the habit of buying too much from the physical realm to the digital one.

Example Responses:

- "It's still fueling my need for new things."
- "I would worry I'd forget what I bought digitally when I can't physically see them."
- "The urge to consume isn't reduced but only transferred to the digital world."

8. Separation Between Digital and Physical Worlds

Several respondents emphasize that they view the digital and physical worlds as separate,

meaning their digital fashion purchases won't affect their physical consumption. They see digital fashion as an additional layer of their fashion experience, not something that will replace physical garments.

Example Responses:

- "My need for digital fashion and physical fashion are unrelated."
- "Physical and digital worlds are separate for me."
- "I prefer to express myself in the real world, so I think my habits will remain the same."

9. Potential for Environmental Benefits

Some respondents mention the potential environmental benefits of digital fashion, as it reduces the need for material production. They see it as a possible way to reduce waste and overproduction, but they remain cautious about whether it will lead to real changes in consumption.

Example Responses:

- "It could decrease overproduction and reduce environmental impact."
- "Maybe I would buy more digital fashion as it doesn't have the same environmental impact."
- "I limit my physical consumption to be environmentally conscious, so digital fashion might help with that."

10. Limited Interest Based on Lifestyle

Some respondents express that digital fashion is not relevant to their lifestyle, particularly if they aren't active in digital environments like gaming or social media. Without a strong online presence, they don't see digital fashion playing a role in their consumption habits.

Example Responses:

- "I don't have much of an online presence, so digital fashion wouldn't affect me."
- "I'm not into gaming or virtual worlds, so it wouldn't change how I shop."
- "I prefer to invest in real-life experiences rather than online."

11. Impact on Specific Audiences

A few respondents note that digital fashion might be more relevant to certain audiences, such as those involved in gaming or influencers. For these groups, digital fashion could have a more significant impact on consumption habits.

Example Responses:

- "My son buys skins in games, so I see how digital fashion could influence younger audiences."
- "I think it's targeted at specific audiences that have the time and resources to engage with it."

- “If I was playing Animal Crossing again, I might engage more with digital fashion.”

12. No Experience with Digital Fashion

Many respondents indicate that they haven’t bought digital fashion yet, making it difficult for them to assess its impact on their consumption habits. They remain open to the possibility but feel they need more experience with it to form a clear opinion.

Example Responses:

- “I haven’t bought digital fashion, so I can’t say.”
- “I’m not sure how it would affect my consumption because I haven’t tried it yet.”
- “I haven’t indulged in purchasing digital items.”

Summary

In summary, the responses reflect a spectrum of opinions on how digital fashion could affect consumption habits. Some believe it has the potential to reduce physical purchases, while others see it as a complementary or separate aspect of fashion that won’t impact their current habits. Many are open to trying digital fashion but remain cautious about its long-term relevance and whether it will lead to more conscious consumption or simply fuel a new form of overconsumption.

Appendix 33: DRESSX Before and After Images

PARTICIPANT 1



BEFORE **AFTER**

PARTICIPANT 2



BEFORE



AFTER

PARTICIPANT 3



BEFORE



AFTER

PARTICIPANT 5



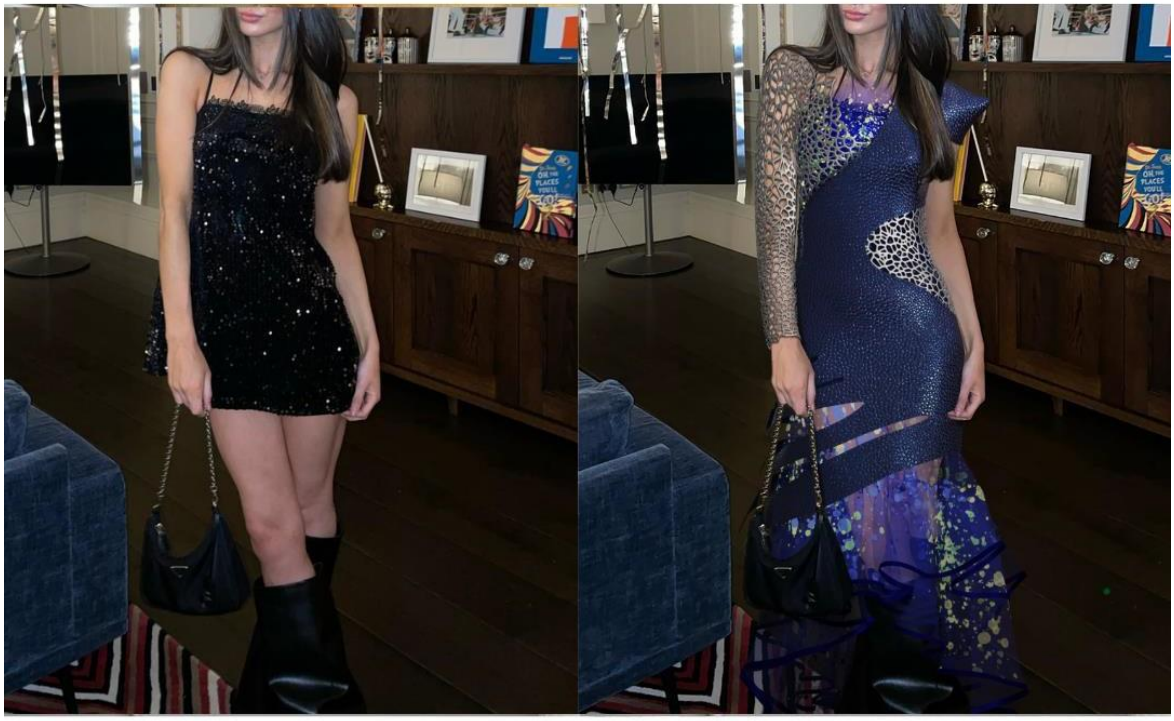
BEFORE **AFTER**

PARTICIPANT 8



BEFORE **AFTER**

PARTICIPANT 10



BEFORE **AFTER**

PARTICIPANT 11



BEFORE **AFTER**

PARTICIPANT 13



BEFORE **AFTER**

PARTICIPANT 14



BEFORE



AFTER

PARTICIPANT 15



BEFORE **AFTER**

PARTICIPANT 16



BEFORE **AFTER**

PARTICIPANT 17



BEFORE **AFTER**

Appendix 34: Comparison of attitudes and sustainability page visits (DRESSX)

P	Sustainable Consumption Attitudes & Behaviours	Time visited Sustainability section on DRESSX (minutes.seconds)
1	*I think it's extremely important (Participant 1 – Initial Interview, Pos. 18)*	11.08
2	*So, it's incredibly important. And I would like to think that my behaviour matches my attitude (Participant 2 – Initial Interview, Pos. 18)*	4.09

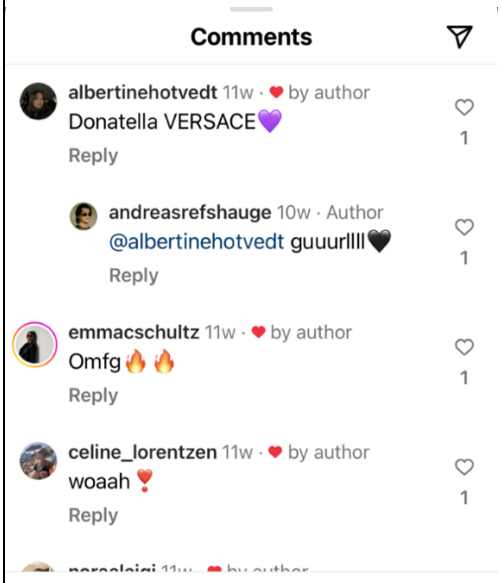
3	*I've always been aware that it's easier said than done in some circumstances (Participant 3 – Initial Interview, Pos. 14)* *So I think I'm a bit definitely more conscious. (Participant 3 – Initial Interview, Pos. 14)*	-
4	*I will say like sustainable will be the third reason that I will like, go to buying vintage clothes... not the first reason for me. (Participant 4 - Part 1- Initial Interview, Pos. 18)*	-
5	*I use Vinted to buy pretty much everything like I like it's worked out so much cheaper, almost every time. And also then, like is so much more ethical and sustainable. (Participant 5- Part 1- Initial Interview, Pos. 14)*	-
6	*It sort of has become ingrained in me (Participant 6- Initial Interview, Pos. 14)*	-
7	*I mean, it is quite important (Participant 7- Initial Interview, Pos. 18)*	-
8	*It's quite important... Obviously, it's like affordability is a factor but I try not to shop at fast fashion place (Participant 8 - Initial Interview, Pos. 30-32)*	-

