

A Comparative Analysis of Vegan Fashion Design Features on Social Media in Korea and the United States

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Abstract This study explores vegan fashion in Korea and the United States through big data and content analysis, focusing on word and topic distribution on social media and their design implications. In Korea, words like “vegetable”, “cactus”, and “pineapple” were frequently used, reflecting vegan concepts, while paradoxically, terms like “duck fur” and “sheep leather” also appeared. In contrast, the United States discourse highlighted diverse product terms such as “dresses”, “sweaters”, and “leggings”. Topic modeling identified five themes: vegan fashion brands, eco-friendly practices, plant-based materials, animal ethics, and vegan consumption. In terms of design, both countries emphasized alternative plant-based materials over creativity. However, Korean vegan fashion favored casual items like t-shirts, cardigans, and skirts, blending basic silhouettes with trendy street-style aesthetics. American vegan fashion, by contrast, leaned toward sporty imagery with bold colors such as pink, green, and purple.

Keywords Vegan fashion, Korean fashion, American fashion, Text-mining analysis, Design features, Cultural differences

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Introduction

Since the publication of 『Animal Liberation』 by Peter Singer in 1975, social movements advocating animal welfare have expanded globally (Choei, 2021). In the 21st century, critical discussions on the unethical production of animal-based fashion materials, such as fur and leather, further intensified (Hoskins, 2014). As public awareness grew, several countries introduced regulatory measures, including fur farming bans in the United Kingdom, Austria, the Netherlands, Germany, and Japan (Choei, 2021; Toliver, 2016). These developments reflect the increasing emphasis on animal ethics within the fashion industry and have contributed to the emergence of “vegan fashion.”

Vegan fashion refers to the production and consumption of fashion products that exclude animal-derived materials

and emphasize animal welfare, cruelty-free practices, and ethical responsibility (Chung, 2020). Since the introduction of faux fur in the 1990 F/W Milan Collection (Choei, 2021), major fashion brands have actively adopted vegan and sustainable practices. For instance, Gucci announced its fur-free policy in 2017, while Patagonia has led environmental activism within the apparel industry (Chung & Yim, 2020). In 2019, more than 250 global fashion brands signed the “Fashion Pact” at the G7 Summit. That same year, “Vegan Fashion Week” debuted in Los Angeles under the theme “Fashion is Activism” (Jeong & Chun, 2021).

As vegan fashion has gained social prominence, academic research has also increased. Existing studies,

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however, have largely focused on consumer perceptions, attitudes, and purchasing behaviors (Choei, 2021; Chung & Kwuan, 2018), as well as brand status and ethical motivations (Bae, 2020; Chung, 2020; Kim & Park, 2018). In contrast, research directly addressing vegan fashion design remains limited, with only a small number of studies exploring design development (Kim, 2021).

Moreover, while previous research has defined vegan fashion conceptually, relatively few studies have examined its visual and linguistic representation across cultures or on social media platforms. Previous research has shown that consumers' perceptions of sustainable or ethical fashion vary significantly by cultural context, influencing preferred items, colors, silhouettes, and material choices (Choei, 2021), and that influencers play a key role in shaping ethical fashion discourse online (Bae, 2020). However, existing literature has not yet compared the cultural differences between Korea and the United States using large-scale textual data nor analyzed how such differences translate into design characteristics.

To address this gap, the present study investigates how vegan fashion is represented on social media through a comparative analysis of Korea and the United States. By applying big data and content analysis to YouTube, this research identifies recurring design characteristics and cross-cultural differences, aiming to provide design-oriented insights for future vegan fashion development.

Theoretical Background

Conceptual Understanding of Vegan Fashion

The concept of “vegan” was initially articulated by Donald Watson in 1944 as a philosophy opposing all forms of animal exploitation (Lee, 2022). While early discussions of veganism focused primarily on dietary practices, subsequent scholarship has positioned veganism as a broader ethical framework shaping material selection, production systems, and design values across multiple consumption domains, including fashion (Choei, 2020). From a design-theoretical perspective, veganism functions not merely as a moral stance but as a set of constraints and possibilities that directly influence design decision-making.

Within fashion studies, vegan fashion has been defined as a design approach that excludes animal-derived materials while emphasizing cruelty-free production processes and environmental responsibility (Chung, 2020; Chung & Kwuan, 2018; Yoe, 2018). Importantly, prior research suggests that vegan fashion should be understood not only in material terms but also as a system of design choices that integrate alternative materials, production ethics, and aesthetic strategies. The adoption of plant-based leathers, recycled fibers, and bio-fabricated materials reflects a shift in design logic, where material innovation becomes central to both functional performance and symbolic meaning (Bae, 2020). As such, vegan fashion operates as a form of value-driven design in which ethical considerations are embedded within material and visual outcomes.

In this study, vegan fashion is therefore defined not only as the exclusion of animal-derived materials in apparel production but also as a culturally shaped, ethically motivated design and consumption practice.

Vegan Fashion Design Features

Existing studies have identified several recurring design characteristics associated with vegan fashion. These include a pronounced emphasis on material visibility, functional and modular silhouettes, and graphic or textual elements that explicitly communicate ethical values (Kim, 2021). Rather than prioritizing ornamental complexity, vegan fashion design often favors clarity, wearability, and message transparency. This design orientation positions garments as communicative objects, where form, color, and surface treatment function as carriers of ethical and cultural meaning. Such features distinguish vegan fashion from conventional fashion design paradigms and underscore its relevance as a distinct design category.

