

# Sustainable Fashion Preferences Among Millennials During Pandemic

Ilijana Petrovska, Anu Jossan

QFBA Northumbria University, Qatar

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## Abstract

This study examines how the COVID-19 pandemic has affected millennial purchase preferences for fashion and environmentally friendly fashion products. It has altered how consumers view fashion, partly because of the isolation that has resulted, the decline in income, and the fear that comes with the situation. This health crisis has compelled consumers to change their way of life, impacting their attitudes and purchasing motivations. Results indicated that throughout the Covid-19 pandemic, participation in sustainability has deepened, (McKinsey, 2021) which validates with this study that limiting the harmful effects of climate change became more essential, according to two-thirds of the customers questioned. Since sustainability was already a big subject before, especially for generation Y and Z (millennials), this research would examine if the pandemic impacted customers' preferences towards sustainable fashion.

The participants involved in this research were millennials from Italy and Netherlands, and the questionnaire poll was adapted from a McKinsey study (Granskog, et al., 2020). Statistical analyses are conducted to investigate the variations in consumer preferences before, during and after the pandemic. The study's findings emphasize a notable shift towards comfort over trendiness and a growing inclination towards sustainable choices. The findings underscore the need for adaptive marketing strategies in the fashion industry to align with evolving consumer behaviors in the post-pandemic era.

**Keywords:** sustainable fashion, consumer preferences, the pandemic

## 1. Introduction

This research aims to analyse the impact of the COVID-19 pandemic on consumer purchase preferences within the sustainable fashion industry. It has influenced and reshaped the

consumer's perception of fashion in unprecedented ways. The enforced isolation, economic uncertainties, and apprehensions stemming from this novel situation have led individuals to evolve their fashion preferences significantly. Amidst these changes, sustainability has emerged as a prominent trend within the fashion industry, due to the ongoing climate change discussions and environment preservation. Sustainability was already a pressing concern before the pandemic, but its importance has grown, especially among Generation Y and Z (Dabija et al., 2019; Lavuri et al., 2021; Arora & Manchanda, 2022). Therefore, it becomes imperative to investigate whether this health crisis has prompted consumers to adopt a more conscientious approach to their clothing purchases.

Our primary objective is to identify and analyze the changes caused in consumer preferences and to find out their evolving attitudes toward sustainable fashion, examining whether the health crisis played a role in shaping these perspectives. Moreover, taking advantage of our research team, we seek to explore the divergent impacts of the pandemic in Italy and the Netherlands, offering valuable insights into the interplay of culture and crisis on consumer behavior.

## **2. Literature Review**

The pandemic has challenged traditional theories of consumer motivation, revealing them to be inherently volatile and susceptible to both internal and external factors (Kim and Woo, 2021). These remarkable shifts in consumer behavior and motivation necessitate a comprehensive examination to explain the intricate interplay of internal and external influences, shedding light on the transformative impact of health crisis on the fashion industry.

Simultaneously, the pandemic has ushered in economic uncertainty, with a decrease in income and heightened concerns about a potential recession. This gloomy economic backdrop has precipitated a significant decline in consumer sentiment, resulting in reduced overall spending (Khayru, 2021). In response, consumers have become more deliberate in their clothing purchases, placing a heightened emphasis on value and longevity (Kim & Woo, 2021). The pandemic has also imposed a sedentary and solitary lifestyle on many, leading to a profound shift in fashion preferences. Comfort has emerged as a paramount criterion, often trumping trendiness in consumer choices (Pelikánová et al. 2021). This shift in consumer preferences has translated into increased demand for categories such as activewear, wellness products, casual attire, and home-related products (Pang et al., 2022). To delve deeper into these changes, it is crucial to consider the underpinning psychological motives that influence consumption behavior.

