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Perceptions of Ethical and Sustainable Fashion in Japan: A Questionnaire Survey

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Abstract

Ethical and sustainable fashion refer to trends that consider the environmental and social impacts of the apparel industry. We surveyed 520 consumers in Japan (aged 18–69) to assess their awareness of these concepts, fashion-related practices, and attitudes. Only 12.1% of respondents were familiar with the term "ethical fashion." Both "ethical" and "sustainable" fashion were associated with similar attributes (e.g., use of recycled materials, recyclability, low environmental impact). However, "sustainable fashion" was more strongly linked to environmental concerns, whereas "ethical fashion" encompassed broader issues such as transparency. Fewer than one-quarter of respondents considered sustainability or ethics when purchasing fashion items. The most commonly reported barriers were high cost (35.4%) and lack of information (32.9%). Over 70% supported policies prohibiting the destruction of unsold or returned textiles, though most preferred voluntary corporate initiatives over legal mandates. Although consumer awareness and active consideration of ethical and sustainable fashion remain limited, a notable proportion already engage in related practices. Addressing key barriers while promoting voluntary industry efforts is crucial for increasing opportunities for consumer engagement. Insights from Japan, one of the world's largest fashion markets, can contribute to shaping global approaches to ethical and sustainable fashion.

Keywords: questionnaire survey, ethical fashion, sustainable fashion, consumer perceptions, consumer practices, policy for industry

Introduction

It is widely recognized that the fashion industry places a significant burden on the environment—a concern that has been continuously raised since the 1960s (Gwilt, 2020). The industry accounts for 8 to 10% of global CO₂ emissions and consumes approximately 79 trillion liters of water (Niinimäki et al., 2020). Moreover, workplace safety is problematic, as exemplified by the Rana Plaza collapse (Barua & Ansary, 2017). These adverse developments, including environmental degradation and poor labor conditions, have underscored the importance of ethical and sustainable fashion. Furthermore, the advent of the Sustainable Development Goals (SDGs) emphasizes the need to address these issues (United Nations, n.d.). In addition, the European Commission has released the "EU Strategy for Sustainable and Circular Textiles," which also influences global trends (European Commission, 2022).

In a meta-narrative systematic literature review exploring current and future research directions in sustainable fashion, Mukendi et al. defined sustainable fashion as a broader concept than ethical fashion—encompassing (but not limited to) environmental, social, slow fashion, reuse, recycling, cruelty-free, and anti-consumption and production practices (Mukendi et al., 2020). Thomas S highlighted the situational ethics aspects of ethical fashion (Thomas, 2017), reinforcing the need to continuously understand public awareness across diverse populations.

Japan is one of the largest fashion markets in the world (Statista, n.d.), and there is growing political attention on the importance of "ethical consumption," including in both fashion and sustainable fashion (Consumer Affairs Agency, 2018, 2021). An outreach website managed by the Consumer Affairs Agency of Japan stated that

Although the boundaries between ethical and sustainable practices are not always distinct,

the term "sustainable" is typically used to emphasize environmental issues and their broader ramifications, whereas "ethical" tends to imply that environmental concerns, working conditions, animal welfare, and local production/consumption are considered on an equal footing (Consumer Affairs Agency, 2021).

Previous studies have also suggested that sustainable fashion remains a more environmentally focused concept even after the COVID-19 pandemic (Henninger et al., 2016; Joergens, 2006; Shin et al., 2025); however, it remains important to clarify consumer perceptions across various settings. Not only that, but practices in daily life, perceived barriers, and attitudes toward strategies for implementing ethical and sustainable fashion are also important.

Against this backdrop, we conducted a consumer survey on ethical and sustainable fashion in Japan.

Materials and Methods

The questionnaire survey was conducted in March 2024, with potential participants drawn from the survey panel members of Macromill, Inc., which had 1.3 million members as of the end of 2023. We included participants aged 18 to 69, and the sample was allocated based on the demographic composition of the population. We did not set any other exclusion criteria to ensure a diverse range of responses.

