[Original Article]

A study on the perception of the metaverse and luxury fashion brands

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Abstract

This study aims to analyze consumer perceptions of the metaverse platform and luxury fashion brands in relation to consumer lifestyles, thereby providing foundational data for future marketing strategies of fashion brands using the metaverse. A survey on the lifestyle and perceptions of the metaverse, as well as on luxury fashion brands, was conducted among 300 men and women between their 20s and 40s. Statistical analyses included frequency analysis, cross-tabulation, chi-square (χ^2) analysis, factor analysis, cluster analysis, one-way ANOVA, and Duncan's post-hoc test. Factor analysis of the participants' lifestyles revealed five distinct types: "Indifferent," "Social, individual, and leisure-oriented," "Trend-leading and brand-oriented," "Appearance and fashion-oriented," and "Self-improvement-focused and individualistic" types. The analysis of luxury fashion brand perceptions based on lifestyle types showed that the "Trend-leading and brand-oriented" type had higher awareness and preference for brands such as Gucci, Burberry, and Balenciaga, while the "Indifferent" type showed lower levels of awareness and preference. Regarding brand perception related to luxury fashion brand content experiences within the metaverse, Gucci, Burberry, and Balenciaga showed consistent results across all types. Specifically individuals classified under the "Trend-leading and brand-oriented" category exhibited higher awareness and preference for these brands within metaverse experiences, while those categorized as "Indifferent" displayed comparatively lower levels. Therefore, digital marketing strategies targeting consumers under the "Trend-leading and brand-oriented" category are expected to be highly effective for luxury fashion brands. This study is poised to contribute to the expansion of the marketing landscape within the metaverse virtual world for fashion.

Keywords: metaverse, luxury fashion brand, digital transformation, lifestyle

I. Introduction

Digital transformation in social, educational, cultural, and entertainment sectors is accelerating, ushering in the era of the metaverse—an extended virtual world in the real world. In this era of rapid change, luxury fashion brands are abandoning their long-standing traditions of limited accessibility and exclusivity and embracing innovative technologies.

Global luxury fashion brands are shifting from in-person marketing and communication to a non-face-to-face approach using the metaverse, in line with the digital age. This new communication marketing strategy encourages active consumer participation and effective promotion by sparking curiosity and interest (Cho & Chang, 2020; Park & Rhee, 2021; Um & Ko, 2022). Luxury fashion brands are analyzing contemporary consumer lifestyles and digitizing offline products to enable the purchase of products for avatars on metaverse platforms. This allows consumers to differentiate their avatar's style and experience the satisfaction of luxury ownership, similar to purchasing tangible luxury goods. Using the metaverse, luxury fashion brands are implementing digital marketing strategies that foster consumer relationships and potentially lead to actual product purchases. Gucci has launched various digital virtual collections, the Gucci Bee game, non-fungible tokens (NFTs), and Gucci Villa in collaboration with ZEPETO. Similarly, Louis Vuitton released "Louis: The Game" to celebrate the 200th anniversary of its founder's birth, seamlessly integrating the brand's story and also releasing NFTs. Burberry introduced its character in games and launched NFTs, and Balenciaga presented a new collection in the online game Fortnite (Kim & Kim, 2022; Kim & Lee, 2022; Park & Rhee, 2021).

Previous studies have explored cases of fashion brands using the metaverse (Lee & Kim, 2021), case studies on the virtual fashion industry through fusion with the metaverse (Park, 2021), case studies of fashion brand metaverse flagship stores (Kim, Hur, & Choo, 2022), development of metaverse avatar fashion designs (Shin & Yum, 2022), metaverse-related education (Han & Noh, 2021; Lim, 2022), proposals for metaverse online fashion mall app services (Jeon & Kim, 2022), and brand communication in the transmedia environment of the metaverse (Woo & Chang, 2021). Big data analysis has also been implemented to understand perceptions of metaverse fashion (Lim, 2023). Furthermore, there have been case studies on

the digital marketing strategies of luxury brands (Park & Rhee, 2021), case studies on the use of the metaverse in marketing changes within luxury fashion brands (Lee & Um, 2021), studies on the digital content artistry of luxury fashion brands (Cho & Chang, 2020), and metaverse fashion marketing case studies on global luxury fashion brands (Kim & Lee, 2022). However, research on consumer perceptions of the metaverse and luxury fashion brands is insufficient.

In line with the rapidly changing living environment in the metaverse era and the diversifying consumer needs, not only academia but also fashion brands need to investigate fashion brand perception and digital marketing strategies based on lifestyles such as consumer values and living behaviors. Therefore, this study aims to analyze consumer perception of the metaverse platform and examine consumer perception of fashion luxury brands according to lifestyle. This study analyzed the perception of the metaverse platform of adult male and female consumers in their 20s and 40s, and analyzed the perception of fashion luxury brands and the perception of metaverse content experiences according to lifestyle. The study results provide foundational data for fashion marketing strategies utilizing the metaverse. Additionally, it is expected to help expand the marketing domain of fashion in the metaverse virtual world and enhance understanding of the metaverse and luxury fashion brands.

Ⅱ. Theoretical Background

1. Metaverse

First used in Neal Stevenson's science fiction novel Snow Crash, the term "metaverse" is a compound of "meta," meaning "transcendence" and "universe" (Kim, 2020). The metaverse exists as a 3D online virtual space, where social, cultural, and economic activities occur, similar to the real world. The metaverse combines augmented worlds, virtual worlds, and digital spaces created through the internet to allow users to interact in a transcendent space (Choi &

Pyun, 2021).

The metaverse consists of four categories: augmented reality, virtual reality, life logging, and mirror worlds, based on two axes, "augmentation and simulation" and "internal and external" (Acceleration Studies Foundation, 2007). Among the four categories, the augmented and virtual reality-based worlds are digital spaces that either replicate or completely differ from reality, serving as extensions of the real world. These spaces allow for socio-economic activities through avatars and have evolved beyond games and leisure activities to enable actual revenue generation. Major platforms based on the metaverse include Fortnite, Minecraft, Roblox, Animal Crossing, and ZEPETO (Lee & Um, 2021).

The metaverse has recently garnered significant attention. It extends communication beyond the physical limits of time and space through the internet and digital media such as computers and smartphones, leading to its increased use by fashion brands. In this digital era, luxury fashion brands are engaging in new digital marketing communications using the metaverse, stimulating consumer curiosity and interest and driving active participation and effective promotion (Kim & Lee, 2022).

2. Luxury fashion brands and digital marketing

Luxury goods— typically from high-end foreign brands— include famous and exquisite products that give owners a sense of pride (Lee & Um, 2021). Customers of luxury brands tend to focus more on the symbolic elements of the brand than the product's quality or functionality, making emotional stimulation an effective means of enhancing the value of luxury brands. Therefore, luxury brands need to convey the emotion and story of their products, offering unique experiences tailored to the individual lifestyles and emotions of customers based on brand consistency (Kim & Kim, 2022; Lee, 2018). The meaning and value of luxury goods are evolving with time and culture, with fashion luxury brands analyzing current

lifestyles and altering their marketing strategies to cater to consumer needs. Luxury brands are digitalizing offline products, enabling consumers to purchase them on metaverse platforms; this leads to marketing effects where consumers develop an affinity for the brand and proceed to purchase actual products (Kim & Lee, 2022).