In the wake of the health crisis, significant changes have been observed in consumer behavior and attitudes, particularly within the context of the fashion industry. These changes have far-reaching implications, as they relate to the intertwining of hedonic motives, sustainability values, and evolving consumer preferences. The COVID-19 pandemic, which prompted

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individuals to spend more time at home, led to an increased fascination with the complexity of clothing, including a heightened awareness of sustainability aspects (Pelikánová et al., 2021). Furthermore, a study targeting Generation Y and Z consumers revealed that during the pandemic, external factors such as media reports and expert opinions have exerted a notable influence on consumers' intentions to make online clothing purchases (Brand et al., 2022). Intriguingly, the influence of one's own social network comparatively diminished during this crisis, suggesting that external pressures held more sway than the opinions of close social connections in influencing consumer behavior during these uncertain times (Dabija & Lung, 2019). This multifaceted landscape underscores the need for a nuanced and comprehensive understanding of how the health crisis has reshaped the fashion industry, offering valuable insights for both practitioners and scholars in the field (Williams & Hodges, 2022).

Messages advocating sustainable production practices and environmentally friendly materials have resonated strongly with consumers, gaining widespread recognition (Koch et al., 2020). Moreover, mere critical discussions about irresponsible business practices, rampant overconsumption, and the perils of materialism (Bandyopadhyay and Ray, 2020; Kang & Sung, 2022). These discussions have elevated the importance of sustainability values in the minds of consumers. The focus on sustainability has become especially prominent among Generation Z and Millennial shoppers, who already harbored heightened environmental concerns prior to the health crisis (Brand et al., 2022; Luo et al., 2023).

A McKinsey survey (Granskog, et al., 2020) revealed a noteworthy trend: a sizable portion of consumers in the United States and Europe expressed an intention to increase their purchases of ecologically and socially sustainable clothing. This data highlights the escalating interest in sustainable fashion; yet there is a question if there are going to stay (Gupta & Mukherjee, 2022).

As the pandemic had a transformative impact on people's lives, understanding these differences among consumers has become increasingly crucial. Individuals' values and lifestyles have undergone significant shifts, making it imperative to comprehend how these changes manifest in their preferences and purchasing decisions. Indeed, consumer attitudes toward clothing provide an illuminating case study in this context. While some consumers may view clothing purely as a functional necessity with minimal intrinsic value, others may hold clothing in high regard, attaching significant importance to its quality, design, and relevance to their personal identity (Reimers et al., 2017). When assessing products, consumers contemplate the tangible and intangible benefits they offer. These benefits can encompass practical and functional aspects, such as durability or convenience, as well as emotional and psychosocial facets, such as how a product makes them feel or how it influences their perception by their immediate and wider social environment (Zhang et al., 2023). Questions inevitably arise: Do I desire clothing that exudes sophistication or sportiness? How do these apparel choices reflect my self-image and identity? How do others perceive me in these clothes, and what broader societal impacts do my clothing choices carry?

These inquiries underscore the intricate interplay between consumer values, motivations, and the products they select, offering a rich terrain for researchers and businesses seeking to understand and cater to evolving consumer preferences in a rapidly changing world.

The study of consumer behavior is a multifaceted endeavor, and one valuable lens through which to examine is the VALS (Values and Lifestyles) typology (Solomon, et al., 2019), which provides insights into how consumers align with different personality and lifestyle segments (Mitchell, 1983; Schiffman & Kanuk, 2010; Solomon, et al., 2019). Within this framework, consumers can often be categorized as believers, strivers, and makers, all of whom exhibit varying levels of openness to change and control over their lives. For instance, innovators typically embrace change and wield considerable influence over their own lives and those of others, while survivors are also open to change but may have limited control over their circumstances, which fits in a pandemic scenario. These distinctions offer intriguing insights into consumer behavior and preferences.

In summary, the VALS typology provides a valuable framework for comprehending the diversity of consumer behavior, especially in the context of shifting values and lifestyles precipitated by the health crisis. Analyzing consumer preferences and product benefits in the realm of clothing offers a nuanced perspective on the intricate relationship between consumers and the products they choose.