The manifestation and reception of vegan fashion are not uniform globally but are significantly mediated by cultural values and communication practices. Prior research on sustainable consumption has demonstrated that cultural dimensions, such as individualism versus collectivism, influence how ethical values are perceived and enacted (Hoskins, 2014). Therefore, vegan fashion is conceptualized not merely as the technical exclusion of animal-derived

materials, but as a culturally situated and communicatively constructed practice. Furthermore, social media platforms, particularly influencer-led content, play a pivotal role in framing these cultural narratives. Influencers act as cultural intermediaries who translate complex ethical concepts into relatable lifestyle choices (Chung & Yim, 2020).

Korea and the United States are selected as the focus of this comparative study due to their distinct and complementary positions in the global vegan fashion discourse, which provide a meaningful framework for examining culturally mediated design expressions. The United States represents a mature market where vegan fashion is deeply integrated into lifestyle movements and consumer culture, often emphasizing personal expression, wearability, and stylistic integration (Chung, 2020). In contrast, Korea exemplifies a rapidly growing market where vegan fashion is strongly linked to technological material innovation, brand-driven ethics, and collective social responsibility (Choei, 2021; Bae, 2020). This contrast between a well-established Western context and a dynamic Asian innovator addresses a notable gap in the literature, which has predominantly focused on Western perspectives. Moreover, both countries feature highly active social media environments, particularly on YouTube, ensuring the availability of rich, comparable data for analyzing design communication. This study therefore positions Korea and the United States as equally significant cases to investigate how vegan fashion is visually and linguistically constructed across different cultural contexts, with specific attention to material, silhouette, color, and communicative design strategies.

Research Questions and Methodology

Research Questions

Research Question 1-1. What is the lexical distribution of vegan fashion-related vocabulary in Korean and American social media content?

Research Question 1-2. What are the topic distributions of vegan fashion-related content on social media in Korea and the United States?

Research Question 1-3. Based on the relationships between lexical and topic distributions, what are the design characteristics of vegan fashion in Korea and the United States?

Research Scope and Method

Preliminary Investigation and Scope Selection

This study selected YouTube videos produced by influencers as the primary research material. YouTube was chosen due to its status as a representative social media platform emphasizing user participation and content sharing, allowing users to easily create and disseminate videos and engage actively with social issues (Choei, 2021).

To define the research scope, a preliminary investigation was conducted between November 3 and 4, 2022. Videos related to vegan fashion were collected and analyzed by upload date. The findings indicated a significant increase in such content after the onset of COVID-19, particularly from 2020 onward. This observation aligns with broader scholarly and industry consensus that the pandemic served as a catalyst for heightened public engagement with sustainability and ethical consumption, accelerating digital discourse around topics such as vegan fashion (Choei, 2021; Koh, 2015). By focusing on the period from January 1, 2020, to November 8, 2022, this study aims to capture the formative and active phase of vegan fashion discourse on social media following this global shift, ensuring the analysis reflects a substantive and stabilized body of content rather than transient trends.

To explore cross-national similarities and differences in vegan fashion discourse, the keywords “비건 패션” (Korean) and “vegan fashion” (English) were used for data retrieval. Preliminary investigation revealed that a substantial proportion of relevant content originated from the United States. Beyond data availability, the United States was selected as a comparative case due to its established role in the development of ethical, sustainable, and vegan fashion movements. Previous studies have identified the United States as a leading context for lifestyle-oriented veganism and ethical consumption, where vegan fashion is closely linked to

activism, identity expression, and everyday wearability (Choei, 2021). Moreover, prior fashion research has emphasized the United States as a key reference point for analyzing sustainability-driven fashion communication on social media, given its mature influencer culture and global cultural influence (Chung, 2020). Therefore, comparing Korea and the United States enables a meaningful examination of how vegan fashion discourse and design characteristics are shaped within distinct cultural and communicative frameworks.

Data Collection and Analysis

The data analysis was conducted in two stages: video collection and textual data extraction. The data collection was conducted in late 2022. This period was selected because vegan fashion discourse on social media, having shown noticeable growth and diversification since 2020 amid increased global attention to sustainability and post-pandemic consumption patterns, had reached a relatively stable stage by then. This stability allowed for the observation of representative themes and design characteristics rather than short-term trends.

From November 12 to 13, 2022, all YouTube videos related to the selected keywords were collected, yielding an initial dataset of 318 videos. These videos were then reviewed for relevance to the study's research scope, resulting in a refined sample of 76 videos. To reduce subjective bias, the selection process was validated by two experts in apparel studies (one Ph.D. holder and one Ph.D. candidate) between November 24 and 26. Two criteria were applied: (a) the influencer must have at least 500 followers, and (b) the content must be directly related to fashion design.

Based on these criteria, a final dataset of 48 videos was selected, including 37 Korean videos and 11 American videos.

Textual data were extracted over a two-week period from November 27 to December 10. The analysis focused primarily on spoken content, while visual elements served as supplementary references. For American videos, Korean transcripts were obtained using YouTube's auto-translation function. In total, 103,980 Korean characters (excluding spaces) were extracted from the Korean videos, and 90,183 characters from the American videos (Table 1). Despite the disparity in video count, the comparable volume of textual data is attributed to the longer average duration of American videos.

This study employed both text-mining and content analysis as methodological approaches. Text-mining, a form of big data analysis, was used for its ability to process large volumes of textual data and extract relevant information quickly and accurately. In parallel, content analysis was applied to capture the nuanced, unstructured data found in video content. The data analysis encompasses the following steps.