The survey, which consists of 10 questions, covers the following topics: demographic background; awareness of ethical consumption and fashion; various aspects of ethical and sustainable fashion, with a particular focus on product supply; perceptions and practices related to these issues; and relevant trends (i.e., French Anti-Waste Law for a Circular Economy, AGEC Law) and policy options based on the EU Strategy for Sustainable and Circular Textiles (Loi n 2020-105, 2020 (European Commission, 2022)). Some of the topics

were developed with reference to a survey conducted by the Consumer Affairs Agency of Japan (Consumer Affairs Agency, 2020–3).

The number of participants was determined based on feasibility, and we conducted a descriptive analysis of the responses for categorical variables (presented as n and percentages). The differences between the concepts of "ethical fashion" and "sustainable fashion" were analyzed using McNemar's test, and strategies for ethical/sustainable fashion were examined using a binomial test. Both tests were conducted at a significance level of p < 0.05. We used Microsoft Excel 2021 and R version 4.4.2 (The R Foundation, Vienna, Austria) for statistical analysis.

The survey received ethical approval from the Ethics Committee of CiDER, The University of Osaka (approval no. 2024CRER0226-1; February 2024) and was conducted with the written informed consent of all respondents.

During the preparation of this work the authors used ChatGPT-4o and ChatGPT-3 mini (both from OpenAI, CA, USA) in order to discuss methods for analyzing our data and to proofread this manuscript. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

Only a limited portion of this article was previously published as a non–peer-reviewed preprint in an institutional bulletin in Japanese (https://doi.org/10.18910/98221), and an English preprint has been uploaded to Jxiv.

Results

A total of 520 individuals (260 men and 260 women, aged 18 to 69) responded to the questionnaire. Among them, 130 (25.0%) reported knowing the term "ethical consumption," and 63 (12.1%) reported knowing "ethical fashion" (Table 1).

After providing a description of the term "ethical" in Japanese (i.e., "rinri-teki," a common phrase), respondents selected the aspects encompassed by the concept of ethical and sustainable fashion, with a particular focus on product supply (Table 2). Regarding "ethical fashion," respondents most frequently selected the following three aspects: "use of recycled materials," "designed for easy recycling once no longer in use," and "manufactured using processes designed to minimize environmental impact." Regarding "sustainable fashion"—a term similar to "ethical fashion"—the three most frequently selected aspects were identical to those for ethical fashion. However, environmental aspects were selected more frequently for sustainable fashion, with use of recycled materials and designed for easy recycling receiving significantly higher endorsements (p < 0.001 each). Not only that, but a broader range of aspects—e.g., fair trade standards, detailed information on materials used, and information about the production process—were also more frequently selected for ethical fashion (Table 2).

After informing respondents that all aspects listed in the previous questions are related to ethical and sustainable fashion, they proceeded to answer the subsequent questions.

Regarding the extent to which ethical and sustainable fashion-related aspects are considered when acquiring fashion-related products, 114 respondents (21.9%) selected either "strongly consider" or "slightly consider" (Table 3). In addition, when asked about barriers to acquiring ethical/sustainable fashion-related items, respondents most frequently cited "high prices" (184 respondents, 35.4%) and "lack of information on ethical and sustainable fashion" (117 respondents, 32.9%). However, regarding post-purchase treatment, 210 respondents (40.4%) stated that higher-priced items were more likely to be transferred or repaired once they were no longer in use (Table 3). In terms of ethical and sustainable fashion-related practices, 229 (44.0%) respondents selected "use purchased items for as long as possible," while 209 (40.2%) respondents selected "only purchase the minimum necessary." However, only 31

(6.0%) respondents selected "consider the production background when purchasing" (Table 4).