### **3. Research Method**

The study strategy relies on a quantitative approach with an online survey to obtain the greatest number of responses (Saunders, et al., 2007). With the advantages of collecting large volume of data and its effectiveness in capturing attitudes and preferences and its ability to reach a diverse group of millennial respondents through social media platforms, a survey instrument found to be the most appropriate tool for data collection for this study. Three copies of the questionnaire—one in English, one in Dutch, and one in Italian—were sent as part of the data-collecting process, leverages cultural diversity to enrich findings. By employing online surveys in native languages, it ensures broad participation and inclusivity. Italian and Dutch millennials are increasingly considering sustainability in their fashion choices, influencing the market, and prompting brands to adapt to these preferences, which makes them the right group of samples to understand their value and expectations (Muposhi, A., & Chuchu, 2022). The choice of millennials as respondents aligns with the study's digital and social media-centric approach and their known interest in sustainability.

The survey was created in Qualtrics (Online Survey Software) and was active for five days commencing in March 2021. To ensure a wide-ranging response a multi-pronged approach was adopted where in addition to sending out the survey links directly, we harnessed the reach of popular social media platforms such as Facebook and LinkedIn to initiate a snowball effect (Ozkent, 2022), encouraging participants to share the survey with the networks. The use of snowball sampling via social media platforms maximizes reach and participation, while

maintaining anonymity and voluntariness addresses ethical concerns. By permitting free involvement, the ethics of choice were upheld, anonymity, and secrecy were guaranteed by avoiding the collection of any personal data and the participation of the subjects were entirely voluntary (Mumford, et al., 2021; Creswell, 2017; Bryman, 2016). The diverse analytical techniques applied to the data from 172 participants allow for a comprehensive analysis of the responses, making the study both efficient and ethically sound.

The total sample size for this study comprised 172 individuals, with seventy-one percentage women (71%), twenty-seven percentage men (27%), and the rest from other gender. Primarily millennials, these participants were selected from Italy and the Netherlands accounting 48% from Italy and 42% from Netherlands, while the remaining 10% represented respondents from other European nations. Cross tabulation, Chi Square, T tests, ANOVA, correlation, and regression techniques are used to analyse the results.

### 3.1 Reliability Test - Cronbach Alpha

The questionnaire used in this study was designed to address the research objectives and several questions primarily related to the impact of the pandemic on consumer purchase behaviour which was adapted from a survey conducted by McKinsey (Granskog, et al., 2020). The tool employed a four-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). As in the table 1, the questionnaire demonstrated strong internal consistency with a Cronbach alpha composite score of 0.873, indicating the reliability of the survey instrument (Creswell, 2017; Bryman, 2016).

Table 1. Composite & individual Cronbach's Alpha

	Cronbach's Alpha if item Deleted	Reliability Level
Increased Awareness of Natural Resource Scarcity Due to pandemic	0.857	Very High
Joy in Purchasing Sustainable Products	0.850	Very High
Significant Lifestyle Changes for Environmental Impact Reduction	0.852	Very High
Going Out of the Way to Recycle	0.866	Very High
Preference for Environmentally Friendly Packaging	0.859	Very High
Future Intent to Purchase More Second-Hand Fashion Items	0.870	Very High
<b>Composite Score</b>	<b>0.859</b>	<b>Very High</b>

The table also shows Cronbach's Alpha if each item is deleted and the values range from 0.850 to 0.87, indicating remarkably high reliability levels.

#### 4. Results and Discussion

The seismic shifts in consumer behaviour during the pandemic have reshaped the landscape of fashion and shopping preferences, prompting the reevaluation of traditional marketing strategies. The following discussion shows a detailed analysis of consumer fashion shopping preferences, behaviour, expectations and shifts on sustainable choices of fashion.