Furthermore, luxury fashion brands are releasing advergames, combining advertising and gaming, where games include the brand's advertising message (Cho, 2009; Lee & Um, 2021). Examples include "Gucci Bee," Louis Vuitton's "Endless Runner," and Burberry's "B Bounce." These advergames reduce brand rejection and foster familiarity through voluntary participation and rewards, while the entertaining nature of games sustains brand engagement. With these changes in the digital environment, luxury fashion brands are achieving successful outcomes with digital marketing strategies utilizing the metaverse (Kim & Lee, 2022).

Before 2000, marketing for luxury fashion brands primarily involved print media and product placement in films, using strategies that emphasized aristocratic images owing to conservative social attitudes and the remnants of class hierarchy. They targeted the upper echelons with aristocratic image-focused advertising, making the brand a subject of aspiration and using marketing strategies that made ownership feel like belonging to the upper class with a sense of superiority. However, with the Fourth Industrial Revolution, luxury fashion brands are utilizing innovative digital marketing strategies incorporating the latest technology. Digital marketing refers to the use of internet-based digital technology to promote products and services, encompassing all online marketing strategies and broadly including marketing through electronic devices or channels (Lee & Um, 2021; Park & Rhee, 2021). Luxury fashion brands are actively pursuing digital marketing strategies through platforms such as Instagram, Facebook, TikTok, and YouTube. The digital marketing strategies of luxury fashion brands

include social media marketing using hashtags, virality, and content on Facebook and Instagram; content marketing through blogs, podcasts, and YouTube; influencer marketing that leverages the impact of influencers with many followers or subscribers on social media; and live streaming marketing through video platform streaming channels (Kim & Lee, 2022; Lee & Um, 2021).

Gucci is a global luxury brand that actively incorporates the metaverse and gaming into its marketing, with simple arcade games, such as "Gucci Bee," which can be enjoyed on the Gucci mobile application (Fig. 1). This strategy also increases brand accessibility, leading consumers to purchase from the brand. Gucci's "Tennis Clash" game first introduced the characters' outfits and shoes before producing them as actual products. The game links directly to Gucci's online store, enhancing accessibility. This exploits the psychology of wanting to dress game characters in luxury items. Moreover, Gucci's "Surf" is an ocean environment protection game where players surf and collect plastic debris for points. It conveys a positive message of corporate social responsibility and uses game missions to familiarize players with the brand, guiding them toward online stores with high loyalty (Kim,

2022; Lee & Um, 2021). Gucci also collaborated with ZEPETO to create "Gucci Villa," set against the backdrop of Florence, Italy, where Gucci's headquarters is located. Users can experience trying on or purchasing digital fashion products for their virtual avatars on the Gucci Villa map. This utilizes virtual collection items that replicate actual products to convert them into sales. Additionally, Gucci uses social networking and events to provide opportunities to acquire Gucci items, creating a new culture in the metaverse environment that reflects content to express users' identities. Besides Gucci Villa, the company also introduced a virtual tour of "Gucci Garden" on the Roblox platform, capturing the atmosphere of Florence's Signoria Square (Fig. 2). The Gucci Garden virtual tour lets visitors explore boutiques, bookstores, and galleries with realistic sounds of footsteps, clocks, and birds, creating a feeling of actual visitation. The Gucci Garden virtual tour allows visitors to engage with Gucci's story and history (Jeong, 2020; Jung, 2021; Kim & Kim, 2022; Kim, 2022).

Burberry, under the leadership of CEO Angela Ahrendts, redefined its brand identity as a "digital media company," highly emphasizing digital marketing. True to its digital transformation strategy, Burberry

<Fig. 1> Gucci Bee
Reprinted from Yoon. (2019).
https://www.joongang.co.kr

<Fig. 2> Gucci Villa Tech Daily
Reprinted from Moon. (2021).
https://www.techdaily.co.kr

introduced an augmented reality app using Google's search technology, allowing customers to design and view digital products directly. Consumers can experience augmented reality by searching for certain Burberry products on Google with their smartphones, simulating an in-store experience (Kim & Kim, 2022; Park & Rhee, 2021). In 2021, Burberry collaborated with Mythical Games to introduce the NFT avatar "Sharky B" (Fig. 3) in the blockchain-based online game "Blankos Block Party." "Sharky B" wore a limited edition digital capsule collection adorned with Burberry monogram patterns, including a jetpack, pool shoes, and armbands, as part of the brand's marketing strategy to communicate with customers through virtual reality and gaming (Kim & Kim, 2022; Kim & Lee, 2022; Park, 2020). Additionally, to revamp its image from classic and outdated, Burberry launched products featuring the initials TB of Tomas Burberry and promoted the TB Summer Monogram collection through the online game "B Burberry Surf" (Fig. 4) on its official website, Farfetch, and WeChat. In this surfing competition game featuring Burberry characters, users can select characters dressed in Burberry collection items, TB monogram products, surfboards, and accessories. After the game, users can access the

online store pages for actual products through provided QR codes, allowing them to view real images and details of the products (Kim, 2022; Kim & Kim, 2022; Kim & Lee, 2022).
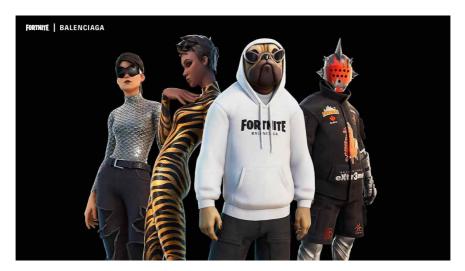
Balenciaga, using Epic Games' Unreal Engine, revealed their 21 F/W new collection in the self-produced game "Afterworld: The Age of Tomorrow," allowing users to move via avatars and observe products in 360°. Set in a futuristic city in 2031, the game proceeds with the concept of choosing a "Fighter" avatar. The game's backdrop appears as a world verging on devastation, but as hero avatars complete missions, the dystopia gradually finds balance in its storyline. Collaborating with Nikon, MRMC, and Microsoft, Balenciaga intricately depicted the products' forms, materials, and fitting backgrounds, along with clothing details, enhancing immersion and presence (Jack, 2020; Jung & Ko, 2023; Kim & Kim, 2022). Balenciaga introduced a new collection in the online game "Fortnite," wherein players can use Balenciaga's digital apparel and game items influenced by Balenciaga (Fig. 5). The brand's digital clothing and items were applied to popular Fortnite characters such as Doggo, Ramirez, Knight, and Banshee, attracting significant popularity. Along

<Fig. 3> Burberry's Sharky B
Reprinted from Ha. (2021).
https://tokenpost.kr

<Fig. 4> Burberry's B Surf
Reprinted from Blythe. (2020).
https://hero-magazine.com

<Fig. 5> Balenciaga x Fortnite
Reprinted from Suh. (2021).
https://gametoc.hankyung.com

with outfits, various accessories like pickaxes inspired by sneakers and gliders reflecting the design of Balenciaga handbags were also released. Alongside the digital apparel set, a community-centered live lookbook campaign was conducted in Fortnite's "Strange Time Hub." To commemorate the digital fashion collaboration with Fortnite, Balenciaga sold limited edition apparel items like hoodies, t-shirts, and hats. Such content enhances brand familiarity and immersion for the players (Kim, 2021; Kim & Kim, 2022; Lim, 2022; Steff, 2021).