First, R software was selected as the primary analytical tool. To ensure scientific rigor, preprocessing of the textual data was conducted, including the removal of spacing errors, punctuation, special characters, and stop words, as well as the standardization of synonymous terms.

Second, to analyze the lexical distribution and frequency of vegan fashion-related terms, both term frequency (TF) analysis were performed. Additionally, n-gram network analysis was used to identify frequently co-occurring word pairs and their relational patterns.

Table 1. Collection results of Korean and American vegan fashion

Search Word		Sortations	Videos Collection			Text Collection (Characters)
			Primarily	Secondarily	Thirdly	
Korean	비건 패션		120	56	37	103,980
American	Vegan fashion		198	20	11	90,183
Total			318	76	48	194,163

Third, topic modeling was conducted to examine the major topics related to vegan fashion in Korea and the United States, along with their frequency. Topic modeling is a statistical method used to uncover latent semantic structures within large bodies of text (Paik, 2017). Among various models, this study adopted the Structural Topic Model (STM), which allows the testing of topic prevalence as a dependent variable within a linear regression framework (Paik, 2017). STM was chosen to explore the relationship between national context and the occurrence of specific topics derived from the textual data. Based on the volume of collected video transcripts, the model extracted a total of five topics, with 20 representative words identified for each topic.

To enhance reliability and reduce subjectivity, a panel of four fashion design researchers (two Ph.D. holders and two Ph.D. candidates) reviewed the outcomes. The panel first assessed the term frequency results (Table 2-3) to determine the design characteristics associated with each keyword. They also reviewed the topic modeling results (Table 4) to define appropriate topic labels and identify key terms within each topic. Keywords selected by at least three researchers were finalized; in cases of ambiguity, the paper author re-examined the relevant video transcripts for contextual confirmation.

Finally, content analysis was conducted to deepen the understanding of vegan fashion design characteristics. Content analysis refers to a systematic, consistent method for interpreting the meanings embedded in data (Chung, 2021). Consistent with the research objectives, the analysis within the lexical distribution section specifically focused on the contextual usage and semantic relationships of the high-frequency keywords identified during the text-mining phase, interpreting their implications for the style, materiality, and ethical values of design. Subsequently, in the topic distribution analysis, first referenced the high-frequency words and topic distribution outputs generated by the topic model. Then traced back to the original text segments corresponding to each topic to interpret the semantic features and intended usage of keywords within their context. This process formed the basis for defining the labels of each topic.

Findings and Discussion

Lexical Distribution

Characteristics of Korean Vegan Fashion Based on Lexical Distribution

According to the term frequency analysis of Korean vegan fashion content, the most frequently appearing words were: “Brand” (240 times), “Eco-friendly” (126), “Design” (85), “Animal-based” (57), “Trend” (50), (Table 2). The term frequency analysis reveals that the Korean vegan fashion lexicon is dominantly structured around a core triad of brand authority, material innovation, and ethical advocacy.

Among these, keywords directly associated with vegan fashion included “Plant-based” (49), “Cactus” (32), “Cork” (20), (11), etc. In contrast, words that represent opposing concepts, such as animal-derived materials, included “Animality” (57), “Animal” (27), “Leather” (19), etc. These findings suggest that Korean vegan fashion discourse is heavily focused on material-related vocabulary. Korean vegan fashion defines itself in opposition to the incumbent animal-based system, highlighting a conscious and informed rejection. This aligns with the conceptualization of veganism as a practice of conscious exclusion (Choei, 2020). This trend was further supported by the n-gram network analysis, with pairs like “Animal-based-Material,” “Plant-based-Material,” “Eco-friendly-Material,” etc.

Furthermore, the presence of value-laden terms such as “Message” (19), “Ethical” (17), “Value” (7), indicates that the discourse extends beyond product attributes to embody a communicative and activist stance. The frequent co-occurrence of “Animal-Protection” suggests that the “message” is often specifically framed around animal welfare, positioning the consumer’s choice as a direct act of advocacy. This positions vegan fashion as a moral imperative, aligning with findings that Korean ethical consumption is often driven by a sense of collective responsibility and social norms (Bae, 2020).

Characteristics of the United States Vegan Fashion Based on Lexical Distribution

According to the term frequency analysis of the United States

vegan fashion content, the most frequently used words were: “Vegetarianism” (101 times), “Brand” (68), “Black” (32), “Online” (28), “Dress” (27), and “Basic” (25) (Table 3). American vegan fashion is oriented towards stylistic versatility, and integrated lifestyle. The high frequency of “Vegetarianism” itself signals a connection to a broader, well-established lifestyle movement, situating fashion within a pre-existing cultural framework.

Among the clothing item-related words, “Dress” (27) was the most frequently mentioned, followed by “Sweater” (21), “Jeans” (18), “Shorts” (14), “T-shirt” (11), “Leggings” (4), etc. This suggests that the United States vegan fashion discourse is less about the technical composition of a “cactus leather” and more about how a “vegan dress” fits into one's existing wardrobe and life. This is emblematic of an individualistic consumer culture, where identity is constructed through personal choices and visible consumption (Cherry, 2006). The n-gram network analysis further revealed frequent pairings such as “Secondhand-Shops,” “Capsule-Wardrobe,” “Sustainable-Fashion,” and “Faux-Fur.” Unlike the Korean context, the United States vegan fashion often emphasizes secondhand clothing and items made from alternative materials. The vegan fashion is expressed not through discussions of material science, but through the showcasing of strategic consumption habits like thrifting and building a versatile, minimalist wardrobe.