Only 68 (13.1%) respondents are aware of the recent French law prohibiting the destruction of unsold or returned textiles (Loi n 2020-105, 2020), while 382 (73.4%) believe that such regulation should be promoted (Table 5). In addition, among strategies related to ethical and sustainable fashion, "overproduction and overconsumption" and "the destruction of unsold or returned textiles" have attracted particular attention. However, respondents indicated that all strategies related to ethical and sustainable fashion should be implemented through voluntary efforts by companies rather than being mandated by law (Table 6). However, no significant differences were observed between the "mandated by law" and "voluntary efforts" approaches for "information disclosure" and "stopping the destruction of unsold or returned textiles."

Discussion and Conclusion

We conducted a consumer survey on ethical and sustainable fashion in Japan and found that only 25.0% of respondents recognized the term "ethical consumption," and just 12.1% were aware of "ethical fashion," indicating limited familiarity with these concepts among consumers.

The observed differences in perceptions of ethical and sustainable fashion align with previous literature (Hill & Lee, 2012; Reimers et al., 2016), as the three most frequently selected aspects overlapped for both terms. However, environmental aspects, such as the use of recycled materials, were significantly more associated with sustainable fashion, whereas ethical fashion was linked to a broader range of considerations, including fair trade and transparency about materials and production processes.

Even after definitions of ethical and sustainable fashion were provided, fewer than one in four respondents considered these aspects when making purchasing decisions. This suggests that, for most Japanese consumers, criteria such as price, quality, and style remain primary, reflecting the widely reported attitude—behavior gap in ethical consumption research—where positive attitudes toward sustainability do not necessarily translate into sustainable behaviors (McNeill & Moore, 2015; Park & Lin, 2020). Consistent with this interpretation, 35.4% of respondents identified high prices as a major barrier.

In addition, respondents highlighted a lack of information regarding ethical and sustainable fashion as another salient barrier. A recent study by Shin et al. identified "online" as an emerging theme in post-pandemic discourse on sustainable fashion (Shin et al., 2025), suggesting that online platforms, increasingly integrated into everyday life, may help overcome information barriers through effective dissemination of relevant information.

Moreover, 40.4% of respondents indicated that higher-priced items were more likely to be transferred or repaired after use. Given that initial purchase price was noted as a key barrier, these findings suggest that consumers are more inclined to extend the lifespan of items perceived as valuable. Thus, the availability of affordable repair services and transparency regarding the comparative costs between repairing and purchasing new items could play an essential role in influencing sustainable post-purchase behaviors. As Niinimäki K emphasized, one of the ethical foundations of sustainable fashion is that designers, manufacturers, and companies are not only responsible for environmental impacts, but also share responsibility for unsustainable consumption patterns and increasing waste streams (Niinimäki, 2015). Encouraging consumers to engage in repair and reuse behaviors can therefore be seen as part of a broader ethical commitment—one that supports these foundational values and fosters more reflective, sustainability-oriented choices after

purchase.

Over 40% of respondents already engage in specific behaviors aligned with ethical and sustainable fashion, notably using items for extended periods and limiting new purchases. While explicit recognition of terms may be limited, these existing behaviors suggest a meaningful degree of practical engagement with the concepts in certain behavioral aspects.

Only 13.1% of respondents were aware of the French law prohibiting the destruction of unsold or returned textiles; nevertheless, more than 70% supported promoting a similar policy in Japan. Concerning specific strategies from the EU Strategy for Sustainable and Circular Textiles (European Commission, 2022), more than half of respondents preferred implementation through voluntary efforts. Interestingly, no significant difference emerged between voluntary and mandatory approaches regarding "strengthening information disclosure" and "stopping the destruction of unsold or returned textiles," indicating that these strategies could be considered relatively acceptable policy options. This result underscores a notable tendency among respondents to view ethical and sustainable actions as desirable recommendations rather than mandatory obligations.