As such, the traditional brand image of luxury fashion brands, previously aristocratic and classic and relying on print advertising and film product place-ment targeting a minority, is transitioning to digital marketing. This involves communication with the masses through digital communication channels spur-red by advancements in digital technology.

Ⅲ. Research Method

This study conducted an online survey from September 25 to 27, 2023, in the metropolitan areas of Seoul, Incheon, and Gyeonggi on lifestyles and perceptions of the metaverse and luxury fashion brands. Respondents were 300 men and women in their 20s to 40s who were familiar with the digital environment. The targeted fashion brands for the study, Gucci, Burberry, and Balenciaga, were selected based on their active collaboration with metaverse platforms as identified by Kim (2022), Kim and Kim (2022), and Kim and Lee (2022). Measurement items regarding consumers' lifestyles were developed based on Bang (2011), Jung (2015), and Lee (2007). Meas-urement items regarding perceptions of the metaverse and fashion brands were developed based on Jeon (2022), Kim (2022), and Park (2022). Surveys on perceptions of metaverse luxury fashion brands were conducted following experiences with digital market-ing strategies employed by the aforementioned luxury fashion brands, which utilize metaverse digital tech-nologies. These strategies include the "Gucci Villa" content experience in the Gucci Universe on the ZEPETO x GUCCI metaverse platform, Burberry's online game "B Surf," and Balenciaga's collaboration with the online game "Fortnite."

Data analysis was performed using IBM SPSS Statistics 26 to analyze consumer perceptions of the

metaverse platform and luxury fashion brands based on lifestyle. Frequency analysis was conducted on the use, reasons for use, and types of metaverse platforms among the participants in their 20s to 40s, and cross-tabulation and chi-square (χ^2) tests were used to examine the association between metaverse platform use and gender and age groups. To verify the reliability of the lifestyle measurement tools, Cronbach's alpha values were calculated, and factor analysis using principal component analysis and varimax rotation was conducted to extract factors. Additionally, K-means cluster analysis was performed to classify lifestyle types using factor values. One-way ANOVA and Duncan's post-hoc test were conducted to investi-

gate consumer perceptions of the luxury fashion brands according to lifestyle types.

Ⅳ. Research Results

1. Demographic analysis of participants

The demographic characteristics of the participants are shown in ⟨Table 1⟩. There were 150 males (50.0%) and 150 females (50.0%), and the age distribution was 100 individuals (33.3%) each in their 20s, 30s, and 40s. Regarding marital status, there were 177 unmarried individuals (59.0%), 121 married (40.3%), and 2 others (0.7%). In terms of educational background, university graduates were the highest at

⟨Table 1⟩ Demographic characteristics　　　*N*=300

		Frequency (*n*)	Percentage (%)
Gender	Male	150	50.0
	Female	150	50.0
Age	20s	100	33.3
	30s	100	33.3
	40s	100	33.3
Marital status	Single	177	59.0
	Married	121	40.3
	Others (divorced, etc.)	2	0.7
Education level	High school graduate	52	17.3
	Vocational college graduate	46	15.3
	University graduate	178	59.3
	Postgraduate and above	24	8.0
Occupation	Administrative/office worker	123	41.0
	Professional	41	13.7
	Sales/service worker	23	7.7
	Production/technical worker	22	7.3
	Self-employed/business owner	14	4.7
	Housewife	32	10.7
	Student	26	8.7
	Others	19	6.3

178 individuals (59.3%), followed by high school graduates at 52 (17.3%), vocational college graduates at 46 (15.3%), and postgraduate and above at 24 (8.0%). Regarding occupational distribution, administrative/office workers were the highest at 123 individuals (41.0%), followed by professionals at 41 (13.7%), housewives at 32 (10.7%), students at 26 (8.7%), sales/service workers at 23 (7.7%), and production/technical workers at 22 (7.3%).

2. Metaverse platform usage

Frequency analysis was conducted to investigate the participants' experience using metaverse platforms, reasons for use, and the types of metaverse platforms. The analysis of metaverse platform usage showed that 183 participants (61.0%) had experience using them, while 117 participants (39.0%) did not (Table 2).

An analysis of the reasons for using these platforms among the 183 respondents who indicated they have used metaverse platforms is presented in ⟨Table 3⟩. The most common reason, with 70 respondents (23.3%), was "for enjoyment and fun while using the platform," followed by "to experience new technology" with 37 respondents (12.3%), "to freely communicate with various people" with 25 respondents (8.3%), and "using the platform feels like escaping to a completely different world from daily life" with 22 respondents (7.3%).

Among the 183 respondents who have used metaverse platforms, a multiple-response survey was conducted on the types of platforms used, and the results are as follows in ⟨Table 4⟩. The analysis of types of metaverse platforms used revealed that "Pokemon Go" was the most commonly used with 97 respondents (32.3%), followed by "Animal Crossing" with 88 (29.3%), "MapleStory" with 71 (23.7%), "League of Legends" with 59 (19.7%), "Minecraft" with 55 (18.3%), "ZEPETO" with 53 (17.7%), and "Roblox" with 29 (9.7%).

To investigate the association between use of metaverse platforms and gender, a chi-square test of cross-tabulation was conducted. The analysis showed a chi-square (χ^2) value of 0.350, indicating no statistically significant difference. Thus, there was no association between gender and experience in using metaverse platforms. Among males, 94 respondents

⟨Table 2⟩ Use of metaverse platforms   *N*=300

	Frequency (*n*)	Percentage (%)
Have used	183	61.0
Have not used	117	39.0

⟨Table 3⟩ Reasons for using metaverse platforms   *N*=183

	Frequency (*n*)	Percentage (%)
For enjoyment and fun while using the platform.	70	23.3
To obtain useful information while using the platform.	4	1.3
Using the platform feels like escaping to a completely different world from daily life.	22	7.3
To freely communicate with various people.	25	8.3
To participate in community activities.	8	2.7
To experience new technology.	37	12.3
To generate income.	3	1.0
To experience various virtual products at a lower cost than reality.	10	3.3
Others	4	1.3

<Table 4> Types of metaverse platforms used

	Frequency (*n*)	Percentage (%)
Roblox	29	9.7
Gather town	14	4.7
Zepeto	53	17.7
Ifland	10	3.3
Animal crossing	88	29.3
Maplestory	71	23.7
Leagu of legend	59	19.7
Pockemon Go	97	32.3
Minecraft	55	18.3
Others	7	2.3

(62.7%) indicated they have used metaverse platforms, while 56 (37.3%) have not. Among females, 89 respondents (59.3%) indicated they have used metaverse platforms, while 61 (40.7%) have not (Table 5).