Additionally, words related to digital communication platforms appeared frequently, including “Voice” (7), “Eco-friendly” (6), “Blog” (6), “Post” (5), “Message” (5), etc. This transforms vegan fashion from a private choice into a public, participatory performance, aligning with the role of social media as a key arena for identity construction and community building in Western consumer societies (Chung & Yim, 2020).

Topic Distribution

The keywords with the highest frequencies in each topic are summarized in (Table 4). The comparative characteristics of each topic between Korea and the United States are as follows.

Topic 1: Vegan Fashion Brands

According to the topic modeling results, topic 1 vegan fashion brands appeared more prominently in the United States data than in the Korean data (Fig. 1(a)). Frequently occurring words within this topic included “Brand,” “Product,” “Sustainable,” etc (Table 4). This topic focuses on the agents practicing vegan fashion. In Korea, the emphasis was placed on “Brand” and “Product,” whereas in the United States, higher attention was given to terms like “Sustainable” and “Capsule Wardrobe” (Fig. 2(a)).

The term capsule wardrobe refers to a compact wardrobe composed of a limited number of items designed to create a maximum variety of outfits (Ha et al., 2022). These findings suggest that, compared to Korea, the United States discourse on vegan fashion focuses less on production and more on how to utilize vegan brand products in everyday styling. Cherry (2006) also noted that the United States vegan fashion emphasizes how individuals can choose ethical fashion items and curate personal wardrobes that respect animal rights.

Topic 2: Eco-friendly Practices

The topic modeling results showed that topic 2: eco-friendly practices was more prominent in Korea than in the United States (Fig. 1(b)). High-frequency words within this topic included “Environment,” “Eco-friendly,” “Practice,” “Active,” etc (Table 4). This topic corresponds to the goal of practical action, linking animal-related social issues to fashion and promoting these as part of an activist movement.

However, differences appeared in the methods emphasized: Korea focused more on “Material” and “Fashion,” whereas the United States highlighted “Trend” and “Size” as key thematic terms (Fig. 2(b)). This suggests that Korean vegan fashion centers on materials, while in the United States, vegan fashion is perceived more as a social trend. Notably, previous studies support these findings. Choi (2020) explained that the efforts of many vegan fashion brands in the United States have created a positive social impact, which in turn has elevated consumer awareness and perception of vegan fashion.

Table 2. Analysis of word frequency in Korean vegan fashion

R	Words	TF	%	R	Words	TF	%	R	Words	TF	%	R	Words	TF	%
01	Brand	240	1.223	26	Message	19	0.101	51	Basic	9	0.050	76	Graphics	5	0.030
02	Eco-friendly	126	0.606	27	Leather	19	0.101	52	Technical ability	8	0.045	77	Subsidiary materials	5	0.030
03	Design	85	0.434	28	Ethical	17	0.090	53	Shoes	8	0.045	78	Luxury	5	0.030
04	Animal-based	57	0.293	29	Polyester	17	0.090	54	Online	8	0.045	79	Pocket	5	0.030
05	Trend	50	0.257	30	Plastic	16	0.085	55	Color sense	8	0.045	80	Jeans	5	0.030
06	Plant-based	49	0.252	31	Nylon	15	0.080	56	Pineapple	8	0.045	81	Casual	5	0.030
07	Recycling	47	0.171	32	Durability	15	0.080	57	Point	8	0.045	82	Classic	5	0.030
08	Style	35	0.198	33	Sunscreen	15	0.080	58	Value	7	0.040	83	Fashion world	5	0.030
09	Fashion	35	0.198	34	Life	14	0.075	59	Energy	7	0.040	84	Premium	5	0.030
10	Cactus	32	0.166	35	Duck Down	14	0.075	60	Orange	7	0.040	85	Environmental protection	5	0.030
11	Consumer	32	0.166	36	T-shirt	14	0.075	61	Corn	7	0.040	86	Positive	4	0.025
12	Handbag	31	0.161	37	Cat	13	0.070	62	Character	7	0.040	87	Documentary	4	0.025
13	Designer	28	0.146	38	Heat retaining property	13	0.070	63	Waste matter	7	0.040	88	Animal cruelty	4	0.025
14	Animal	27	0.141	39	Global	12	0.065	64	Cardigan	6	0.035	89	Digital	4	0.025
15	Size	25	0.131	40	Detail	12	0.065	65	Food	6	0.035	90	Feeling of satisfaction	4	0.025
16	Sustainability	24	0.126	41	Skirt	12	0.065	66	Voice	6	0.035	91	Mustang	4	0.025
17	Sneakers	21	0.111	42	Vegan Tiger	12	0.065	67	Producer	6	0.035	92	Emissions	4	0.025
18	Collection	21	0.111	43	Animal rights groups	11	0.060	68	Artwork	6	0.035	93	Mood	4	0.025
19	Cosmetics	21	0.111	44	Cycle	11	0.060	69	Sheepskin	6	0.035	94	Brown	4	0.025
20	Item	20	0.106	45	Fashion show	10	0.055	70	Elephant	6	0.035	95	Unethical	4	0.025
21	Cork	20	0.106	46	Plastic bottle	10	0.055	71	Quality	6	0.035	96	Usage	4	0.025
22	Vegetarian	20	0.106	47	Marketing	9	0.050	72	Tiger	6	0.035	97	Sense of material	4	0.025
23	Printed	20	0.106	48	New material	9	0.050	73	Puppy	5	0.030	98	Spandex	4	0.025
24	Car	19	0.101	49	Event	9	0.050	74	Sense of luster	5	0.030	99	Sporty	4	0.025
25	COVID-19	19	0.101	50	Vegetarianism	9	0.050	75	Mycelium	5	0.030	100	Chic	4	0.025