Despite offering novel insights into Japanese consumer perceptions, this study has several limitations that should be acknowledged. The survey was conducted using an online panel (Macromill, Inc.) with a quota sample of 520 respondents, and the data are based on self-reported awareness, attitudes, and behaviors, which may be subject to social desirability and recall biases. Nevertheless, the sample was stratified to reflect the demographic composition of the population, and the findings provide valuable information for understanding general consumer perceptions.

In conclusion, this study highlights that consumer awareness and explicit consideration of ethical and sustainable fashion remain limited in Japan. Nonetheless, a substantial minority of

consumers already adopt specific practices aligned with sustainability, such as prolonged use and restrained purchasing of fashion items. High prices and insufficient information were identified as prominent barriers, suggesting areas that may require attention from stakeholders seeking to expand consumer engagement. Additionally, Japanese consumers showed openness to voluntary industry initiatives and neutrality toward specific regulatory measures, providing useful insights for future policy discussions. Given Japan's status as one of the largest fashion markets globally, these findings contribute valuable perspectives to the international discourse on ethical and sustainable practices in the global fashion industry.

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During the preparation of this work the authors used ChatGPT-4o and ChatGPT-3 mini (both from OpenAI, CA, USA) in order to discuss methods for analyzing our data and to proofread this manuscript.

Disclosure Statement

The authors declare no potential conflicts of interest relevant to this article.

CRediT Roles

Conceptualization, KI; Data Curation, KI; Methodology, KI and AK; Formal Analysis, KI; Funding Acquisition, KI and AK; Investigation, KI and AK; Writing – Original Draft Preparation, KI; Writing – Review & Editing, KI and AK.

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Data Availability Statement

The data that support the findings of this study are available from the corresponding author, KI, upon reasonable request.

References

- Barua, U., & Ansary, M. A. (2017). Workplace safety in Bangladesh ready-made garment sector: 3 years after the Rana Plaza collapse. *International Journal of Occupational Safety and Ergonomics*, 23(4), 578–583. https://doi.org/10.1080/10803548.2016.1251150
- Consumer Affairs Agency. (2018). [Ethical consumption: What is it?] [in Japanese].

 https://www.caa.go.jp/policies/policy/consumer_education/public_awareness/ethical/material/assets/ethical_180409_0001.pdf
- Consumer Affairs Agency. (2020–3). [Survey on consumer awareness of ethical consumption]. [in Japanese].

 https://www.caa.go.jp/policies/policy/consumer_education/public_awareness/ethical/investigation/
- Consumer Affairs Agency. (2021). [Encouraging sustainable fashion habits] [in Japanese]. https://www.ethical.caa.go.jp/sustainable/
- European Commission. (2022). EU strategy for sustainable and circular textiles. https://environment.ec.europa.eu/publications/textiles-strategy_en
- Gwilt, A. (2020). A practical guide to sustainable fashion (2nd ed.). Bloomsbury Publishing.

- https://doi.org/10.5040/9781350067059
- Henninger, C. E., Alevizou, P. J., & Oates, C. J. (2016). What is sustainable fashion? *Journal of Fashion Marketing and Management*, 20(4), 400–416. https://doi.org/10.1108/JFMM-07-2015-0052
- Hill, J., & Lee, H. H. (2012). Young Generation Y consumers' perceptions of sustainability in the apparel industry. *Journal of Fashion Marketing and Management*, 16(4), 477–491. https://doi.org/10.1108/13612021211265863
- Joergens, C. (2006). Ethical fashion: Myth or future trend? *Journal of Fashion Marketing and Management*, 10(3), 360–371. https://doi.org/10.1108/13612020610679321
- Loi, n. (2020)-105 du 10 février 2020 relative à la lutte contre le gaspillage et à l'économie circulaire (Anti-Waste Law for a Circular Economy, AGEC Law). [in French].

 https://www.legifrance.gouv.fr/dossierlegislatif/JORFDOLE000038746653/
- McNeill, L., & Moore, R. (2015). Sustainable fashion consumption and the fast fashion conundrum: Fashionable consumers and attitudes to sustainability in clothing choice.