Table 2. Pandemic effect on consumer attitude towards fashion and apparel

Variable	Strongly Agree	Agree	Disagree	Strongly Disagree
a) Change in the Value of Fashion and Apparel due to the Pandemic	9 (5.14%)	55 (31.43%)	75 <b>(42.86%)<sup>H</sup></b>	33 <b>(18.86%)</b>
b) Increase in Interest in Different Fashion and Apparel Categories during the Pandemic	38 <b>(21.7%)</b>	83 <b>(47.4%)<sup>H</sup></b>	44 (25.1%)	5 (2.9%)
c) Decrease in Concern for Fashion and Trendiness of Clothing during the Pandemic	24 <b>(13.7%)</b>	76 <b>(43.4%)<sup>H</sup></b>	61 (34.9%)	10 (5.7%)

##### 4.1 Consumer Behaviour Towards Fashion and Apparel During the Pandemic

In the dynamic landscape of consumer behaviour during the pandemic, the table 2, shows the shifts in attitudes towards fashion and apparel. The respondents' varying perspectives on the value of fashion and apparel coupled with changes in interest and concerns, offer a multifaceted view of how external factors can influence consumer perceptions.

As shown in table 2, row a, majority of respondents disagree (61.72%) that they value fashion and apparel differently due to the pandemic, while others (36.57%) responded that there is an evident shift in their valuation of fashion and apparel. Nevertheless, the majority of respondents (57.1%) as in row b, also agree that there has been a decline in their concern for fashion and trends in clothing. The shift in consumer fashion attitude is driven by the value perception concept, influenced by personal factors (income, lifestyle, preferences), social factors (norms, peer groups), and situational factors (physical environment, time). Additionally, marketing factors like availability, price, and promotion contribute to varying perceptions of fashion value. For these consumers fashion may have been important for their identity, enhancing self-esteem but the pandemic challenged their beliefs as social

interactions became limited or income became limited to needs and wants. In this case, these consumers have rationalized that fashion is less important and adjusted their preferences.

However, as in table 2, row a, the majority (61.72%) has no shift in their attitude towards fashion and has a stable or consistent value perception regardless of the pandemic. The response of majority in row b responses (69.1%) are presenting increase in interest in different fashion and apparel categories and a 40.6% group of consumers who has a stable concern for fashion and trendiness in clothing are the market for fashion marketers (table 2, row c).

#### 4.2 Evolving Consumer Fashion Preferences During the Distinct Phases of the Pandemic

The study revealed some major shifts in the consumer preferences of fashion for comfortability, trendiness, utility, feeling of acceptance and others as shown in the table 3. Before the pandemic, half of the respondents indicated "*trendiness*" as fashion, but this number fell less than a quarter during lockdown as individuals were no longer able to go out and flaunt their outfits. However, 45% of respondents claimed that they would consider fashion to be trendy once more after the epidemic.

Table 3: Consumer fashion Preferences during the distinct phases of Pandemic

	<i>Comfortability</i>			<i>Trendiness</i>		
	During Pandemic	Post pandemic		During Pandemic	Post pandemic	
Pre-Pandemic			Pre-Pandemic			
	31	41		36	75	
	18.34%	24.26%		21.30%	44.38% <sup>H</sup>	
	59.76% <sup>H</sup>		49.11%			
	<i>Utility</i>			<i>Feeling of acceptance</i>		
	During Pandemic	Post pandemic		During Pandemic	Post pandemic	
Pre-Pandemic			Pre-Pandemic			
	23	22		7	21	
	13.61%	13.02%		4.14%	12.43%	
	8.88%		12.43%			
	<i>Other</i>					
	During Pandemic	Post pandemic				
Pre-Pandemic						
	11	10				
	6.51%	5.92%				
	5.92%					

A similar pattern is observed for "*feeling of acceptance*," which fell to less than a tenth when inquired about during the epidemic and rose again following it. Sixty percent of respondents stated they viewed fashion as consolation owing to the quarantine. When asked whether they would regard fashion to be comfortable after the pandemic (25%) vs if they did so before, this number significantly declined (18%). However, most respondents, 58%, indicated that they had lessened their worry about the fashionability and trendiness of their clothing due to the pandemic.