9	*Um, I think it's important to me, to a certain degree, I wouldn't say that it's the most important thing to me. (Participant 9 - Initial Interview, Pos. 16)*	-
10	*I'm gonna be honest, like it is very important but just at like my age... Obviously to buy into sustainable items it does cost a bit more like money (Participant 10- Initial Interview, Pos. 33)*	-
11	*Sustainability is really important (Participant 11- Initial Interview, Pos. 15)*	9.4 & 16.52
12	*It is important. I do try not to shop with fast fashion as much (Participant 12- Initial Interview, Pos. 24)*	-
13	*It's definitely extremely important (Participant 13- Initial Interview, Pos. 12)*	14.24
14	*To be honest, I'm very conscious about it. I try my best to improve my shopping habits. So I try to shop less. (Participant 14- Initial Interview, Pos. 12)*	4.06
15	*I don't buy anything that is not thrifted anymore. So sustainability as a whole, whether it's, you know, environment or just ethical questions, it's pretty, pretty important. I (Participant 15- Initial Interview, Pos. 32)*	-

16	*It's really important to me, but I also think, because of my choice of education, it has really helped (Participant 16- Initial Interview, Pos. 12)*	-
17	*...kind of have like, waves in regards to how important sustainability is to me when I'm like choosing fashion and stuff (Participant 17- Initial Interview, Pos. 12)*	-
18	It's became more of an importance I think over the last two three years (Participant 18- Initial Interview, Pos. 8)	-

Appendix 35: Netnographic findings from participants who shared DRESSX images on social media relating to Transparency.

P	Quotations	Social Media Posts and Comments
1	*'I think a lot of people thought it was real. I didn't think it looked real. Maybe because I knew but I think if it looked real I would post it because it's super cool.'* (P1 - Follow up Interview, Line 25)	P1 stories comments: 
5	*'I want to like kind of emphasize the fact that it's digital because I think that's a really cool*	P5 feed and caption:

	concept. And I don't think many people know about that... But part of me was also like, Oh, I wonder if I just didn't say and what people would think, because to me, I saw it and I was like, Oh yeah, looks like a digital dress. I saw it straight away but then I don't know if other people necessarily would have' (P5 - follow up, Line 32)	
16	*'I didn't want people to like at the image and see the caption and be like, Oh, this fake so I wanted to not say this is DF and stuff, but I still tagged DRESSX. I didn't get any comments from like anyone saying this is fake and you don't own this coat.'* (P16 - follow up interview, Line 44)	P16 post and caption:  P16 Feed Comments: 

17	*'Yeah, I did tag DRESSX on it and I did add hashtags saying sustainable and DF and all that kind of thing. Because I wanted to be transparent about it.'* (P17 - follow up interview, Line 38)	P17 post and caption:  P17 Feed Comments: 

Appendix 36: Terms and conditions for Model-Client Contract

Issued in accordance with the Department of Employment Regulations 1973, the Agency's booking confirmation form, containing the specific terms of the booking, must be signed and returned by the client. The failure to sign and/or return the booking confirmation form whilst

proceeding with the booking will be deemed to be an acceptance by the client of these terms and conditions and they shall apply to and govern the booking between the Agency and the client.

Any amendment and/or variations made to the booking confirmation form by the client shall not be valid and binding unless the Agency has agreed to such amendment and/or variation in advance and confirmed such agreement by signing the booking confirmation form after the amendment and/or variation has been included on the booking confirmation form.

terms and conditions for booking models

Issued by xxxxxx Limited registration number [xxxxxx] whose registered address is at xxxxxx (the "Agency")

1. **agreement**

Unless and until the booking confirmation form, containing the specific details of the booking, is signed by the client and returned to the Agency, all negotiations relating to the booking of the talent are strictly subject to contract.

The signed booking confirmation form together with these terms and conditions, the data processing agreement contained in Schedule 1 of this agreement ("Data Processing Agreement") and the Agency's privacy policy ("Privacy Policy") shall form the entire agreement between the client and the Agency relating to each booking (together, the "Agreement").

The failure to sign and/or return the booking confirmation form whilst proceeding with the booking will be deemed to be an acceptance by the client of the terms of the Agreement which shall apply to, bind the parties and govern the booking between the Agency and the client.

Any amendment and/or variations made to the booking confirmation form by the client shall not be valid and binding unless the Agency has agreed to such amendment and/or variation in advance and confirmed such agreement by an authorised representative of the Agency signing the booking confirmation form after the amendment and/or variation has been included on the booking confirmation form.

In the event of any inconsistency or contradiction between these terms and conditions and the booking confirmation form, the Data Processing Agreement or the Privacy Policy, these

terms and conditions shall prevail and bind the parties.

2. **booking fees**

2.1 Permitted use

Booking fees provide an entitlement and right for the client to use one image via a single published medium (unless otherwise agreed in the booking confirmation form) from the date of the booking, in the United Kingdom only, for the duration and purposes specified in the booking confirmation form ("Permitted Use"). For the avoidance of doubt, the Permitted Use does not include the right for the client to:

2.1.1 materially change the image in any way (including, for example, changing the clothing and / or superimposing outfits onto the talent's image);

2.1.2 make any changes to the image other than the necessary minor touch ups and minor editing;

2.1.3 use the image for any future campaigns;

2.1.4 use or edit the image in a way that would usually require a reshoot or new campaign shoot (including, for example, digitally generating images based on the original image and / or manipulating the image to modify it beyond the scope of what is acceptable to the Agency);

2.1.5 create or use an avatar (being a computer or artificially generated image) of the talent; and / or

2.1.6 licence the image to a third party for use or allow a third party to use the image in any way,

and the Agency does not consent to any of the above. If the client wishes to use the image in any of the above ways or beyond the scope of the Permitted Use, it will not do so without the prior written consent of the Agent, subject to such additional terms and conditions as the Agency may impose (including the payment of additional fees for the same).

If the client breaches the scope of the Permitted Use in any way, it shall indemnify the Agency in full against all costs, expenses, damages and losses suffered or incurred by the Agency and/or the talent (including but not limited to all legal costs and expenses on a full

indemnity basis) arising out of or in connection with any breach by the client of this section 2.1 and / or section 3.1 below and any damage suffered by the Agency and/or any claim brought by the talent against the Agency for any damage suffered by the talent as a result of such circumstances. This includes, but is not limited to, indemnifying the Agency for the fees which would have been payable by the Client for a new booking which covers the new scope of the required permitted use.

Please note the rights granted in this section 2.1 are strictly subject to prompt payment in full of all fees owed to the Agency prior to the image's first use.

2.2 Working hours and Overtime

Fees are charged by the day or by the hour. A 'day' is an 8-hour period (including one hour for lunch) between 9am and 6pm (e.g. 9am-5pm or 10am-6pm). An extra hour between 9am and 6pm is charged at the normal rate. The appropriate overtime rate is charged before 9am and after 6pm. Overtime is charged at one-and-a half times the hourly rate. Saturdays are charged at one-and-a half times the hourly rate and Sundays or Bank Holidays are charged at double the hourly rate. Any booking which is over 5 hours will be charged at the day rate as set out in the booking confirmation form.

2.3 Travel

Any time spent by the talent travelling to or from a client's venue will be charged at half the hourly rate. This applies to any travel outside of a five mile radius of Hyde Park Corner (i.e. Chiswick in the west, Golders Green and Highgate Village in the north, Mile End in the east, Streatham Hill and Tooting Bec in the south).

2.4 Fitting fees

Any time spent by the talent for fittings is charged at half the applicable talent's hourly rate.

2.5 Additional expenses

All expenses incurred by the Agency on the clients' behalf will be charged to the client and will include an uplift of 12.5% of the total amount of the expenses.

2.6 Location bookings

2.6.1 When a location booking is made, a client must provide safe and appropriate transport

for the talent both to the booking location and back again unless agreed otherwise. If the client fails to provide such transport then the Agency shall be entitled to re-charge the cost of the transport procured for the talent in accordance with this section 2.6. If the talent on location is prevented from returning to London to work, half the daily fee will be charged to and payable by the client for each day that the talent is unable to return to London to work.

2.6.2 When a location booking is made, the client will undertake an appropriate and prudent health and safety assessment of the location and shall notify the Agency of any potential risks and how these have been mitigated in accordance with good industry practice and applicable law. The client acknowledges and agrees that at all times the talent's health and safety is of paramount importance and shall ensure that the highest standards of health and safety are complied with whilst on any location bookings.

3. **additional fees**

All additional fees are to be agreed at the time of the booking or before any additional usage in accordance with section 3.1.