 *International Journal of Consumer Studies, 39(3), 212–222.

 https://doi.org/10.1111/ijcs.12169
- Mukendi, A., Davies, I., Glozer, S., & McDonagh, P. (2020). Sustainable fashion: Current and future research directions. *European Journal of Marketing*, *54*(11), 2873–2909. https://doi.org/10.1108/EJM-02-2019-0132
- Niinimäki, K. (2015). Ethical foundations in sustainable fashion. *Textiles and Clothing Sustainability*, *I*(1), 3. https://doi.org/10.1186/s40689-015-0002-1
- Niinimäki, K., Peters, G., Dahlbo, H., Perry, P., Rissanen, T., & Gwilt, A. (2020). The

- environmental price of fast fashion. *Nature Reviews Earth and Environment*, 1(4), 189–200. https://doi.org/10.1038/s43017-020-0039-9
- Park, H. J., & Lin, L. M. (2020). Exploring attitude—behavior gap in sustainable consumption: Comparison of recycled and upcycled fashion products. *Journal of Business Research*, 117, 623–628. https://doi.org/10.1016/j.jbusres.2018.08.025
- Reimers, V., Magnuson, B., & Chao, F. (2016). The academic conceptualisation of ethical clothing: Could it account for the attitude behaviour gap? *Journal of Fashion Marketing and Management*, 20(4), 383–399. https://doi.org/10.1108/JFMM-12-2015-0097
- Shin, E., Yim, S., & Koh, A. R. (2025). Comparison of consumer perceptions of sustainable and ethical fashions pre- and post-COVID-19 using LDA topic modeling. *Humanities and Social Sciences Communications*, 12(1), 226. https://doi.org/10.1057/s41599-025-04525-4

Statista. (n.d.). Fashion – Japan. https://www.statista.com/outlook/emo/fashion/japan

Thomas, S. (2017). *Fashion ethics* (1st ed.). Routledge. https://doi.org/10.4324/9781315109367

United Nations. (n.d.). The 17 goals. https://sdgs.un.org/goals

 Table 1. Background information of respondents

Gender	n (%)
Men	260 (50.0)
Women	260 (50.0)
Age	
-29	96 (18.4)
30-39	93 (17.9)
40-49	119 (22.9)
50-59	109 (21.0)
60-	103 (19.8)
Awareness of the term "ethical consumption"	
Yes	130 (25.0)
No	390 (75.0)
Awareness of the term "ethical fashion"	
Yes	63 (12.1)
No	457 (87.9)

Table 2. Aspects which covered by the term ethical and sustainable fashion

Aspects	Ethical n (%)	Sustainable n (%)	P-value*
Use of recycled materials	223 (42.9)	284 (54.6)	< 0.001
Provision of detailed information on materials used	95 (18.3)	60 (11.5)	<0.001
Designed for easy recycling once no longer in use	183 (35.2)	251 (48.3)	< 0.001
Manufactured using processes designed to minimize environmental impact	186 (35.8)	174 (33.5)	0.307
Use of organic cotton (cotton produced without pesticides or chemical fertilizers)	116 (22.3)	103 (19.8)	0.218
Meets fair trade standards (purchased at fair prices to support workers in developing countries)	119 (22.9)	96 (18.5)	0.027
Actively discloses information about the production process, including who produced it and how it was manufactured	86 (16.5)	50 (9.6%)	<0.001
Upcycles fibers or fabrics (transforms discarded materials into new products)	138 (26.5)	171 (32.9)	0.004
Offers rental, sharing, and subscription (flat- rate rental) systems	68 (13.1)	100 (19.2)	< 0.001
Manufactured using local industries and traditional techniques	55 (10.6)	63 (12.1)	0.416
Implements a fitting app (an app that allows virtual try-on via smartphone, etc.) prior to purchase	39 (7.5)	44 (8.5)	0.583
Implements a made-to-order production system	57 (11.0)	77 (14.8)	0.036
Uses traditional dyeing and weaving techniques	46 (8.8)	41 (7.9)	0.568
Use of synthetic leather (an artificial material designed to mimic natural leather)	65 (12.5)	47 (9.0)	0.036

^{*}McNemar's test

Orange rows indicate the top 3, and the blue row indicates the bottom 2, all of which were commonly selected for both ethical and sustainable fashion.