Show in: Item:  Form and decoration:  Color:  Material and pattern:  Image and style: 

Table 3. Analysis of word frequency in American vegan fashion

R	Words	TF	%	R	Words	TF	%	R	Words	TF	%	R	Words	TF	%
01	Vegetarianism	101	0.976	26	Voice	7	0.070	51	Blazer	4	0.043	76	Stylist	3	0.035
02	Brand	68	0.609	27	Web-site	7	0.070	52	Business	4	0.043	77	Flexibility	3	0.035
03	Black	32	0.290	28	Image	7	0.070	53	Right of choice	4	0.043	78	Practical	3	0.035
04	Online	28	0.255	29	Entrepreneur	7	0.070	54	Calf	4	0.043	79	Idea	3	0.035
05	Dress	27	0.096	30	Target	6	0.061	55	Skirt	4	0.043	80	Passionate	3	0.035
06	Basic	25	0.076	31	Necklace	6	0.061	56	Rubbish	4	0.043	81	For a long time	3	0.035
07	Video	25	0.076	32	Suede	6	0.061	57	Item	4	0.043	82	Fluid	3	0.035
08	Style	25	0.076	33	Beauty	6	0.061	58	Influencer	4	0.043	83	Turquoise	3	0.035
09	Accessory	22	0.202	34	Uniform	6	0.061	59	Creative	4	0.043	84	At least	3	0.035
10	Size	21	0.193	35	Eco-friendly	6	0.061	60	Costco	4	0.043	85	Collection	3	0.035
11	Sweater	21	0.193	36	Blog	6	0.061	61	Tank Top	4	0.043	86	Cream color	3	0.035
12	Ethical	20	0.184	37	Post	5	0.052	62	Podcast	4	0.043	87	Trend	3	0.035
13	Jeans	18	0.167	38	Necktie	5	0.052	63	Fashionista	4	0.043	88	Event	3	0.035
14	Shorts	14	0.131	39	Message	5	0.052	64	Fashion show	4	0.043	89	Comprehensive	3	0.035
15	Handbag	14	0.131	40	Site	5	0.052	65	Possibility	3	0.035	90	Innovative	3	0.035
16	Shoes	12	0.114	41	Green	5	0.052	66	classical	3	0.035	91	Guide	2	0.026
17	T-shirt	11	0.105	42	Casual	5	0.052	67	Draping	3	0.035	92	Profit	2	0.026
18	Pink	10	0.096	43	Plastic	5	0.052	68	Lifestyle	3	0.035	93	Curved beauty	2	0.026
19	Slippers	10	0.096	44	Comment	5	0.052	69	Mask	3	0.035	94	Graphics	2	0.026
20	Oversize	8	0.079	45	Compassion	4	0.043	70	Physical	3	0.035	95	Positive	2	0.026
21	Second-hand	8	0.079	46	Design	4	0.043	71	Miniskirt	3	0.035	96	Dairy industry	2	0.026
22	Sporty	8	0.079	47	Live	4	0.043	72	Instinctive	3	0.035	97	Men's wear	2	0.026
23	Cat	7	0.070	48	Leggings	4	0.043	73	Brassiere	3	0.035	98	Documentary	2	0.026
24	Animal	7	0.070	49	Media	4	0.043	74	Vlog	3	0.035	99	Uniqueness	2	0.026
25	Designer	7	0.070	50	Purple	4	0.043	75	Not for profit	3	0.035	100	Detail	2	0.026

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Topic 3: Vegan Fashion Materials

The topic modeling results indicated that topic 3: vegan fashion materials held a higher proportion in Korea compared to the United States (Fig. 1(c)). Frequently occurring words included “Material,” “Leather,” “Fabric,” etc (Table 4). This topic centers on information regarding materials used in vegan fashion and reflects the growing trend of reprocessing natural plant-based materials such as corn, pineapple, and cactus into vegan fashion fabrics. This trend is supported by market data. For example, the Korea Institute of Science and Technology Information (KISTI) projected that Korea’s vegan leather market, valued at \$596.3 million in 2018, would grow to \$868.5 million by 2026 (Shin, 2023). Similarly, Vantage Market Research estimated the United States vegan materials market to expand from \$61.5 million in 2022 at an average annual growth rate of 9.5%, reaching \$106 million by 2030 (Kwuan, 2023). Content analysis further showed that in Korea, “Product” and “Material” were emphasized, whereas in the United States, “Use” and “Leather” carried greater weight (Fig. 2(c)).

Topic 4: Animal Ethics and Fashion

The topic modeling results showed that topic 4: animal ethics and fashion was more prominent in the United States than in Korea (Fig. 1(d)). Frequently occurring words included “Fashion,” “Animal,” “Fur,” etc (Table 4). This topic addresses issues related to animal ethics.

Content analysis revealed differences between Korea and the United States: in Korea, emphasis was placed on “Animal,” “Fashion,” and “Fur,” whereas in the United States, “Necessity” and “Shopping” were more significant (Fig. 2(d)). This suggests that Korean vegan fashion focuses on the producer’s perspective—avoiding the use of animal-derived materials to practice veganism. In contrast, the United States perspective centers on the consumer’s behavioral practice—choosing not to purchase animal-based products during fashion consumption.

Topic 5: Consumption of Vegan Fashion Products

The topic modeling results indicated that topic 5: consumption of vegan fashion products was more prominent in the United States than in Korea (Fig. 1(e)). Frequently occurring words included “Product,” “Shoes,” “Choice,” etc (Table 4). This topic relates to consumption trends of vegan fashion products.