3.1 Additional usage

Additional fees are payable for the right to use the talent's image or reproductions, or adaptations of, or drawings derived from that image (including as set out in the exclusions in section 2.1), or any other representation of it, either complete or in part whether alone or in conjunction with any wording or other images, photographs, drawings or anticipated purposes which are in addition to and outside the scope of the Permitted Use, details of which are set out in the booking confirmation form, e.g. packaging, point of sale, posters etc. For the avoidance of doubt, additional fees are payable for the right to use the talent's image or reproductions, or adaptations of, or drawings derived from that image (including as set out in the exclusions in section 2.1), or any other representation of it, either complete or in part whether alone or in conjunction with any wording or other images, photographs, drawings online or in any digital media including but not limited to on all social media platforms.

Unless otherwise agreed and set out in the booking confirmation form, the additional fees cover the right to use one image for the Permitted Use (again, subject to the exclusions set out in section 2.1 above). Under no circumstances will each additional usage fee be less than the talent's advertised day rate as determined by the Agency unless determined otherwise by the Agency in its absolute discretion.

3.2 Territory

Additional fees are also payable, and subject always to the Agency's prior consent, for the right to use the talent's image or reproductions etc, as set out in section 3.1 above for all known or anticipated territories other than the United Kingdom. Unless otherwise agreed the additional fees cover the right to use one image for the Permitted Use in the territory or territories agreed and stipulated on the booking form.

3.3 Other services

Additional fees are also payable for other services to be supplied by the talent, either as part of a booking or as requested by a client on a shoot, for example, personal appearances for PR purposes and posting images on the talent's own social accounts and media feeds. Fees for such services will be negotiated on a case by case basis between the client and the Agency. The client shall only be permitted to shoot behind the scenes footage on the basis of an agreement in writing in advance and a payment of an additional fee agreed pursuant to this section 3.3 and subject to compliance with section 11.1.

3.4 All modifications, extensions and renewal of bookings shall be at the sole discretion of the Agency.

4. **agency fees**

4.1 All bookings

Both the Agency fees and talent disbursement will be invoiced by the Agency. Unless otherwise agreed at the time of booking the talent disbursement is 63.33% and the Agency fee is 36.67% of the invoice total.

4.2 Value added tax (VAT)

All sums payable under the Agreement are exclusive of VAT and any other similar or equivalent taxes or duties which shall be payable in full without set off by the client.

5. **invoicing**

5.1 On all invoices payment is required to be made by the client within 30 days of the date of the invoice. In all cases, the person booking the talent is the client, who will be invoiced and solely responsible for payment, unless otherwise agreed in writing at the time of

booking. The Agency reserves the right in its discretion to invoice the 'ultimate client', (e.g. designer/ manufacturer/owner of the product in question). For example, this may be done if the client is booking on behalf of the ultimate client, in which case the client and the ultimate client are jointly and severally liable to pay all of the fees and settle the invoice accordingly. All fees for usage are for the right to use the talent's image and, once agreed, are payable whether or not the right is exercised. Unless the Agency specifically agrees otherwise, in writing, no usage for the talent's image is permitted until the Agency has received payment in full. The Agency reserves the right to alter payment terms if it deems appropriate, prior to booking.

5.2 If the client fails to pay in full on the due date any amount which is payable to the Agency, without prejudice to any other right or remedy of the Agency, the amount outstanding shall bear interest both before and after any judgment at five per cent per annum over Barclays Bank plc base rate from time to time from the due date until up to and including the date that payment is made in full and such interest shall be compounded and accrued on a daily basis.

5.3 In the event the client is providing the services on behalf of or to a third party end user, in entering into the Agreement the client is acting in its capacity as the agent of the third party end user and the client shall ensure that the third party end user:

5.3.1 enters into an agreement with the client on the same terms as the Agreement;

5.3.2 acknowledges its obligations to the Agency including but not limited to the obligation to pay the Agency within 30 days of the date of any invoice received from the Agency; and

5.3.3 acknowledges that the third party end user may not use the images until payment is received by the Agency and that at all times the third party end user is subject to any restrictions as to use of the images including but not limited to territorial restrictions and restrictions as to media in which the images may be used.

5.4 Any fees received by the client from the third party end user relating to any of the rights or benefits conferred on the client by the Agreement shall be deposited in a designated Agency account by the client (the Third Party End User Fees). The Third Party End User Fees shall be held on trust for the Agency as beneficiary until such time as all outstanding fees owed by the client are paid in accordance with the terms of the Agreement.

Unless otherwise agreed in the booking confirmation form the talent is supplied to the client by the Agency on a non-exclusive basis and the talent shall be free to provide similar and/or competing services to any third party and/or competing product or brand of the client. An additional fee will need to be agreed when the use of the talent's image or the service to be supplied by the talent in relation to a product is required on an exclusive or semi-exclusive (for example sector specific or territorial exclusivity) basis which precludes supplying services or allowing the use of the talent's image for competing and/or particular sector of products or within a particular territory. The talent can supply services to and allow use of the talent's image by any competitor unless such an exclusivity fee is negotiated and paid by the client. It is the client's responsibility to carry out any research, check and determine for itself whether the talent supplied has undertaken or is booked to undertake any conflicting work.

7. **provisional bookings**

Provisional bookings will be automatically cancelled if they are not confirmed by the client (by signing and returning the booking confirmation form) within 24 hours of the proposed booking.

8. **cancellations and termination**

8.1 Cancellation of booking by the client

8.1.1 Within 24 hours of the booking call time the full booking fee will be charged and payable by the client unless the same talent is booked within 24 hours of the cancellation in which case half the booking fee will be charged and payable by the client.

8.1.2 Outside 24 hours of the booking call time but within 48 hours of the booking call time of the booking date then half the booking fee will be charged and payable by the client.

8.1.3 The full booking fee will be charged and payable by the client for bookings of more than three days duration: within a period equal to or less than the length of the booking, then Saturdays, Sundays and bank and public holidays are excluded for the purpose of determining the cancellation notice period.

8.2 Cancellation of booking by the Agency

replacement and/or substitute and take such other reasonable steps as are reasonably practicable to mitigate against such cancellation.

8.2.2 In any event the Agency shall be entitled to cancel a booking at any time and for any reason prior to the booking date without liability to the client and the client will procure the necessary insurance cover with a reputable insurance provider to protect against such cancellation and any associated liability and the Agency shall not be liable to the client for any costs incurred as a result of such cancellation.

8.3 The client acknowledges, accepts and agrees the talent is independent and self-employed and is not a worker. The talent has a right to control entirely the manner in which they perform each booking which may involve the talent requiring a substitute who attends and/or performs the booking. The client acknowledges the need to procure appropriate insurance, including as set out at section 19, in this regard.

8.4 This Agreement shall immediately and automatically terminate on completion by the talent of the services specified in the Booking Confirmation Form and the use of any ongoing rights (if any) granted strictly in accordance with the Agreement terms, unless terminated earlier by the Agency in accordance with section 8.5 below.

8.5 The Agency may terminate this Agreement immediately on written notice to the client without liability to the Agency, and the client will procure the necessary insurance cover with a reputable insurance provider to protect against such termination and any associated liability and the Agency shall not be liable to the client for any costs incurred as a result of such termination, in the following circumstances:

8.5.1 there are sums owing to the Agency by the client under this Agreement and such sums are not paid by the client within 14 days of the due date for payment;

8.5.2 the client commits any other material breach of any of its obligations under this Agreement;

8.5.3 any meeting of creditors of the client is held or any arrangement or composition with or for the benefit of its creditors (including any voluntary arrangement as defined in the Insolvency Act 1986) is proposed or entered into by or in relation to the client (other than for the purpose of a bona fide reconstruction or amalgamation);

8.5.4 a supervisor, receiver, administrator, administrative receiver or other encumbrancer takes possession of or is appointed over or any distress, execution or other process is levied

or enforced (and is not discharged within seven days) upon the whole or any substantial part of the assets of the client;

8.5.5 the client ceases or threatens to cease to carry on business or is or becomes unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986;

8.5.6 a petition is presented, or a meeting is convened for the purpose of considering a resolution, for the making of an administrative order, the winding-up, bankruptcy or dissolution of the client; and/or

8.5.7 any event analogous to any of the foregoing occurs in any jurisdiction.

9. **weather related cancellations**

On the first occasion of cancellation due to weather related conditions half the booking fee is charged and payable by the client unless the client fails to cancel in time to prevent the talent's attendance in which case the full booking fee is charged and payable by the client. On the occasion of the second cancellation due to weather conditions and any subsequent cancellations the full booking fee is charged and payable by the client.

10. **meals**

Clients are responsible for the provision of all nutritious meals and beverage requirements of all talent (taking into account dietary requirements) whilst the talent is providing services to the client on all bookings.

11. **talent care and safety**

11.1 Nude, semi-nude, see-through, bathing suit or lingerie photography require the express prior written approval of the Agency. The use of the talent's image must not be directly or indirectly scandalous, pornographic, derogatory, or a cause of ridicule or embarrassment to the talent. The image must not be altered or distorted.