To investigate the association between use of metaverse platforms and age, a chi-square test of cross-tabulation was conducted. The analysis showed a chi-square (χ^2) value of 11.686, with a significance level of $p<0.01$, indicating a significant association between age groups and experience in using metaverse platforms. Among the 20s age group, 71 respondents (71.0%) indicated they have used metaverse platforms, and in the 30s age group, 64 res-

pondents (64.0%) indicated the same. However, in the 40s age group, 48 respondents (48.0%) indicated they have used metaverse platforms, while 52 (52.0%) have not (Table 6).

3. Factor analysis for lifestyle typology

A factor analysis was conducted with 22 items related to participants' lifestyles to understand the factor structure of lifestyle, using principal component analysis to extract factors. Using varimax rotation for orthogonal rotation, five factors were ultimately extracted with eigenvalues over 1. ⟨Table 7⟩ shows the results of the factor analysis for lifestyle, with the five factors explaining a total of 59.724% of the variance.

Factor 1 comprises items related to being sociable and spending time with people, such as "I easily get along with people I meet for the first time," "I blend well with people," "I enjoy being sociable and friendly with others," and "I actively participate in various gatherings," and hence, it was named "Sociability-oriented." The eigenvalue is 6.935, the variance explained is 31.521%, and Cronbach's α reliability coefficient is .888. Factor 2 includes items such as "I pursue and like my own style," "Enjoying my life comfortably is important to me regardless of others' opinions," "I have a unique personality different from others," "I want to have things that are different from

<Table 5> Gender-based analysis of metaverse platform usage

		Male (*n*=150)	Female (*n*=150)	χ^2
Metaverse platform usage experience	Have used	94 (62.7%)	89 (59.3%)	.350
	Have not used	56 (37.3%)	61 (40.7%)	

<Table 6> Age-based analysis of metaverse platform usage

		20s (*n*=100)	30s (*n*=100)	40s (*n*=100)	χ^2
Metaverse platform usage experience	Have used	71 (71.0%)	64 (64.0%)	48 (48.0%)	11.686[**]
	Have not used	29 (29.0%)	36 (36.0%)	52 (52.0%)	

[**] $p<0.01$

<Table 7> Factor analysis for lifestyle typology

Factor	Item	Factor loading	Eigen value	Variance explained % (Cumulative variance %)	Cronbach's α
Sociability-Oriented	I easily get along with people I meet for the first time.	.874	6.935	31.521 (31.521)	.888
	I blend well with people.	.831			
	I am sociable and like being friendly with others.	.823			
	I actively participate in various gatherings.	.712			
Individuality and Leisure-Oriented	I pursue and like my own style.	.768	1.935	8.796 (40.318)	.794
	Enjoying my life comfortably is important to me regardless of others' opinions.	.684			
	I have a unique personality different from others.	.635			
	I want to have things that are different from others.	.561			
	I enjoy attending concerts, movies, theaters, and traveling.	.553			
	I consider hobbies and leisure activities important.	.470			
Appearance-Oriented	I am concerned about what to wear every time I go out.	.835	1.559	7.087 (47.405)	.797
	I value fashion and appearance as a means of self-expression.	.834			
	I am very interested in fashion.	.699			
	I am interested in other people's appearances.	.505			
Self-Love and Diverse Knowledge-Oriented	I am very interested in political, economic, and social issues.	.659	1.468	6.673 (54.078)	.677
	I always achieve the goals I set for myself.	.650			
	I exercise regularly for my health.	.597			
	I think I have many abilities.	.597			
	I enjoy reading magazines and professional books in my fields of interest.	.557			
Trend and Brand-Oriented	I purchase famous products even if they are expensive.	.777	1.242	5.647 (59.724)	.632
	I prefer to purchase new products before others.	.661			
	I buy products from my favorite brands even if they are not on sale.	.575			

others," "I enjoy attending concerts, movies, theaters, and traveling," and "I consider hobbies and leisure activities important." This reflects a high interest in

individuality and leisure, and hence, it was named "Individuality and Leisure-Oriented." The eigenvalue is 1.935, the variance explained is 8.796%, and

Cronbach's α reliability coefficient is .794. Factor 3 comprises items indicating a high interest in appearance, such as "I am concerned about what to wear every time I go out," "I value fashion and appearance as a means of self-expression," "I am very interested in fashion," "I am interested in other people's appearances." Hence, it was called "Appearance-Oriented." The eigenvalue for this factor is 1.559, the variance explained is 7.087%, and Cronbach's α reliability coefficient is .797. Factor 4 is composed of items indicating a high interest in one's own knowledge and health and various fields of knowledge, such as "I am very interested in political, economic, and social issues," "I always achieve the goals I set for myself," "I exercise regularly for my health," "I think I have many abilities," and "I enjoy reading magazines and professional books in my fields of interest." Hence, it was named "Self-Love and Diverse Knowledge-Oriented." The eigenvalue is 1.468, the variance explained is 6.673%, and Cronbach's α reliability coefficient is .677. Factor 5 consists of items reflecting a high interest in trends and brand loyalty, such as "I purchase famous products even if they are expensive," "I prefer to purchase new products before

others," and "I buy products from my favorite brands even if they are not on sale." Hence, it was named "Trend and Brand-Oriented." The eigenvalue is 1.242, the variance explained is 5.647%, and Cronbach's α reliability coefficient is .632.

4. Cluster analysis based on lifestyle factors

To classify the lifestyles of the research subjects into types, K-means cluster analysis was conducted with each extracted factor as an independent variable. The number of clusters was determined by considering the appearance rate of each type and ensuring clear distinctions in lifestyle types between clusters, resulting in a classification into five types. Type 1 included 48 respondents (16.0%), Type 2 included 58 (19.3%), Type 3 included 81 (27.0%), Type 4 included 66 (22.0%), and Type 5 included 47 (15.7%). To examine the characteristics of each lifestyle type, one-way ANOVA was conducted on factor scores by type, followed by Duncan's post-hoc test (Table 8).

Type 1 showed average values in the middle range for "Individuality and Leisure-Oriented" and "Trend and Brand-Oriented," but lower average values for other factors such as "Sociability-Oriented," "Appear-

<Table 8> Variance analysis of factors by lifestyle type

	Type 1 (n=48)	Type 2 (n=58)	Type 3 (n=81)	Type 4 (n=66)	Type 5 (n=47)	F-value
Factor 1 Sociability-Oriented	−.77128 C	1.12524 A	.18262 B	.13411 B	−1.10395 D	88.582***
Factor 2 Individuality and Leisure-Oriented	.06168 B	.75957 A	−.09783 B	−1.02739 C	.61098 A	50.573***
Factor 3 Appearance-Oriented	−.24590 B	−.04744 B	−.25344 B	.60436 A	−.10222 B	9.097***
Factor 4 Self-Love and Diverse Knowledge-Oriented	−1.21346 C	−.07265 B	.19924 B	.15158 B	.77271 A	39.206***
Factor 5 Trend and Brand-Oriented	−.07136 B	−.61721 C	1.08994 A	−.37888 C	−.51183 C	65.245***