In Korea, “Leather” and “Handbag” held significant prominence, while in the United States, “Shoes” were most emphasized (Fig. 2(e)). This suggests that in both countries, consumption of accessories made from vegan materials forms a core part of vegan fashion consumption. For example, Vantage Market Research in the United States predicts significant growth in the vegan leather footwear industry, fueled by the increasing use of various vegan leathers in shoes and sneakers (Kwuan, 2023).

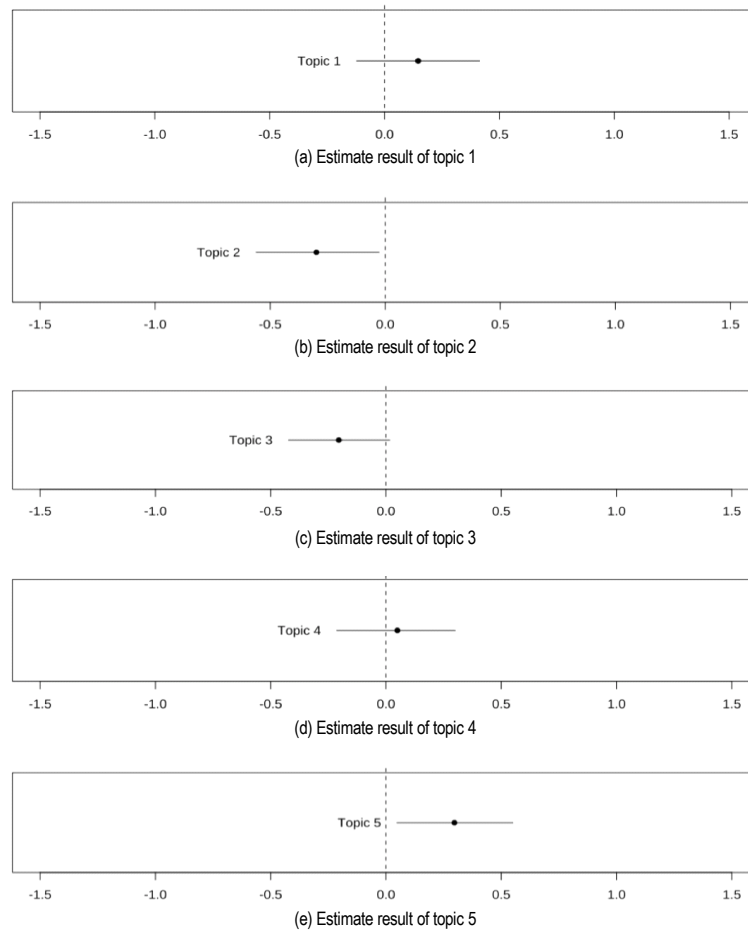
Table 4. Analysis of topic modeling of vegan fashion in Korean and American

Topic	Compositional Words
Topic 1: Vegan Fashion brand	- Highest Prob: Brand, Product, Bag, Fashion, Sustainable, Enterprise, Quantity, Material, Line, Use, Introduction, Video, Color sense, Fabric, Design, Knit, Summer, Friend, Style, Leather - FREX: Sunscreen, Design, Bag, Summer, Leather, Shorts, Line, Purchase, Shape, Old, Pineapple, Color sense, Organic, Korea, Strap, Add, Knit, Sense of luster, Outing, Cotton
Topic 2: Eco-friendly practice	- Highest Prob: Material, Fashion, Use, Brand, Leather, Delivery, Trend, Environment, Animal, Product, Problem, Animal-based, Shoes, Eco-friendly, Enterprise, Active, Practice, Luxury, Public, Plant-based - FREX: Practice, Trend, Active, Car, Philosophy, Mushroom, Social, Problem, Brand, Delivery, Synthesis, Fast, Producer, Environment, Raw material, Base, Leather, Broadcasting, Global, Animal-based
Topic 3: Vegan Fashion material	- Highest Prob: Product, Material, Leather, Brand, Use, Eco-friendly, Fabric, Fashion, Yarn, Utilization, Design, Enterprise, Introduction, High quality, Recycling, Company, Handbag, Cork, Bag, Friend - FREX: Cork, Utilization, Performance, Product, Line, Packaging, Yarn, Virtual, Introduction, Bracelet, Nylon, Last year, Handbag, Novelty, Eco-friendly, Cactus, Hook, Fabric, Enterprise, Recycling
Topic 4: Animal ethics and fashion	- Highest Prob: Fashion, Animal, Fur, Material, Product, Brand, Use, Goose, Head, Interest, Scale, Vegetarian, Market, Plant-based, Farm, Environment, Design, Animal-based, Artificial, World - FREX: Heat retaining property, Fluffy, Goose, Head, Fur, Farm, Mink, Duck Down, Scale, Filler, Experiment, Padding, Wellon, Elephant, Animal, Vegetarian, Cosmetics, Artificial, Pain, Market
Topic 5: Consumption of Vegan Fashion Products	- Highest Prob: Shoes, Use, Need, Love, Choice, Fashion, Leather, Dollar, Shopping, Brand, Sustainability, Capsule, Dress, Color sense, Photograph, Company, Jacket, Tool, Wardrobe, Product - FREX: Store, Class, Chef, Shopping, Wardrobe, Mari, Store, Color sense, Thought, Empathy, Sweater, Belt, Boots, Capsule, Type, Brand, Pillow, Sofa, Best, Video

Show in: Highest Prob: Probability that a particular word reflects a particular latent topic.