11.2 Subject to the restrictions in sections 3.3 and 11.1, behind-the-scenes filming is permitted on condition that the talent is hair-and-make-up ready.

11.3 The client shall be solely responsible for ensuring the talent is treated with respect and professionalism, and that all necessary steps are taken to ensure the safety, health and wellbeing of the talent is protected, at all times by the client and/or any third parties engaged

by the client in relation to the delivery of the services. Such steps shall include without limitation:

11.3.1 ensuring that the venue for the provision of the services and the working conditions are entirely safe and secure and maintained at a suitable temperature and allow the talent to provide the services in compliance with all health and safety best practice, standards, regulations, codes and laws;

11.3.2 allowing the talent to take suitable and regular rest periods, to ensure the talent is able to maintain suitable amounts of rest and refreshment whilst delivering the services;

11.3.3 ensuring that all of the third parties engaged by the client in relation to the delivery of the services are suitably qualified, experienced and professional and treat the talent in a professional and respectful manner;

11.3.4 ensuring that no one imposes upon the talent any action, activity or environment which is either dangerous, degrading, unprofessional, unsafe and/or demeaning to the talent;

11.3.5 ensuring that the services are delivered and the talent is treated in accordance with The British Fashion Model Agents Association Code of Conduct and/or any other codes of practice or guidance issued by the Agency and/or the British Fashion Council from time to time;

11.3.6 providing the talent with an appropriate changing and dressing area to ensure that the talent can prepare for the provision of the services and also maintains his/her/their privacy; and

11.3.7 always include a credit in the form of “talent’s name” @ “the Agency”, wherever a credit is applied.

11.4 For the avoidance of doubt and notwithstanding the remainder of this Agreement, nothing in this Agreement provides permission to the client or the talent’s consent to its personal data and personally identifiable information being used (unless agreed otherwise in writing with the Agent).

11.5 The provisions of this section 11 shall, as applicable, survive expiry or termination of this Agreement.

12. **morality and non degradation**

12.1 The client shall ensure any brand(s) for which it requires the talent to perform any services shall not create any association nor undertake any action which does or which has the potential to bring the Agency and/or the talent into disrepute, nor cause any damage to and/or degrade the reputation and/or goodwill associated with the Agency and/or the talent, by reason of that brand or activities associated with the brand prior to or during the term of this Agreement:

12.1.1 engaging in or being associated with any immoral, illegal, inappropriate, demeaning, discriminatory or degrading behaviour; and/or

12.1.2 being brought into disrepute for any reason whatsoever; and/or

12.1.3 receiving negative coverage in the press, on social media or any other media for whatever reason.

12.2 If the Agency and/or talent consider the client's behaviour breaches the provisions of section 12.1, the Agency shall have the right to terminate this Agreement in accordance with section 8.5.2.

13. **warranties**

13.1 The client warrants and represents to the Agency that:

13.1.1 it has full capacity to enter into the Agreement and perform its obligations under the Agreement;

13.1.2 the booking form is executed by a duly authorised representative of the client;

13.1.3 it will take all steps necessary to ensure that the talent is protected and treated in accordance with all applicable laws, good industry practice and section 11 above;

13.1.4 it has all necessary permits, licences and consents to enter into and to perform its obligations under the Agreement and such obligations shall be performed in compliance with all applicable laws, enactments, orders, regulations, and other similar instruments (including but not limited to any employment law or health and safety requirements in effect from time to time); and

13.1.5 it will promptly disclose to the Agency in writing all necessary information (including without limitation the location and length of the shoot and requirements for any foreign travel) and details relating to the provision of the services to enable the Agency to ensure that the talent is suitably prepared and able to perform the services.

14. **indemnity**

14.1 The client shall indemnify the Agency and keep the Agency indemnified against all costs, expenses, damages and losses suffered or incurred by the Agency and/or the talent (including but not limited to all legal costs and expenses on a full indemnity basis) arising out of or in connection with:

14.1.1 any breach by the client of the Agreement, including but not limited to, any breach by the client of section 6, 8,11 and 12 of these terms and conditions;

14.1.2 any breaches of section 11.3 by any third parties engaged by the client;

14.1.3 any damage suffered by the Agency and/or any claim brought by the talent against the agency for any damage suffered by the talent as a result of the circumstances specified in clause 12.1;

14.1.4 any claim brought by a third party against the Agency in circumstances where, as a result of the client's acts or omissions, the distribution of images, in whatever form, outside of the agreed territory and in breach of the Agreement has caused the Agency to be in breach of the terms of an exclusive agreement with such third party; and

14.1.5 any breach by the client of any applicable laws and regulations including but not limited to any breach of applicable health and safety or employment laws and regulations as amended from time to time.

15. **fashion shows**

Catwalk bookings provide the client with the right to make use of the talent's services on the catwalk for the specified show in accordance the Agreement, and the right to allow photographers to be present to take photographs and videos of the show on the basis that all such material (or reproductions etc. as set out in section 3.1) is exploited for reporting purposes only. The client is responsible for ensuring that all photographers present are aware of and comply with this condition and the client will procure that they abide by these conditions. If any other usage is required (included, but not limited to, look books, e-

commerce and broadcasting and/or live streaming of the specified show) it must be negotiated and agreed with the Agency at the time of the booking.

16. **music videos, promotional films**

All fees will be negotiated, structured and paid by the client on a case by case basis. In normal circumstances there will be a fee for the shoot plus an additional buyout fee payable by the client. If not booking direct, the client (usually the music company) will be invoiced by the Agency as the ultimate client (see section 5).

17. **test and experimental photography**

When the Agency agrees to allow a photographer to take test or experimental photography the photographer is not entitled to use, or allow others to use, test and/or experimental photographs or test commercials for commercial purposes unless specific arrangements have been made and agreed in writing before the photographic session.

18. **intellectual property rights**

18.1 The photographer and/or the client and anyone obtaining rights from or through the photographer/client is not entitled to use any images for any usage beyond the Permitted Use, or any another usage agreed or permitted in accordance with under sectio ns 2.1, 3, 15, 16 and 17. The client will procure that the photographer/client agrees to restrict the use and exploitation of the copyright content of the photograph or any other intellectual property rights. If the client is not the photographer, the client shall draw the terms of the Agreement to the attention of the photographer and procure his agreement to such terms before the shoot commences.

18.2 All rights not expressly granted to the client under the Agreement are hereby fully reserved to the Agency and/or the talent as appropriate. In particular, the client acknowledges and agrees that the Agency is the owner or licence holder of all commercial rights and intellectual property rights relating to the talent and the Agency and the client shall not be entitled to exploit or enter into any commercial or other agreement to exploit any rights relating to the talent or the Agency other than the rights specifically granted to the client under the Agreement.

18.3 For the avoidance of doubt, notwithstanding anything in the Agreement, including but not limited to any grant of exclusivity over the use of the images, the client acknowledges and agrees that the Agency and the talent may use the images (or reproductions etc. as set

out in section 3.1) resulting from any booking in any form whatsoever for the following purposes:

18.3.1 in order for the talent and the Agency to promote the talent and in the search of future booking opportunities for the talent; and

18.3.2 for internal and promotional purposes.

Subject to the remainder of section 18, the talent and the Agency acknowledge and agree not to exploit the images for commercial purposes, other than as set out in the Agreement.

19. **liability and insurance**

19.1 No party excludes or limits its liability under the Agreement for:

19.1.1 death or personal injury caused by its negligence;

19.1.2 fraudulent misrepresentation; or

19.1.3 any other type of liability which cannot by law be excluded or limited.

19.2 Subject to section 19.1, the Agency limits its liability under the Agreement, whether such liability arises in contract, tort (including without limitation negligence) or otherwise, so that the maximum liability of the Agency for all claims under the Agreement shall be limited to and shall not in aggregate exceed the total amount of the fees paid or payable to the Agency;

19.2.1 the Agency shall not be liable for:

(a) loss of business, use, profit, anticipated profit, contracts, revenues, goodwill or anticipated savings;

(b) product recall costs;

(c) failure by the talent to attend a booking for whatever reason;

(d) a decision by the talent to require a substitute who attends and/or performs the booking;

(e) damage to the client’s reputation; or

(f) consequential, special or indirect loss or damage;
(g) even if the Agency has been advised of the possibility of such loss or damage

19.3 The client shall effect and maintain (and shall require its ultimate client, if any, to maintain), throughout the continuance of the Agreement, insurance policies which provide appropriate coverage adequate enough to cover all liabilities and risks of the client that may arise under the Agreement and any insurance cover it is required to place in accordance with applicable law. Such insurance policies shall include without limitation:

19.3.1 cancellation insurance to protect against the potential liabilities which the Agency and the client may incur as a consequence of the provisions of sections 8 and 9;

19.3.2 employee liability insurance, as required by the Employer's Liability (Compensation Insurance) Act 1969 and otherwise, which covers all talent delivering the services to the client under the client's direction and control as if the talent was an employee of the client, in an amount sufficient to cover the health and safety and future earnings of such talent;

19.3.3 public liability insurance to a level of not less than £10 million and

19.3.4 travel insurance to cover the activities of the talent whilst travelling to and from the location of the services.