*** $p<0.001$, Letter denotes Duncan test results, A>B>C>D.

ance-Oriented," and "Self-Love and Diverse Know-ledge-Oriented," indicating no high average values in all factors. The characteristics of this group, named "Indifferent," show moderate interest in individuality, leisure, trends, and brands but low interest in social activities, appearance, self-concern, and diverse know-ledge, indicating low interest in most factors. Type 2, showing high average values in "Sociability-Oriented" and "Individuality and Leisure-Oriented" and mode-rate in "Self-Love and Diverse Knowledge-Oriented," is characterized by high interest in socializing and spending time with people and pursuing individuality and leisure. It was named "Sociability, Individuality, and Leisure-Oriented." Type 3, with high average values in "Trend and Brand-Oriented" and moderate in "Sociability-Oriented," "Individuality and Leisure-Oriented," and "Self-Love and Diverse Knowledge-Oriented," is characterized by a group with high brand loyalty and a preference for purchasing new and famous products before others. It was named "Trend-Leading and Brand-Oriented" Type 4, dis-playing the highest average values in "Appearance-Oriented" compared to other types, and moderate in "Sociability-Oriented" and "Self-Love and Diverse Knowledge-Oriented," is characterized by high interest in one's own and others' appearance and fashion. It was named "Appearance and Fashion-Oriented." Type 5, with high average values in "Self-Love and Di-verse Knowledge-Oriented" and "Individuality and Leisure-Oriented," and the lowest in "Sociability-Oriented," is characterized by high self-esteem, in-vestment in one's future, and interest in individuality and leisure, but not enjoying social interactions. It was named "Self-Improvement and Individualistic."

5. Perception of Gucci brand according to lifestyle type

To understand the perception of the Gucci fashion brand according to the participants' lifestyle types, one-way ANOVA and Duncan's post-hoc test were conducted, and the results are shown in ⟨Table 9⟩.

The analysis revealed significant differences at the 0.001 significance level for the items "I have heard of this brand" (F=8.460), "I think this brand is well-known" (F=9.304), "I know a lot about this brand" (F=5.896), "I prefer this brand over others" (F=7.895), and "I think positively about this brand" (F=5.852). Significant differences at the 0.01 level were found for "I am well aware of this brand's style" (F=3.928) and "I trust this brand" (F=3.883). Significant differences at the 0.05 level were found for "I am aware of the price range of this brand's products" (F=3.285), "I am aware of the quality level of this brand's products" (F=2.983), "I will continue to trust this brand in the future" (F=2.932), "This brand follows the latest trends" (F=3.353), "This brand is attractive" (F=2.535), "I have purchased this brand's products" (F=2.825), "I intend to purchase this brand's products" (F=2.725), and "I would re-commend this brand's products to others" (F=3.282).

The "Sociability, Individuality, and Leisure-Orien-ted" and "Trend-Leading and Brand-Oriented" lifestyle types showed higher recognition and preference for the Gucci fashion brand compared to the "Indifferent" and "Self-Improvement and Individualistic" types. The "Sociability, Individuality, and Leisure-Oriented" and "Trend-Leading and Brand-Oriented" types were more knowledgeable about the Gucci fashion brand, product prices, styles, and quality levels, and had higher trust and recognition of the brand as trend-following, both currently and in the future.

6. Brand perception of Gucci metaverse's "Gucci Villa" content experience according to lifestyle type

To understand the perception of the brand in the "Gucci Villa" content experience in the Gucci Uni-verse on the ZEPETO x GUCCI metaverse platform according to the participants' lifestyle types, one-way ANOVA and Duncan's post-hoc test were conducted, and the results are shown in ⟨Table 10⟩. The analysis showed significant differences at the 0.01 level for the items "This content experience made me feel

<Table 9> Perception of Gucci brand according to lifestyle type

Item	Indifferent	Sociability, Individuality, and Leisure-Oriented	Trend-Leading and Brand-Oriented	Appearance and Fashion-Oriented	Self-Improvement and Individualistic	F-value
I have heard of this brand.	4.50 B	4.76 A	4.22 C	4.56 AB	4.68 AB	8.460***
I think this brand is well-known.	4.67 A	4.81 A	4.30 B	4.70 A	4.79 A	9.304***
I know a lot about this brand.	3.00 B	3.66 A	3.70 A	3.62 A	3.17 B	5.896***
I am aware of this brand's product price range.	3.06 B	3.71 A	3.63 A	3.56 A	3.34 AB	3.285*
I am familiar with this brand's style.	3.02 B	3.74 A	3.60 A	3.58 A	3.34 AB	3.928**
I am aware of the quality level of this brand's products.	3.13 B	3.67 A	3.64 A	3.42 AB	3.32 AB	2.983*
I prefer this brand over others.	2.65 BC	2.88 B	3.38 A	2.88 B	2.49 C	7.895***
I think positively about this brand.	3.13 C	3.83 A	3.64 AB	3.35 BC	3.40 BC	5.852***
I trust this brand.	3.23 C	3.74 A	3.69 AB	3.38 BC	3.45 ABC	3.883**
I will continue to trust this brand in the future.	3.21 B	3.67 A	3.62 A	3.33 AB	3.43 AB	2.932*
This brand follows the latest trends.	3.13 B	3.60 A	3.62 A	3.33 AB	3.51 A	3.353*
This brand is attractive.	3.42 B	3.81 A	3.69 AB	3.44 B	3.57 AB	2.535*
I have purchased this brand's products.	2.29 B	2.71 AB	3.10 A	2.74 AB	2.53 B	2.825*
I intend to purchase this brand's products.	2.92 B	3.21 AB	3.47 A	3.11 AB	2.94 B	2.725*
I would recommend this brand's products to others.	3.04 B	3.22 AB	3.48 A	2.97 B	3.00 B	3.282*

* $p<0.05$, ** $p<0.01$, *** $p<0.001$, Letter denotes Duncan test results, A>B>C.

immersed in another world" (F=3.443), "This content experience increased my interest in the brand" (F=3.708), and "This content stimulated my curiosity to learn new things" (F=4.222). Significant differences at the 0.05 level were observed for "This content experience made me feel happy" (F=3.046), "This content experience provided interesting and diverse visuals" (F=2.325), "This content experience had elements of creativity" (F=2.009), "This content experience made me feel as if I had escaped from reality"

<Table 10> Brand perception of Gucci metaverse's "Gucci Villa" content experience according to lifestyle type

Item	Indifferent	Sociability, Individuality, and Leisure-Oriented	Trend-Leading and Brand-Oriented	Appearance and Fashion-Oriented	Self-Improvement and Individualistic	F-value
This content experience made me feel happy.	2.75 B	3.02 AB	3.27 A	2.89 B	2.91 B	3.046*
This content experience provided interesting and diverse visuals.	2.92 B	2.97 B	3.36 A	3.00 AB	3.09 AB	2.325*
This content experience had elements of creativity.	2.81 B	2.95 AB	3.23 A	2.94 AB	3.19 AB	2.009*
This content experience made me feel as if I had escaped from reality.	2.44 B	2.52 B	2.96 A	2.58 AB	2.70 AB	2.568*
This content experience made me feel immersed in another world.	2.44 B	2.64 B	3.09 A	2.58 B	2.79 AB	3.443**
This content experience increased my interest in the brand.	2.54 B	2.74 B	3.17 A	2.70 B	2.72 B	3.708**
This content experience led me to have a positive perception of the brand.	2.77 B	3.00 AB	3.25 A	2.74 B	2.74 B	3.391*
This content stimulated my curiosity to learn new things.	2.58 B	2.79 B	3.27 A	2.74 B	2.74 B	4.222**
I think this content has the unique characteristics and consistency of the brand.	2.85 A	3.17 A	3.26 A	2.98 A	3.11 A	1.550
This content provided me with information about new trends.	3.02 AB	3.07 AB	3.27 A	2.94 AB	2.81 B	1.760

* $p<0.05$, ** $p<0.01$, Letter denotes Duncan test results, A>B.