FREX: Words that are more frequent and distinguish between different topics at the same time have higher values.

Words that pay attention in each topic: Italics and bold mark.



Show in:

More Korean More American

Figure 1. Estimate result of topic 1-5.



More Korean More American

Figure 2. Key words from Korean and American in topic 1-5.

Design Characteristics

To examine the design characteristics of Korean and American vegan fashion, the keywords derived from the word frequency analysis were categorized and analyzed under the headings: items, form & decoration, color, material & pattern, and image & style.

Items

As summarized in Fig. 3, both countries shared commonly mentioned items such as handbag, item, t-shirt, skirt, shoes, and jeans. Among these, handbag was ranking first in Korea with 18.0% and fifth in the United States with 6.8%, reflecting different stages of market maturity and consumption approaches.

Regarding differences, Korea's top items were mainly accessories and cosmetics, such as handbag (18.0%), sneakers (12.2%), cosmetics (12.2%), and shoes (4.7%). Notably, sneakers and cosmetics had high frequencies in Korea but were not mentioned at all in the United States. These items function as visible yet manageable ethical commitments, allowing consumers to express vegan values without complete wardrobe transformation (Choi, 2020).

In contrast, the United States showed higher frequencies for clothing items like one-piece (13.2%), sweater (10.2%), jeans (8.8%), and shorts (6.8%), with accessory (10.7%) as the only accessory item among the top ranks. The one-piece, not mentioned in Korea, had the highest frequency in the United States, characterized in the text by its “oversized loose silhouette” and the ability to be layered

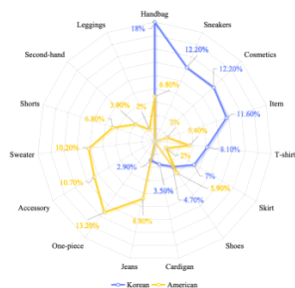


Figure 3. Items analysis of Korean and American vegan fashion

easily with other items to create various fashion images. It's demonstrates that the United States vegan fashion is evaluated through conventional fashion criteria - versatility, comfort, and styling potential. This shift marks the normalization of vegan fashion within everyday dressing practices.

Form & Decoration

As summarized in Fig. 4, both countries shared commonly frequent terms such as design, size, and detail, indicating that these aspects are valued in vegan fashion.

However, differences emerged in the modes of expression. In Korea, terms like artwork (4.3%), subsidiary materials (3.6%), and pocket (3.6%)—which refer to adding different materials or decorations onto fabric—were frequently mentioned. For example, artwork was “described in the text as using motifs of animals sacrificed in fur farms” to “convey the values pursued by vegan brands as a message.” This decorative strategy serves to visualize and reinforce the moral foundations of veganism, making ethical concerns immediately apparent.

In contrast, the United States emphasized silhouette types and expression methods, with terms such as oversized (20.0%), draping (7.5%), and curved beauty (5.0%) frequently appearing. The preference for “draped and relaxed garment shapes” that facilitate easy layering indicates a focus on practical versatility and sensory experience rather than overt ethical messaging. This aligns with the normalized, lifestyle-integrated status of vegan fashion in the United States market, where aesthetic and functional considerations

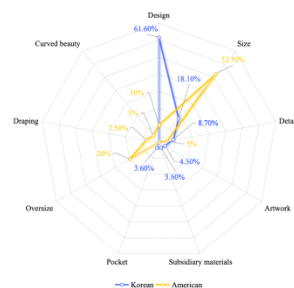


Figure 4. Form and decoration analysis of Korean and American vegan fashion

take precedence over explicit activism (Chung & Yim, 2020).

Color

As summarized in Fig. 5, the color characteristics of vegan fashion in Korea and the United States are no shared color terms between the two countries, indicating that vegan fashion is not represented by a single symbolic color; instead, distinct color preferences were observed in each country.

In Korea, only three color-related terms appeared: color sense (42.1%), orange (36.8%), and brown (21.1%). According to the text, orange was favored because it “easily attracts attention and effectively conveys the values of vegan brands,” while brown was preferred for its versatility—“easily coordinating with various colors and enabling a range of fashion images.” This limited but purposeful color selection reflects a market where Korean vegan fashion must actively assert its identity and values through chromatic messaging.

In contrast, American vegan fashion demonstrates an integrative color approach characterized by chromatic diversity within a framework of practicality. The dominance of black (56.1%) establishes a foundational neutral base that prioritizes versatility and integration into existing wardrobes. The presence of diverse hues—pink (17.7%), green (8.8%), purple (7.0%)—alongside black indicates that American vegan fashion is treated as a mainstream aesthetic category where self-expression and stylistic diversity operate within conventional fashion parameters, rather than serving primarily as ethical signaling.

Material & Pattern

As summarized in Fig. 6, a significant discrepancy was observed in the number of related terms: Korea had 449 mentions, whereas the United States had only 19. Due to this disparity, statistical analysis was deemed insufficiently reliable, and a comparative analysis was conducted using content analysis instead.

In terms of commonalities, both Korea and the United States shared the terms plastic and graphic, indicating a shared focus on recycled plastic materials in vegan fashion. Graphic patterns were also frequently mentioned in both

countries. As noted in the text, graphic patterns are effective in delivering “messages of environmental protection and animal welfare.”

As for differences, Korea frequently used material-specific terms such as animal-based (12.7%), plant-based (10.9%), recycling (10.5%), cactus (7.1%), and leather (4.2%), indicating a high level of material diversity. This terminology reflects a production-oriented perspective that foregrounds material composition and sourcing.