20. **contract and authority**

All matters relating to the use of the talent's image and commercial modelling rights, any other services supplied by the talent and all fees must be negotiated and agreed only with the Agency. The client shall not attempt to negotiate, nor allow others to negotiate, with the talent directly. If the client or the photographer or any other person on their behalf or connected with them obtains the talent's signature on any document or the talent's purported verbal agreement to anything outside of the scope of the Agreement, such signature or verbal agreement shall not constitute a variation of the Agreement and is not binding on the talent or the Agency unless and until it is agreed in writing by the Agency (such agreement to be determined in the Agency's absolute discretion).

21. **complaints and disclaimer**

Any cause for complaint must be reported to the Agency by the client as soon as it arises. Complaints cannot be considered and/or dealt with effectively after the services have been

delivered. Whilst the Agency will use reasonable endeavours to ensure that the talent provides a satisfactory and efficient services to clients, as the agent, the talent is self-employed and the Agency cannot be held responsible for a talent's conduct or behaviour whilst delivering the services and in this regard the Agency shall not be held liable for any costs, expenses or losses suffered as a consequence of the behaviour or conduct of the talent.

22. **force majeure**

The Agency shall not be liable to the client for any delay in performing or failure to perform any of its obligations under the Agreement which is due to any cause beyond its control and which is unknown to, and cannot reasonably be anticipated by the Agency including without limitation fire, floor or catastrophe, acts of God, insurrection, workforce action, war or riots, (an "**event of force majeure**") and the Agency's obligations under the Agreement shall be suspended for so long as the Event of Force Majeure continues and to the extent that it is so delayed.

23. **data protection**

23.1 In this section the following definitions apply:

23.1.1 the terms "data controller", "data processor", "data subject", "processing" and "personal data" bear the respective meanings given to them in the Data Protection Act 1998 (the "Act") and, from the date on which it comes into force in the UK and for so long as it is in force, the General Data Protection Regulation (Regulation (EU) 2016/679) (the "GDPR"), and "data protection principles" means the eight data protection principles set out in Schedule 1 to the Act and the data protection principles set out in the GDPR (as applicable);

23.1.2 data includes personal data;

23.1.3 "Consent" means a freely given, specific, informed and unambiguous indication of an individual's consent recorded in writing;

23.1.4 "Data Subject Access Request" means a request from a data subject relating to their personal data pursuant to the rights granted under the applicable Data Protection Legislation;

23.1.5 "Good Industry Practice" means the exercise of that degree of skill, diligence, professionalism, prudence, foresight and management which would be expected from a

market leading skilled and experienced operator engaged in the same type of undertaking under the same or similar circumstances; and

23.1.6 Sensitive Personal Data" has the meaning given in the Act; and

23.1.7 "Talent Personal Data" means any personal data (including Sensitive Personal Data) relating to the talent.

23.2 Each party shall comply with all applicable data protection and privacy laws and regulations, including, without limitation, the provisions of the applicable Data Protection Legislation and not by any act or omission put the other party in breach of them in connection with the Agreement.

23.3 For the purposes of the Agreement, the parties acknowledge, accept and agree the Agency is the data controller and the client is the data processor.

23.4 Where the Agency transfers Talent Personal Data and/or other personal data to the client, the client warrants and represents it shall:

23.4.1 ensure it has implemented appropriate and effective technical and organisational measures to protect such data against unauthorised or unlawful processing and accidental loss or damage;

23.4.2 where necessary and/or applicable provide full and open co-operation and prompt assistance to the Agency, and ensure it has the appropriate technical and organisational measures in place, to enable the Agency to comply with any valid Data Subject Access Request without delay (and at the latest within 14 days of receipt of the Data Subject Access Request);

23.4.3 where necessary and/or applicable, provide full co-operation and assistance to the Agency to ensure the Talent Personal Data and/or other personal data is deleted without delay in response to a valid request from a data subject;

23.4.4 where necessary and/or applicable, provide full co-operation and assistance to the Agency in ensuring the Talent Personal Data and/or other personal data is up to date, complete and accurate;

23.4.5 maintain accurate and detailed internal records of all processing and (where applicable) storage of the Talent Personal Data and/or other personal data (and make such

records available to the Agency and/or the relevant supervisory authority for the purposes of an investigation), demonstrating compliance with the data protection principles including but not limited to specifying the relevant conditions for processing the Talent Personal Data and/or other personal data (including but not limited to obtaining relevant and up to date Consents) and specifying and recording the fair and lawful purposes for which the Talent Personal Data and/or other personal data is being processed;

23.4.6 ensure that access to the Talent Personal Data is limited to those employees or authorised third parties who reasonably require access to the Talent Personal Data pursuant to the Agreement and that all employees and authorised third parties are informed of the confidential nature of the Talent Personal Data. If the client subcontracts or grants access to the Talent Personal Data pursuant to this section 23.4.6, the client shall ensure that such authorised subcontractors or employees enter into an agreement with the client containing data protection provisions on terms at least as onerous as this section 23;

23.4.7 not, by any act or omission, put the Agency in breach of, or jeopardise any registration under, any Data Protection Legislation and/or any applicable laws;

23.4.8 not transfer the Talent Personal Data and/or other personal data to countries outside the European Economic Area;

23.4.9 in the event of any breach of the applicable Data Protection Legislation, the client shall:

a) immediately and fully notify the Agency in writing of any notices in connection with the processing of any of the Talent Personal Data and/or other personal data;

b) provide such information and assistance as the Agency may reasonably require, including in relation to any notifications to the national data protection authority;

c) take all necessary precautions to preserve the integrity of any Talent Personal Data and/or other personal data which it processes and to prevent any corruption or loss of such data; and

d) in such event and if attributable to any default by the client promptly restore the data at its own expense or, at the Agency's option, promptly reimburse the Agency for any expenses it incurs in having the data restored by a third party.

23.5 The client shall indemnify the Agency against all liabilities, costs, expenses, damages

and losses (including any direct, indirect or consequential losses, loss of profit, loss of reputation and all interest, penalties and legal and other reasonable professional costs and expenses) suffered or incurred by the Agency arising out of or in connection with any breach by the client of any of its obligations under this clause 23.

24. **interpretation of agreement**

24.1 For the purpose of the relationship between the client and the Agency the client acknowledges, accepts and agrees that the Agency is the supplier of services which shall be strictly and exclusively governed by the Agreement. The terms of the Agreement apply to every offer, quotation, acceptance, purchase order, confirmation order, specification and/or contract for the sale and supply of services or goods (including services ancillary thereto) by the Agency and supersede any other terms of the client and take precedence over and override and exclude any other terms stipulated or incorporated or referred to by the client whether in the booking confirmation form or in any negotiations and any course of dealing established between the Agency and the client. The client acknowledges that there are no representations, statements or promises made or given by or on behalf of the Agency outside the Agreement which have induced the client to enter into these terms and conditions (which expression shall include any contract of which the Agreement forms part).

24.2 If there is any conflict or inconsistency between any of the terms of the Agreement, this shall be resolved according to the following numbered order of priority:

24.2.1 where such conflict relates to data protection provisions, priority shall be as follows:

1) the Data Processing Agreement;

2) the Privacy Policy; and

3) the clauses these terms and conditions as they apply to data protection (including but not limited to clause 23 (Data Protection); and

24.2.2 subject to clause 24.2.1, priority shall be as follows:

1) the clauses of these terms and conditions;

2) the Privacy Policy;

3) the Data Processing Agreement; and

4) the booking confirmation.

24.3 The booking confirmation, the Privacy Policy and the Data Processing Agreement form part of these terms and conditions and shall have effect as if set out in full in the body of these terms and conditions. Any reference to these terms and conditions includes the booking confirmation form, the Privacy Policy and the Data Processing Agreement.

24.4 For the purpose of the Agreement the words “agreed”, subject to section 1, means agreed in writing in the booking confirmation form and signed by duly authorised representatives of both the Agency and the client.

25. **general**

25.1 If any of the terms, conditions or provisions of the Agreement are determined by any competent authority to be invalid, unlawful or unenforceable to any extent, such term, condition or provision will to that extent, be severed from the remaining terms, conditions and provisions which will continue to be valid to the fullest extent permitted by law.