(F=2.568), and "This content experience led me to have a positive perception of the brand" (F=3.391). No significant differences were found for "I think this content has the unique characteristics and consistency of the brand" (F=1.550) and "This content provided me with information about new trends" (F=1.760).

The "Trend-Leading and Brand-Oriented" lifestyle type showed a higher perception and preference for the brand in the "Gucci Villa" content experience in the Gucci Universe on the ZEPETO x GUCCI metaverse platform compared to other types. In comparison, the "Indifferent" type showed lower perception and preference for the brand in the content experi-

ence. The "Trend-Leading and Brand-Oriented" type felt the content experience was enjoyable, creative, and engaging, leading to increased interest and positive perception of the Gucci brand.

7. Perception of Burberry brand according to lifestyle type

To understand the perception of the Burberry fashion brand according to the participants' lifestyle types, one-way ANOVA and Duncan's post-hoc test were conducted, and the results are shown in ⟨Table 11⟩. The analysis revealed significant differences at the 0.001 significance level for the items "I have

<Table 11> Perception of Burberry brand according to lifestyle type

Item	Indifferent	Sociability, Individuality, and Leisure-Oriented	Trend-Leading and Brand-Oriented	Appearance and Fashion-Oriented	Self-Improvement and Individualistic	F-value
I have heard of this brand.	4.31 A	4.57 A	4.02 B	4.45 A	4.38 A	5.346***
I think this brand is well-known.	4.35 AB	4.60 A	4.16 B	4.52 A	4.51 A	4.213**
I know a lot about this brand.	2.96 B	3.41 A	3.65 A	3.53 A	3.28 AB	3.830**
I am aware of this brand's product price range.	2.88 C	3.40 AB	3.57 A	3.44 AB	3.13 BC	3.638**
I am familiar with this brand's style.	3.27 B	3.62 AB	3.74 A	3.65 AB	3.45 AB	1.835
I am aware of the quality level of this brand's products.	3.04 B	3.64 A	3.67 A	3.38 AB	3.34 AB	3.683**
I prefer this brand over others.	2.60 C	3.02 AB	3.36 A	2.95 BC	2.81 BC	5.043**
I think positively about this brand.	3.17 B	3.57 A	3.59 A	3.50 A	3.45 AB	2.240
I trust this brand.	3.17 B	3.55 A	3.62 A	3.41 AB	3.49 AB	2.267
I will continue to trust this brand in the future.	3.08 B	3.47 A	3.57 A	3.39 AB	3.38 AB	2.414*
This brand follows the latest trends.	2.69 C	2.98 BC	3.37 A	3.06 AB	3.13 AB	4.674**
This brand is attractive.	3.13 B	3.57 A	3.49 A	3.30 AB	3.47 A	2.256
I have purchased this brand's products.	2.13 B	2.21 B	3.10 A	2.44 B	2.36 B	6.642***
I intend to purchase this brand's products.	2.60 B	3.00 AB	3.31 A	3.11 A	2.91 AB	3.319*
I would recommend this brand's products to others.	2.71 B	2.97 B	3.37 A	3.05 AB	2.94 B	3.847**

* $p<0.05$, ** $p<0.01$, *** $p<0.001$, Letter denotes Duncan test results, A>B>C.

heard of this brand" ($F=5.346$), "I have purchased this brand's products" ($F=6.642$). Significant differences at the 0.01 level were found for "I think this brand is well-known" ($F=4.213$), "I know a lot about this brand" ($F=3.830$), "I am aware of this brand's product price range" ($F=3.638$), "I am aware of the quality level of this brand's products" ($F=3.683$), "I prefer this brand over others" ($F=5.043$), "This brand follows

the latest trends" (F=4.674), "I would recommend this brand's products to others" (F=3.847). Significant differences at the 0.05 level were found for "I will continue to trust this brand in the future" (F=2.414), "I intend to purchase this brand's products" (F=3.319). No significant differences were found for "I am familiar with this brand's style" (F=1.835), "I think positively about this brand" (F=2.240), "I trust this brand" (F=2.267), "This brand is attractive" (F=2.256).

The "Sociability, Individuality, and Leisure-Oriented" and "Trend-Leading and Brand-Oriented" lifestyle types showed higher recognition and preference for the Burberry fashion brand compared to the "Indi-

fferent" types. The "Sociability, Individuality, and Leisure-Oriented" and "Trend-Leading and Brand-Oriented" types are more knowledgeable about Burberry and its product quality level, showing higher trust in the brand's future.

8. Brand perception of Burberry metaverse's "B Surf" content experience according to lifestyle type

To understand the perception of the brand in the "B Surf" content experience of Burberry's metaverse platform according to the participants' lifestyle types, one-way ANOVA and Duncan's post-hoc test were conducted, and the results are shown in ⟨Table 12⟩. The analysis showed significant differences at the

⟨Table 12⟩ Brand perception of Burberry metaverse's "B Surf" content experience according to lifestyle type

Item	Indifferent	Sociability, Individuality, and Leisure-Oriented	Trend-Leading and Brand-Oriented	Appearance and Fashion-Oriented	Self-Improvement and Individualistic	F-value
This content experience made me feel happy.	2.79 B	3.14 AB	3.37 A	3.09 AB	3.17 AB	2.683[*]
This content experience provided interesting and diverse visuals.	2.67 B	3.00 AB	3.22 A	2.97 AB	2.96 AB	2.339
This content experience had elements of creativity.	2.44 B	3.14 A	3.31 A	2.98 A	3.02 A	5.767[***]
This content experience made me feel as if I had escaped from reality.	2.27 B	2.62 B	3.14 A	2.64 B	2.49 B	6.052[***]
This content experience made me feel immersed in another world.	2.23 C	2.69 AB	3.01 A	2.47 BC	2.55 BC	4.887[**]
This content experience increased my interest in the brand.	2.31 C	2.90 AB	3.11 A	2.76 AB	2.51 BC	5.882[***]
This content experience led me to have a positive perception of the brand.	2.48 C	3.00 AB	3.25 A	2.88 ABC	2.74 BC	4.603[*]
This content stimulated my curiosity to learn new things.	2.19 C	2.95 AB	3.16 A	2.62 B	2.68 B	7.923[***]
I think this content has the unique characteristics and consistency of the brand.	2.46 B	3.14 A	3.09 A	2.80 AB	3.02 A	4.493[**]
This content provided me with information about new trends.	2.38 B	3.16 A	3.07 A	2.79 A	2.87 A	5.516[***]

[*] $p<0.05$, [**] $p<0.01$, [***] $p<0.001$, Letter denotes Duncan test results, A>B>C.