Table 3. Considerations regarding ethical/sustainable fashion, barriers, and price.

	n (%)
When acquiring fashion-related products, do you consider aspects related to ethical and sustainable fashion?	
Strongly consider	24 (4.6)
Slightly consider	90 (17.3)
Do not consider much	210 (40.4)
Do not consider at all	196 (37.7)
Are there any barriers that impede the consideration of ethical and sustainable fashion aspects when acquiring fashion-related items?	
Lack of information on ethical/sustainable fashion	171 (32.9)
Lack of product-specific information	119 (22.9)
Excessive or ambiguous labeling and advertising	90 (17.3)
High prices	184 (35.4)
Inadequate rental, sharing, and subscription (flat-rate rental) options	31 (6.0)
Other barriers	2 (0.4)
No barriers	171 (32.9)
Does how you handle fashion-related products after purchase vary depending on their purchase price?	
High-priced items are more likely to be transferred or repaired when no	210 (40.4)
longer used	220 (42.2)
The purchase price does not affect how I handle items	220 (42.3)
Low-priced items are more likely to be transferred or repaired when no longer used	90 (17.3)

 Table 4. Practices of respondents.

	n (%)
From the perspective of ethical and sustainable fashion, do you currently practice any of the following activities?	
Only purchase the minimum necessary	209 (40.2)
Consider the production background when purchasing	31 (6.0)
Consider the material when purchasing	74 (14.2)
Use purchased items for as long as possible	229 (44.0)
Repair damaged items and continue using them	96 (18.5)
Transfer items no longer in use to family or acquaintances, or sell them to a third party via flea market apps or reuse vendors	120 (23.1)
Purchase items through flea market apps or reuse vendors	72 (13.8)
Use rental, sharing, or subscription (flat-rate rental) services	32 (6.2)
Other activities	0 (0.0)
Do nothing in particular	129 (24.8)

The orange rows indicate the top 2 most frequently selected items, and the blue row indicates the bottom item.

Table 5. Awareness of the French law prohibiting the destruction of unsold or returned textiles and support for its promotion in Japan.

	Should be promoted	Should not be promoted	Total
Aware	37 (7.1)	31 (6.0)	68 (13.1)
Not aware	345 (66.3)	107 (20.6)	452 (86.9)
Total	382 (73.5)	138 (26.5)	

Table 6. Important strategies for ethical and sustainable fashion and how to implement them.

	Especially important	How should it be implemented?		P-value*
	•	Mandated by law	Voluntary efforts	_
Establish design requirements— ensure durability, facilitate repair and recycling, and minimize environmental impact upon disposal	105 (20.2)	35 (33.3)	70 (66.7)	<0.001
Strengthen information disclosure— use digital systems to provide clear information about each product's life cycle, and set standards for using terms like "environmentally friendly."	94 (18.1)	44 (46.8)	50 (53.2)	0.606
Reversing overproduction and overconsumption—shift business models away from rapidly changing trends, for instance by reducing the number of collections released in a single year.	249 (47.9)	80 (32.1)	169 (67.9)	<0.001
Stopping the destruction of unsold or returned textiles	210 (40.4)	92 (43.8)	118 (56.2)	0.084
Review producer responsibility— define responsibilities for collecting and recycling used products, and set targets for reuse and recycling	149 (28.7)	58 (38.9)	91 (61.1)	0.009

*Binomial test Differences in the blue rows are not statistically significant.