25.2 Any termination of all or part of the Agreement shall not affect the coming into force or the continuance in force of any provision of the Agreement which is expressly or by implication intended to come into force or continue in force on or after such termination.

25.3 Except as otherwise expressly provided in the Agreement, all representations, warranties, undertakings, agreements, covenants, indemnities and obligations made or given or entered into by the client and the ultimate client under the Agreement are assumed by them jointly and severally.

25.4 Nothing in the Agreement shall render any party a partner or agent of the other. Except as expressly permitted by the Agreement, nothing shall allow a party to purport to undertake any obligation on behalf of the other nor expose the other party to any liability nor pledge or purport to pledge the other’s credit.

25.5 No failure to exercise and no delay in exercising on the part of either party of any right, power or privileged under the Agreement shall operate as a waiver of it. Nor shall any single or partial exercise of any right, power or privilege preclude the enforcement of any other right, power or privilege. Nor shall the waiver of any breach of a provision be taken or held to be a waiver of the provision itself. For a waiver to be effective it must be made in writing.

25.6 Except as and to the extent expressly otherwise specified in the Agreement, the rights and remedies contained in the Agreement are cumulative and are not exclusive of any rights or remedies provided by law or elsewhere in the Agreement.

25.7 The parties agree to keep, and to instruct its agents, employees, advisers and sub-contractors with knowledge hereof to keep the Agreement strictly private and confidential and not to disclose any details relating to the same, subject to disclosure in the following circumstances

(a) to enable enforcement of the party's rights under the Agreement;

(b) with the prior written consent of the other party; and

(c) as required by any applicable law.

25.8 The terms of the Agreement constitutes the entire agreement between the parties and supersedes any previous agreement or arrangement between the parties relating to the subject matter of the Agreement.

25.9 No variation or amendment to the terms of the Agreement shall be valid and binding unless in writing and signed by an authorised representative of each party.

25.10 Except where the Agreement expressly provides otherwise, a person who is not a party to the Agreement has no right under the Contracts (Rights of Third Parties) Act 1999 to enforce any term of the Agreement but this does not affect any right or remedy of a third party which exists or is available apart from under that Act. The client acknowledges, accepts and agrees that the Agency has entered into the Agreement for the benefit of itself and the talent and accordingly the talent shall be entitled to enforce the Agreement conditions as if he/she/they were a party to the Agreement.

25.11 The provisions of this Agreement which are expressly or impliedly intended to survive the termination or expiry of this Agreement shall survive such termination or expiry including but not limited to clauses [11, 14, 19, 21, 23 and 25.12].

25.12 Subject to section 25.10, the parties agree that the Agreement and its provisions will be governed by and construed in accordance with English law and the parties hereby submit to the exclusive jurisdiction of the English Courts. Notwithstanding section 25.10, the parties to the Agreement agree that the Agency may enforce its rights under the Agreement in any other court of competent jurisdictions outside of the courts of England and Wales.

Date

schedule 1 data processing agreement

For the purposes of the Data Protection Legislation, the parties hereby acknowledge and agree the client is the data processor ("Processor") and xxxxxx Limited is the data controller (Controller").

This Data Processing Agreement (the "Agreement") sets out the basis on which the Processor shall process the Controller Personal Data pursuant to the Principal Agreement (as such terms are defined in Annex 1).

Unless otherwise stated, all defined terms have the meaning given in Annex 1 (Definitions and Interpretation).

1. **acceptance**

This Agreement shall be accepted when the Processor signs the Booking Confirmation and shall be incorporated into and form part of the Principal Agreement subject to the terms herein. The failure to sign and/or return the Booking Confirmation form whilst proceeding with the booking will be deemed to be an acceptance by the client of the terms of this Agreement.

2. **authority to process controller personal data**

2.1 The Controller hereby instructs the Processor (and authorises the Processor to instruct each Subprocessor) to process the Controller Personal Data strictly in accordance with the terms of this Agreement.

2.2 The Processor may process the Controller Personal Data from time to time in the course of performing its obligations under the Principal Agreement, as set out in the Principal Agreement, and the necessary purposes of the processing ("Agreed Purposes") as set out in therein (as may be amended from time to time) shall set out the Processor's instructions for processing.

2.3 The Processor shall not process the Controller Personal Data other than for the Agreed

Purposes, and in accordance with the Principal Agreement.

2.4 The Processor shall process the Controller Personal Data strictly in accordance with the applicable Data Protection Legislation and using an approach which at all times accords with Good Industry Practice and Applicable Law.

3. **termination and suspension**

3.1 This Agreement shall automatically and immediately terminate on expiry or earlier termination of the Principal Agreement.

3.2 In addition to the Controller's rights of termination under the Principal Agreement, the Controller may terminate the Principal Agreement if the Controller reasonably determines that:

3.2.1 the Processor has committed a material breach of this Agreement, or, if requested by the Controller, has failed to remedy such material breach within the reasonable time specified by the Controller; or

3.2.2 the Controller needs to do so to comply with Data Protection Legislation or Applicable Law.

3.3 The Controller may immediately suspend access to the Controller Personal Data by the Processor if the Processor is not complying fully with the terms of this Agreement.

3.4 The Processor's obligations under this Agreement will survive expiration or termination of the Principle Agreement for so long as the Processor continues to process the Controller Personal Data.

4. **security and confidentiality**

4.1 Taking into account the state of the art, the costs of implementation and the nature, scope, context and purposes of processing as well as the risk of varying likelihood and severity for the rights and freedoms of natural persons, the Processor shall in relation to the Controller Personal Data implement appropriate technical and organisational measures to ensure a level of security appropriate to that risk, including, as appropriate, the measures referred to in Article 32(1) of the GDPR.

4.2 In assessing the appropriate level of security, the Processor shall take account in

particular of the risks that are presented by processing, in particular from a personal data breach.

4.3 The Processor shall ensure access to the Controller Personal Data is limited to those employees or authorised subcontractors who need access to the Controller Personal Data to meet the Processor's obligations under the Principal Agreement and that all employees and authorised subcontractors are informed of the confidential nature of the Controller Personal Data and the terms of this Agreement.

5. **personal data breaches**

5.1 The Processor shall notify the Controller without undue delay upon becoming aware of a personal data breach affecting the Controller Personal Data, providing the Controller with sufficient information to allow the Controller to meet any obligations to report or inform data subjects and/or the relevant supervisory authority of the personal data breach under the Data Protection Legislation.

5.2 The Processor shall co-operate with the Controller and take such steps as are directed by the Controller to assist in the investigation, mitigation and remediation of each such personal data breach.

6. **data protection impact assessment and prior consultation**

The Processor shall provide active and proactive assistance to the Controller with any data protection impact assessments, and prior consultations with supervisory authorities or other competent data privacy authorities, which the Controller reasonably considers to be required under the applicable Data Protection Legislation.

7. **data subject rights**

7.1 Taking into account the nature of the processing, the Processor shall assist the Controller by implementing appropriate technical and organisational measures for the fulfilment of the Controllers' obligations to respond to requests for exercising the data subject's rights under the Data Protection Legislation.

7.2 Without prejudice to the generality of clause 7.1, the Processor shall:

7.2.1 promptly notify the Controller if the Processor receives a request from a data subject under any Data Protection Legislation in respect of the Controller Personal Data; and

7.2.2 ensure it does not respond to that request except on the documented instructions of the Controller or as required by any Applicable Law to which the Processor is subject, in which case the Processor shall to the extent permitted by the Applicable Law inform the Controller of that legal requirement before the Processor responds to the request.

8. **deletion or return of controller personal data**

8.1 Subject to clauses 8.2 and 8.3, the Processor shall promptly and in any event within fourteen (14) days of the date of cessation of any Services (the "Cessation Date"), delete and procure the deletion of the Controller Personal Data and all existing copies maintained on any media.

8.2 Subject to clause 8.3, the Controller may in its absolute discretion by written notice to the Processor within seven (7) days of the Cessation Date require the Processor to:

8.2.1 return a complete copy of all Controller Personal Data to the Controller by secure file transfer in such format as is reasonably notified by the Controller to the Processor; and

8.2.2 delete and procure the deletion of all other copies of the Controller Personal Data.

The Processor shall comply with any such written request within fourteen (14) days of the Cessation Date.

8.3 The Processor may retain the Controller Personal Data to the extent required by any Applicable Law, and only to the extent and for such period as required by such Applicable Law, provided always the Processor shall ensure the confidentiality of all such Controller Personal Data and shall ensure that such Controller Personal Data is only processed as necessary for the purpose(s) specified in the Applicable Laws requiring its storage and for no other purpose.

8.4 The Processor shall provide written certification to Controller that it has fully complied with this Clause 8 within fourteen (14) days of the Cessation Date.