0.001 level for the items "This content experience had elements of creativity" ($F=5.767$), "This content experience made me feel as if I had escaped from reality" ($F=6.052$), "This content experience increased my interest in the brand" ($F=5.882$), "This content stimulated my curiosity to learn new things" ($F=7.923$), "This content provided me with information about new trends" ($F=5.516$). Significant differences at the 0.01 level were observed for "This content experience made me feel immersed in another world" ($F=4.887$), "I think this content has the unique characteristics and consistency of the brand" ($F=4.493$). Significant differences at the 0.05 level were found for "This content experience made me feel happy" ($F=2.683$), "This content experience led me to have a positive perception of the brand" ($F=4.603$). No significant differences were found for the items "This content experience provided interesting and diverse visuals" ($F=2.339$).

The "Trend-Leading and Brand-Oriented" type showed higher awareness and preference for Burberry's metaverse content experience, the online game "B Surf," compared to other types, while the "Indifferent" type showed lower awareness and preference for the Burberry brand experienced through the same "B Surf" content. Compared to other types, the "Trend-Leading and Brand-Oriented" type felt that the content experience was enjoyable and exciting and offered a variety of sights, allowing them to escape reality and immerse themselves in another world momentarily. This content experience increased their interest in and positive thoughts about the Burberry brand and provided them with information on new trends.

9. Perception of Balenciaga brand according to lifestyle type

To understand the perception of the Balenciaga fashion brand according to the participants' lifestyle types, one-way ANOVA and Duncan's post-hoc test were conducted, and the results are shown in ⟨Table 13⟩.

The analysis revealed significant differences at the 0.001 significance level for the items "I am aware of this brand's product price range" ($F=5.815$), "I prefer this brand over others" ($F=6.025$), "I think positively about this brand" ($F=5.463$), "I have purchased this brand's products" ($F=9.408$), "I intend to purchase this brand's products" ($F=5.763$), "I would recommend this brand's products to others" ($F=6.426$). Significant differences at the 0.01 level were found for "I know a lot about this brand" ($F=4.729$), "I am familiar with this brand's style" ($F=3.822$), "I am aware of the quality level of this brand's products" ($F=4.258$), "I trust this brand" ($F=5.012$), "I will continue to trust this brand in the future" ($F=5.087$). Significant differences at the 0.05 level were found for "This brand is attractive" ($F=2.969$). No significant differences were found for "I have heard of this brand" ($F=0.627$), "I think this brand is well-known" ($F=0.505$), "This brand follows the latest trends" ($F=2.387$).

The "Trend-Leading and Brand-Oriented" lifestyle types showed higher recognition and preference for the Balenciaga fashion brand compared to the "Indifferent" types. The "Trend-Leading and Brand-Oriented" type is more knowledgeable about the Balenciaga fashion brand, product price range, style, and product quality level, showing a preference for this brand over others and an intention to purchase and recommend its products.

10. Brand perception of Balenciaga metaverse's "Fortnite" content experience according to lifestyle type

To understand the perception of the brand in the "Fortnite" content experience of Balenciaga's metaverse platform according to the participants' lifestyle types, one-way ANOVA and Duncan's post-hoc test were conducted, and the results are shown in ⟨Table 14⟩. The analysis showed significant differences at the 0.001 level for the items "This content experience made me feel as if I had escaped from reality"

<Table 13> Perception of Balenciaga brand according to lifestyle type

Item	Indifferent	Sociability, Individuality, and Leisure-Oriented	Trend-Leading and Brand-Oriented	Appearance and Fashion-Oriented	Self-Improvement and Individualistic	F-value
I have heard of this brand.	4.04 A	4.22 A	4.04 A	4.15 A	3.98 A	.627
I think this brand is well-known.	3.96 A	4.21 A	4.10 A	4.06 A	4.13 A	.505
I know a lot about this brand.	2.71 C	3.16 AB	3.52 A	3.26 AB	2.94 BC	4.729**
I am aware of this brand's product price range.	2.71 C	3.21 AB	3.52 A	2.97 BC	2.74 C	5.815***
I am familiar with this brand's style.	2.63 B	3.02 AB	3.42 A	3.05 AB	2.98 AB	3.822**
I am aware of the quality level of this brand's products.	2.71 C	3.26 AB	3.38 A	2.92 BC	2.89 BC	4.258**
I prefer this brand over others.	2.54 B	2.79 B	3.17 A	2.65 B	2.43 B	6.025***
I think positively about this brand.	2.90 B	3.38 A	3.40 A	3.06 AB	2.79 B	5.463***
I trust this brand.	2.79 B	3.28 A	3.36 A	3.06 AB	2.81 B	5.012**
I will continue to trust this brand in the future.	2.79 B	3.26 A	3.32 A	2.88 B	2.83 B	5.087**
This brand follows the latest trends.	2.98 B	3.36 A	3.37 A	3.02 AB	3.26 AB	2.387
This brand is attractive.	3.00 B	3.29 AB	3.52 A	3.12 B	3.26 AB	2.969*
I have purchased this brand's products.	1.98 B	2.17 B	2.90 A	1.83 B	1.94 B	9.408***
I intend to purchase this brand's products.	2.48 C	2.95 AB	3.22 A	2.58 BC	2.49 C	5.763***
I would recommend this brand's products to others.	2.69 BC	2.93 AB	3.28 A	2.62 BC	2.49 C	6.426***

* $p<0.05$, ** $p<0.01$, *** $p<0.001$, Letter denotes Duncan test results, A>B>C.

(F=7.286), "This content experience made me feel immersed in another world" (F=7.957), "This content experience increased my interest in the brand" (F=7.849), "This content experience led me to have a positive perception of the brand" (F=6.564), "This content stimulated my curiosity to learn new things" (F=6.493), "I think this content has the unique characteristics and consistency of the brand" (F=6.123), "This content provided me with information about new trends" (F=6.650). Significant differences

<Table 14> Brand perception of Balenciaga metaverse's "Fortnite" content experience according to lifestyle type