In contrast, the United States emphasized tactile qualities, with words such as suede (31.6%), flexibility (15.8%), and fluid (15.8%) appearing more often, reflecting a focus on the sensory aspects of materials. This vocabulary shift reveals a consumer-centric perspective where material evaluation centers on tactile experience, comfort, and practical performance (Chung & Yim, 2020).

Image & Style

As summarized in Fig. 7, both countries shared commonly mentioned terms such as style, casual, classic, and sporty, with style being the most frequently used word in both datasets.

In comparing the two countries, Korean vegan fashion most prominently featured the term basic (12.5%), followed by a variety of style-related descriptors such as luxury (6.9%), casual (6.9%), classic (6.9%), premium (6.9%), sporty (5.6%), and chic (5.6%). This stylistic diversity suggests an exploratory market phase where vegan fashion is being positioned across multiple style categories to identify and establish its aesthetic identity within the broader fashion landscape.

In contrast, American vegan fashion demonstrates a focused lifestyle alignment, with strong emphasis on sporty (15.7%) and casual (9.8%) imagery. The prominence of image (13.7%) and useful (5.9%) reflects a practical integration of vegan fashion into specific lifestyle contexts, where functionality and clear stylistic positioning take precedence over aesthetic experimentation.

The design characteristics of Korean and the United States vegan fashion analyzed thus far are summarized in Table 5 below.

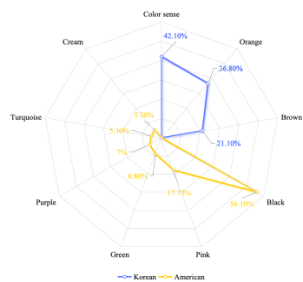


Figure 5. Color analysis of Korean and American vegan fashion

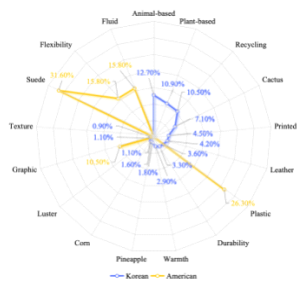


Figure 6. Material and pattern analysis of Korean and American vegan fashion

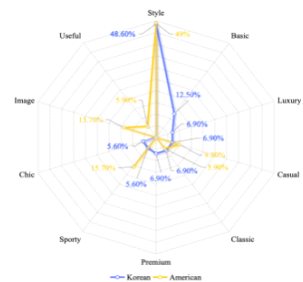


Figure 7. Image and style analysis of Korean and American vegan fashion

Table 5. Comparison of Korean and American vegan fashion designs

Country		Korean	American
Comparison	Common points	• Use of alternative materials rather than creativity • Focus on the details of clothing • Pursuing vegetable materials and alternative materials • Deliver messages about eco-friendliness or animal protection through printing	
	Items	• Casual t-shirts, cardigans, skirts, jeans, etc.	• Dresses appeared to be the most popular item • Leggings with a sporty image • Diversity of fashion items
Difference points	Form and decoration	• Details like pockets • Deliver the message of veganism through unique artwork decoration	• Details such as draping • Shape of oversized design
	Color	• Focus on the color sense of clothes • Orange color for easy image transfer • prominent colors such as brown	• Different types of colors • Many vivid colors with high brightness appeared
	Material and pattern	• Diversity of materials • Focusing on the gloss and texture of the material	• Prefer elastic and flexible materials
	Image and style	• No significant difference • Basic image • “Hip” and trendy image	• Active and sporty image • Classic image

Conclusion and Discussion

This study contributes to the growing body of vegan fashion research by extending prior literature from conceptual and consumer-centered discussions to a cross-cultural, design-oriented analysis based on social media big data. The key findings are as follows.

First, since 2020, the number of vegan fashion-related

videos has increased in Korea. The findings support earlier research suggesting that Korean vegan fashion discourse tends to emphasize material innovation and ethical credentialing, as reflected in the prominence of plant-based and alternative material terminology. At the same time, the frequent co-occurrence of animal-based material terms indicates a discursive strategy that contrasts vegan materials with conventional animal-derived ones, reinforcing ethical

positioning rather than merely describing products. Conversely, the U.S. results align with previous studies that frame vegan fashion as a lifestyle-oriented and consumption-driven practice, where item diversity, styling, and everyday wearability are foregrounded. This divergence highlights how vegan fashion is culturally mediated not only in meaning but also in design expression.

From a design perspective, the study reveals that both Korean and American vegan fashion prioritize alternative materials over experimental form-making, confirming earlier observations that sustainability-oriented fashion often favors communicative clarity over avant-garde creativity. However, this study extends prior work by specifying how such priorities manifest differently: Korean vegan fashion adopts basic silhouettes and symbolic color strategies to strengthen brand messaging, whereas U.S. vegan fashion employs relaxed silhouettes, vivid colors, and sporty aesthetics to enhance practicality and lifestyle integration. These distinctions suggest that vegan fashion design operates within culturally specific frameworks of consumption and communication.

This study offers practical insights for vegan fashion marketing and design through its comparative analysis of Korean and American markets. However, it acknowledges limitations in data collection: the substantial disparity in video samples (Korea $n=37$; U.S. $n=11$) and potential textual noise from automated translation may affect lexical precision and cross-cultural comparability. Future research should prioritize balanced sample sizes and professional translation to ensure semantic accuracy. Expanding data sources to include multiple social media platforms and diverse textual formats would further enhance the understanding of cross-cultural vegan fashion discourse.

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