9. **audit rights**

The Processor shall make available to the Controller on request all information necessary to demonstrate compliance with this Agreement, and shall allow for and contribute to audits, including inspections, by the Controller or an auditor mandated by the Controller in relation

to the processing of the Controller Personal Data by the Processor.

10. **restricted transfers**

10.1 The Processor shall not transfer the Controller Personal Data to countries outside the EEA unless the Processor obtains the prior written consent of the Controller and in seeking such consent, complies with the following obligations:

10.1.1 provides the Controller with details of the following in writing:

(i) the Controller Personal Data which will be processed and/or transferred outside the EEA;

(ii) the country or countries in which the Controller Personal Data will be processed and/or to which the Controller Personal Data will be transferred outside the EEA; and

(iii) any Subprocessor who will be processing and/or transferring Controller Personal Data outside the EEA;

10.1.2 ensures it has regard to and shall comply with Applicable Laws and the current government and Information Commissioner Office's policies, procedures, guidance and codes of practice on, and any approval processes in connection with, the processing and/or transfers of the Controller Personal Data outside the EEA and/or overseas generally; and

10.1.3 complies with such other instructions and shall carry out such actions as the Controller may notify in writing including entering into Standard Contractual Clauses.

11. **subprocessing**

11.1 The Controller authorises the Processor to appoint (and permits each Subprocessor appointed in accordance with this clause 11 to appoint) Subprocessors strictly in accordance with this clause 11 and any restrictions in the Principal Agreement.

11.2 The Processor may continue to use those Subprocessors already engaged by the Processor as at the date of this Agreement, subject to the Processor as soon as practicable meeting the obligations set out in clause 11.4.

11.3 The Processor shall give the Controller prior written notice of the appointment of any new Subprocessor, including full details of the Processing to be undertaken by the Subprocessor. If, within seven (7) days of receipt of that notice, the Controller notifies the

Processor in writing of any objections to the proposed appointment, the Processor shall not appoint (nor disclose any Controller Personal Data to) the proposed Subprocessor except with the prior written consent of the Controller.

11.4 With respect to each Subprocessor, the Processor shall:

11.4.1 before the Subprocessor first processes Controller Personal Data, carry out adequate due diligence in accordance with Good Industry Practice to ensure the Subprocessor is capable of providing the level of protection for the Controller Personal Data required by the Principal Agreement;

11.4.2 ensure the arrangement between the Processor and Subprocessor is governed by a written contract including terms which offer at least the same level of protection for the Controller Personal Data as those set out in this Agreement and meet the requirements of article 28(3) of the GDPR; and

11.4.3 provide to the Controller for review such copies of the Processors' agreements with Subprocessors (which may be redacted to remove confidential commercial information not relevant to the requirements of this Agreement) as the Controller may request from time to time.

11.5 The Processor shall ensure that each Subprocessor performs the applicable obligations under this Agreement, as they apply to processing of Controller Personal Data carried out by that Subprocessor, as if it were party to this Agreement in place of the Processor.

11.6 The Processor shall be liable for any failure of the Subprocessor to comply with its obligations pursuant to clause 11.5, and shall fully indemnify and keep fully indemnified the Controller against any and all actions, costs, claims, demands, damages, expenses (including legal fees), liabilities, losses and proceedings in connection with any failure of the Subprocessor to comply with its obligations pursuant to clause 11.5.

12. **general terms**

12.1 Nothing in this Agreement reduces the Processor’s obligations under the Principal Agreement in relation to the protection of personal data or permits the Processor to process (or permit the processing of) personal data in a manner which is prohibited by the Principal Agreement.

12.2 Save as set out in clause 1, the Principal Agreement shall remain unaltered in all other respects.

12.3 In the event of inconsistencies between the provisions of this Agreement and the data protection provisions of:

12.3.1 any other agreements between the parties (including, but not limited to, clause 22 (Data Protection) of the Principal Agreement); and

12.3.2 agreements entered into or purported to be entered into after the date of this Agreement (except where explicitly agreed otherwise in writing, signed on behalf of the parties),

the provisions of this Agreement shall prevail.

12.4 The Controller may propose any amendments to this Agreement which the Controller reasonably considers to be necessary to address the requirements of any Data Protection Legislation. The Processor shall promptly co-operate (and ensure that any affected Subprocessors promptly co-operate) with any such variations.

12.5 No person who is not a party to this Agreement shall have any right to enforce this Agreement (or any agreement or document entered into pursuant to this Agreement) pursuant to the Contracts (Rights of Third Parties) Act 1999.

12.6 The Processor shall fully indemnify and keep fully indemnified the Controller against any and all actions, costs, claims, demands, damages, expenses (including legal fees), liabilities, losses and proceedings arising in connection with any breach by the Processor of any of its obligations under this Agreement.

12.7 Should any provision of this Agreement be invalid or unenforceable, then the remainder of this Agreement shall remain valid and in force. The invalid or unenforceable provision shall be either (i) amended as necessary to ensure its validity and enforceability, while preserving the parties' intentions as closely as possible or, if this is not possible, (ii) construed in a manner as if the invalid or unenforceable part had never been contained therein.

12.8 Without prejudice to any other rights or remedies that the Controller may have, the Processor acknowledges and agrees that damages alone would not be an adequate

remedy for any breach of the terms of this Agreement by the Processor. Accordingly, the Controller shall be entitled to the remedies of injunction, specific performance or other equitable relief for any threatened or actual breach of the terms of this Agreement.

12.9 No failure or delay by a party to exercise any right or remedy provided under this Agreement or by law shall constitute a waiver of that or any other right or remedy, nor shall it prevent or restrict the further exercise of that or any other right or remedy. No single or partial exercise of such right or remedy shall prevent or restrict the further exercise of that or any other right or remedy.

12.10 This Agreement and any dispute or claim (including non-contractual disputes or claims) arising out of or in connection with it or its subject matter or formation shall be governed by and construed in accordance with the law of England. Each party irrevocably agrees that the courts of England shall have exclusive jurisdiction to settle any dispute or claim (including non-contractual disputes or claims) arising out of or in connection with this agreement or its subject matter or formation.

annex 1 definitions and interpretation

In this Agreement, the following terms shall have the meanings set out below:

“Affiliate" means an entity that owns or controls, is owned or controlled by or is or under common control or ownership with the Processor, where control is defined as the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of an entity, whether through ownership of voting securities, by contract or otherwise;

“Agreed Purposes” has the meaning given in clause 2.2.

“Applicable Law” means any statute, statutory provision or subordinate legislation (including that statute, statutory provision or subordinate legislation as amended, modified, consolidated, re-enacted or replaced and in force from time to time, and including any previous statute, statutory provision or subordinate legislation amended, modified, consolidated, re-enacted or replaced by such statute, statutory provision or subordinate legislation) whether before or after the date of this Agreement and including, without limitation, the Data Protection Legislation;

“Booking Confirmation” means the booking confirmation form, containing the specific details of the talent booking.

"Controller Personal Data" means any personal data processed by the Processor on behalf of the Controller pursuant to or in connection with the Principal Agreement;

"mData Protection Legislation" means (as applicable) the Data Protection Act 1998, the GDPR, and the Privacy and Electronic Communications Regulations (SI 2426/2003) as amended and/or updated from time to time and including all statutory instruments, orders, regulations or other subordinate legislation made pursuant to such legislation and the Information Commissioner's guidance and advice on the GDPR as amended from time to time, and to the extent applicable, the data protection or privacy laws of any other country;

"EEA" means the European Economic Area;

"GDPR" means EU General Data Protection Regulation 2016/679;

"Good Industry Practice" means the exercise of that degree of professionalism, experience, skill, diligence, prudence and foresight which would reasonably and ordinarily be expected from a highly skilled and experienced market leading processor engaged in the same type of undertaking under the same or similar circumstances;

"Principal Agreement" means The TERMS AND CONDITIONS FOR BOOKING TALENT between The Controller and Processor;

"Services" means the specific services and other associated activities to be supplied to or carried out by or on behalf of the Processor pursuant to the Principal Agreement;

"Standard Contractual Clauses" means the standard contractual clauses as issued by the European Commission from time to time; and

"Subprocessor" means any person (including any third party and any Affiliate, but excluding an employee of the Processor or any of its sub-contractors) appointed by or on behalf of the Processor to process Controller Personal Data in connection with the Principal Agreement.

The terms "controller", "data processor", "data subject", "member state", "personal data>", "personal data breach", "processing" and "supervisory authority" shall have the same meaning as in the applicable Data Protection Legislation.

February 2023

Appendix 37: MY DIGITAL HUMAN MODEL

A CODE OF CONDUCT FOR AGENCIES AND CLIENTS – A STATEMENT OF A MODEL'S RIGHTS

('Digital Version' means Digital Human or Avatar and all data included).