Item	Indifferent	Sociability, Individuality, and Leisure-Oriented	Trend-Leading and Brand-Oriented	Appearance and Fashion-Oriented	Self-Improvement and Individualistic	F-value
This content experience made me feel happy.	2.46 B	2.86 AB	3.11 A	2.59 BC	2.66 BC	4.254**
This content experience provided interesting and diverse visuals.	2.56 C	2.98 AB	3.19 A	2.77 BC	2.81 ABC	3.311*
This content experience had elements of creativity.	2.50 B	2.98 A	3.23 A	2.85 AB	2.98 A	3.941**
This content experience made me feel as if I had escaped from reality.	2.02 B	2.43 B	2.95 A	2.29 B	2.32 B	7.286***
This content experience made me feel immersed in another world.	2.15 B	2.48 B	3.06 A	2.26 B	2.43 B	7.957***
This content experience increased my interest in the brand.	2.17 C	2.72 B	3.14 A	2.50 BC	2.51 BC	7.849***
This content experience led me to have a positive perception of the brand.	2.21 C	2.78 AB	3.11 A	2.53 BC	2.64 B	6.564***
This content stimulated my curiosity to learn new things.	2.19 C	2.72 AB	3.04 A	2.41 BC	2.57 BC	6.493***
I think this content has the unique characteristics and consistency of the brand.	2.31 C	2.98 AB	3.12 A	2.67 BC	2.91 AB	6.123***
This content provided me with information about new trends.	2.25 C	2.74 AB	3.10 A	2.45 BC	2.70 B	6.650***

* $p<0.05$, ** $p<0.01$, *** $p<0.001$, Letter denotes Duncan test results, A>B>C.

at the 0.01 level were observed for "This content experience made me feel happy" (F=4.254), "This content experience had elements of creativity" (F=3.941). Significant differences at the 0.05 level were found for "This content experience provided interesting and diverse visuals" (F=3.311).

The "Trend-Leading and Brand-Oriented" type showed higher awareness and preference for Balenciaga's metaverse content experience, the online game "Fortnite," compared to other types, while the "Indifferent" type showed lower awareness and preference for the Balenciaga brand experienced through the same "Fortnite" content. The "Trend-Leading and

Brand-Oriented" group, compared to other types, felt that the content experience was enjoyable and intriguing and provided a variety of sights to see. This experience allowed them to escape reality and immerse themselves in a different world momentarily, increasing their interest in and positive thoughts about the Balenciaga brand and providing them with information on new trends.

Ⅴ. Conclusion and Discussion

This study analyzed the perception of the metaverse platform by gender and age group of adult male and

female consumers in their 20s and 40s who are familiar with the digital environment, and analyzed the perception of fashion luxury brands and the perception of metaverse content experiences according to lifestyle. The findings can be summarized as follows.

First, a frequency analysis of metaverse platform usage experience among 300 men and women in their 20s to 40s showed that 183 respondents (61.0%) had experience using these platforms, while 117 respondents (39.0%) did not. Among the 183 respondents, the analysis of reasons for using metaverse platforms showed that the most common reason was "for enjoyment and fun while using the platform," followed by "to experience new technology," "to freely communicate with various people," and "using the platform feels like escaping to a completely different world from daily life." The analysis of types of metaverse platforms used, as indicated by multiple responses, revealed that "Pokemon Go" was the most commonly used, followed by "Animal Crossing," "MapleStory," "League of Legends," "Minecraft," "ZEPETO," and "Roblox."

Second, a chi-square test of cross-tabulation to understand the association between gender, age group, and metaverse platform usage experience revealed no significant correlation between gender and experience, but a significant correlation was found across different age groups. Among the 20s and 30s age groups, "have used" was more common, while in the 40s age group, "have used" and "have not used" were similarly reported.

Third, a factor analysis to extract the components of the participants' lifestyles revealed five factors: Sociability-Oriented, Individuality and Leisure-Oriented, Appearance-Oriented, Self-Love and Diverse Knowledge-Oriented, and Trend and Brand-Oriented. Further classification into lifestyle types resulted in five distinct types. Type 1 "Indifferent" shows characteristics of high interest in socializing, individuality, and leisure. Type 2, "Sociability, Individuality, and Leisure-Oriented," displays similar traits of high interest in socializing and spending time with others, pursuing individuality, and leisure activities. Type 3, "Trend-Leading and Brand-Oriented," purchases new products before others and shows high loyalty to famous and preferred brands. Type 4, "Appearance and Fashion-Oriented," shows high interest in personal and others' appearance and fashion. Type 5, "Self-Improvement and Individualistic," is characterized by high self-esteem, investing time and money in one's future, and interest in individuality and leisure but not enjoying social interaction.

Fourth, to understand perceptions of the metaverse and luxury fashion brands according to lifestyle types, results from a one-way ANOVA and Duncan's post-hoc test revealed the following. There were significant differences in brand recognition among the Gucci, Burberry, and Balenciaga brands, depending on lifestyle types. Similarly, significant differences were noted in the perception of these brands related to experiences with metaverse content.

The analysis of Gucci brand perception according to lifestyle types suggested significant differences, with the "Sociability, Individuality, and Leisure-Oriented" and "Trend-Leading and Brand-Oriented" types showing higher recognition and preference for the brand, while the "Indifferent" and "Self-Improvement and Individualistic" types showed lower recognition and preference. For Burberry, the "Sociability, Individuality, and Leisure-Oriented" and "Trend-Leading and Brand-Oriented" types have a higher perception and preference for the brand compared to the "Indifferent" type, which shows lower perception and preference. For Balenciaga, the "Trend-Leading and Brand-Oriented" type has a higher perception and preference for the brand compared to the "Indifferent" type, which shows lower perception and preference. As such, the analysis of fashion brand perception according to lifestyle types shows that the "Trend-Leading and Brand-Oriented" type has a higher perception and preference for the Gucci, Burberry, and Balenciaga brands compared to the "Indifferent" type,

which shows a lower perception and preference for these brands.

Furthermore, the analysis of brand perception through metaverse fashion brand content experience shows that the "Trend-Leading and Brand-Oriented" type has a higher perception and preference for the Gucci, Burberry, and Balenciaga brands in metaverse content experiences compared to other types. In contrast, the "Indifferent" type shows lower perception and preference. Similarly, the analysis of brand perception in metaverse fashion brand content experiences according to lifestyle types shows a consistent pattern across brands. The lifestyle type, which showed high preference for luxury fashion brands, showed high preference for the metaverse content experience of luxury fashion brands, and the lifestyle type, which showed low preference for luxury fashion brands, showed low preference for the metaverse content experience of luxury fashion brands. This shows that the perception and preference for luxury fashion brands and the preference for experiencing metaverse content of luxury fashion brands affect each other, and that customized marketing strategies are needed according to lifestyle types because there are differences in the promotional effect of brands according to lifestyle types.

In summary, the "Trend-Leading and Brand-Oriented" consumers show a higher perception and preference for luxury fashion brands and also exhibit a higher perception and preference through metaverse fashion brand content experiences. Therefore, digital marketing strategies targeting consumers of the "Trend-Leading and Brand-Oriented" type are expected to be highly effective for luxury fashion brands, indicating a need for such strategies. A limitation of this study is its focus on men and women in their 20s to 40s in the metropolitan areas of Seoul, Incheon, and Gyeonggi, thereby limiting its generalizability. Future studies should involve a broader age range and geographic distribution. This study is expected to serve as foundational data for future research on mar-

keting strategies for luxury fashion brands utilizing metaverse platforms. Additionally, it is anticipated to help expand the marketing domain of fashion in the metaverse virtual world and enhance understanding of the metaverse and luxury fashion brands.

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