Purpose of this document

This document can be used as a resource for Model, Agency, and Client(s)

Model Statement & Rights

As a working Fashion Model within the fashion industry, I require these 10 Model's rights are met to help move towards a safe, secure and transparent development of digital Models. I request that my agency present these Model's rights when a client indicates that a digital scan of the Model will be taken.

1. **TRANSPARENCY**

I have the right to be aware, at all stages, of the terms, creation and use of my digital version.

2. **REPRESENTATION**

My digital version is an extension of my identity and profession. Therefore, I wish to be digitally represented in a way with which I feel morally, ethically and artistically aligned.

3. **SECURITY**

I trust that all parties, including agency and client, are responsible and ensure my personal data is stored securely and in accordance with any applicable laws and regulations.

4. **EXPLOITATION**

I will not, under any circumstances, allow my personal data nor a representation of my physical self be exploited in a digital form, except as approved in writing by me, or my agency with my approval.

1. **PERMITTED USE/USAGE**
2. My digital version can only be used within the terms of the booking confirmation agreed by my agency. I trust that my agency is acting on my behalf to ensure these conditions are met.

2. DATA PROTECTION

3. Where my personal data is captured and used, all parties will comply with data protection and privacy laws and regulations in all territories, including but not limited to GDPR and other relevant data protection law.

4. MISUSE

Any digital version of me that is misused in any way by any party will be deemed a breach of contract and I can demand that the usage ceases and the content be taken down. My digital version(s) cannot exist beyond me unless stated otherwise by me or my next of kin.

5. VALUE

I understand that my digital version is an imitation of my physical self. However, as it is a product of me, the digital version has value and should be valued accordingly by all parties in order to support a fair, ethical, and sustainable industry.

6. OWNERSHIP

I appreciate the complexity of owning my digital version. However, if I cannot currently own my digital version within the contract terms, I trust all parties to respect our Agreement and to undertake to transfer copyright and ownership rights in the data to me at the end of the usage term.

7. AUTONOMY

I must always maintain the position to make informed, independent and uncoerced decisions on my own accord, or by my parental guardian in whom I trust.

Supporting Document

1. **Transparency**

1.1 The Model requests agencies must check/be made aware if the job requires a digital scan of a Model and must inform the Model of the uses to be made of the scan and gain their consent before confirming the job.

1.2 Agencies must advise Models that, if a Model turns up to a job and the client asks to scan them or wishes to use a type of technology of which they are not aware or don't understand, the Model must immediately call their agency.

3. Further, the Model retains the right to say no to being scanned or created into an avatar / digital human, and/or to the processing of their biometric data.
4. The Model requests that all agencies must update their T&Cs to include protection and usage terms for the Model's digital version and the Model's data.

2. **Representation**

1. Models must be able to approve as to how he/she is represented as a digital human or avatar.
2. No client can adapt or change the digital version without the Model's consent and in line with the way they wish to be represented. This includes changing body type, facial details or expressions, colour of skin, actions and types of clothes to which consent has not been given.
3. No client can make the digital version speak without the Model's consent. This includes the use the digital scan of the Model to create a hybrid avatar themselves, by generative AI technology or to commission a third party to do so without the prior written consent of the Model or the Agency – in each case this must be discussed between the parties before consent is given.

3. **Security**

1. All data associated with my digital version must be secured in compliance with standard GDPR data protection practices (Article 6) and my agency must be satisfied that it meets the data protection requirements. This must be clearly stated in writing in email or contract.
2. The Model agrees that my digital version can be stored and protected by the client and any technology company who has created the digital version, up until the end of the agreed usage period and thereafter solely for archival and reference purposes. I understand, however, in certain circumstances, I can exercise their "right to be forgotten" under Article 17 (Right to Erasure) of the UK GDPR and can request the deletion of my digital version and all associated data.

4. **Exploitation**

1. The Model agrees that, on my behalf, the agency retains the right to store and protect the Model's special category data for as long as is necessary to safeguard the interests of the Model.

Commercial information relating to bookings shall be retained in the event of future usage. It is acknowledged that an agent might retain certain personal, contact, imagery & financial information. The same would apply to special category data relating to a particular avatar

booking. Dependent upon the agency's GDPR terms, if requested by the Model or the Model leaves the agency, they retain the 'right to be forgotten' and can request that the data be deleted. This would negate future usage rights.

2. The client, technology company or agency cannot send the Model's digital version to any third-party company outside the agreed terms of the booking. The client must make the Model aware of all stakeholders involved in the project and the same rule applies regarding storage.
3. The digital version must not be used outside the terms of the contract. The Model entrusts the agency to value the digital version based upon term duration, the usage requested by the client, the medium(s) in which the digital version will be used and specifying a maximum quantity of products displayed on my digital version.

1. **Permitted use**
2. Clients may use the digital version subject to the terms of this document within any medium, (such as e-commerce, social, metaverse), within the territory, duration and purposes specified and contractually agreed by the agency within the Booking Confirmation, and on the Model's behalf.

1. A client does not have right to:
2. Adapt or change the digital version that is not acceptable and/or outside of the conditions set by the Model.
3. Use the digital version in a manner not set out in the usage terms.
4. Use the image in a way that is, or likely to be, directly or indirectly defamatory, discriminatory, scandalous, pornographic, derogatory, or a cause of ridicule or embarrass.
5. Use the digital version to create another avatar (being a computer or artificially generated image, including deepfake)
6. The Client must not license or transfer the image to a third party for use or allow a third party to use the image in any way, if not stated within the Booking Confirmation.
7. The Client may permit a third party to use an image only where the following conditions are satisfied and agreed by the agency, on behalf of the Model.

8. Data protection

1. The Client:

1. acknowledges that its activities under this agreement will result in it processing personal data (and potentially special category data) relating to the Model, including images of the Model; and
2. confirms that it will be the data controller of the Model's Personal Data which it

processes in the course of the performance of this agreement

2. the Talent expressly withholds their consent to:

1. any other processing of Model's Personal Data by or on behalf of the Client or any person acting under its consent or licence; and
2. any processing of Model's Personal Data by any other person.
3. The Client acknowledges that the Model has significant personal interest in controlling the use, manipulation and dissemination of Model Image Data outside the Permitted Purpose, and also acknowledges and represents to the Model that it has and will have no legitimate interest which would outweigh those interests of the Model in order to permit such use.
4. The Client will ensure it has implemented appropriate and effective technical and organisational measures to protect all Model Personal Data against unauthorised or unlawful processing and accidental loss or damage, and that any third party to whom it supplies Model Personal Data, or which is authorised to process Model Personal Data, has also implemented such measures.

5. **Misuse**

1. The client, technology company and agency must make all reasonable efforts to protect the data against any AI misuse, if possible, including data scraping, generative AI and deepfake applications whereby the Model's data may be used without consent.
2. If the Model's digital version is used in a way that is not in line with Model's consent, the digital version must be deleted, and use must cease immediately.
3. The Model's digital version cannot be used if the Model stops Modelling or is deceased, unless stated otherwise by the Model.

6. **Value**

8.1 A Model's image is their livelihood (whether this is an image of the real-life Model or the image
of a digital version that represents the real-life Model) and this needs to be reflected in the Model's fee.

2. The client must adhere to the negotiated terms of the Agreement and may not over-use the digital version to shoot more product than has been agreed by the agency.
3. Whilst the Model understands that the use of the digital version could ultimately represent a different fee structure, it is not in the Model's interests to accept significant use of their digital version for materially lower fees than their real-life work for the client. Therefore, the Model requires to be paid an agreed fee for the scan

plus the use of the digital version. Any use outside the contract will require the agency to negotiate a new fee.

7. **Ownership**

1. In principle, the Model asserts that it is necessary and correct that all data captured of them should be owned by them, given the personal nature of the data and the impact on their livelihoods.
2. Given the current legal landscape and the significant costs associated with creating a digital Model, the Model consents to the agency negotiating the terms of use of their digital version on their behalf. Once the contract is concluded, the client commits to ensuring that all copies of the digital version are deleted from all company systems, including back-ups. Should the Model wish to acquire ownership of copyright in the digital version at this point, it will be a matter for negotiation.
3. At the end of the contract term all copyright and ownership rights in the data must be transferred by the Client and any other relevant third parties to the Model or be deleted to avoid exploitation or misuse.

8. **Autonomy**

1. The Model must always maintain autonomy regarding the creation, use and deletion of their digital version. If anything should occur that does not represent the Model physically, morally, ethically, or politically, then the Model must always have authority, and this will be respected by all stakeholders.
2. In the case that the Model cannot make an informed and uncoerced decision, the parent/guardian must act upon their behalf.