On the other hand, the consumer perception of fashion as utility has mostly not changed. Most respondents (55%) prefer comfort in clothing more than trendiness; this is due to quarantine, locked down and remote working. Furthermore, consumers no longer believe that clothing must be tied to a sense of acceptance because people are isolated, and no one will remark on their appearance. The pandemic has changed consumer shopping behaviour, with 71% of respondents switching from formal wear to casual and activewear because they prefer comfortability above trendiness.

Table 4. t-Test: Paired Two Sample for Means of fashion preference compared between three combinations of distinct phases of the pandemic

	<i>Pre-Pandemic Fashion</i>	<i>Fashion During Pandemic</i>	<i>Fashion During Pandemic</i>	<i>Post Pandemic Fashion</i>	<i>Pre-Pandemic Fashion</i>	<i>Post Pandemic Fashion</i>
<i>Mean</i>	2.16	2.74 <sup>H</sup>	2.74 <sup>H</sup>	2.24	2.1598	2.2367 <sup>H</sup>
<i>Variance</i>	1.79	1.16	1.16	1.69	1.7898	1.6936
<i>Observations</i>	169	169	169	169	169	169
<i>Pearson correlation</i>	0.52		0.59		0.6175	
<i>t Stat</i>	-6.27		5.96		-0.866	
<i>P(T&lt;=t) one-tail</i>	0		0		0.1939	
<i>t Critical one-tail</i>	1.65		1.65		1.654	
<i>P(T&lt;=t) two-tail</i>	0		0		0.3877	
<i>t Critical two-tail</i>	1.97		1.97		1.9742	



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The table 4 shows the results of T-tests of paired samples for means of fashion preferences compared between three combinations of distinct phases of the pandemic. The paired samples are the fashion preferences of the same group of people during distinct phases to examine the shifts in their preferences. The t-test results indicate statistically significant differences in the mean of fashion preferences during the pandemic (2.74) and post-pandemic (2.5), which suggest that during the pandemic the consumers exhibited a notable shift in fashion preferences. Connecting this shift with Table 3 consumer fashion preferences, the increased fashion preferences during the pandemic align with the observed surge in comfortability from 18.34% before to 59.76% during the pandemic and a decline in trendiness from 49.11% before to 21.30% during the pandemic. This affirms the shift in consumer behaviour towards prioritising comfort over trendiness during the pandemic. Preferences shifted towards casual and comfortable wear due to remote work and limited social interactions. The t-test further reveals a correlation between fashion preferences during different pandemic phases, with a Pearson correlation of 0.52 and 0.6175, which suggests a positive relationship indicating that fashion preferences increased during the pandemic tend to remain elevated post-pandemic.

#### *4.3 Post-pandemic Consumer Confidence in Spending on Fashion and Apparel*

As consumers navigate through the aftermath of unprecedented challenges, understanding the dynamics of confidence levels and spending patterns is important. The below table delves into the post-pandemic landscape, examining the intricate relationship between consumer confidence in their economic conditions and spending behaviours within the fashion market through cross-tabulation and Chi Square analysis.

Table 5. Cross-tabulation and Chi-Square Analysis: Post-Pandemic Consumer Confidence and Fashion Spending Patterns

		Effect of Pandemic on Fashion Spending				Total	%
		<i>Increased</i>	<i>About the same</i>	<i>Reduced slightly</i>	<i>Reduced a lot</i>		
Overall Confidence in Economic Conditions	<i>Pessimistic</i>	2	17	7	18	44	25.14%
	<i>Cautiously pessimistic</i>	20	36	27	31	114	65.14% <sup>H</sup>
	<i>Very pessimistic</i>	1	3	3	7	14	8.00%
Total		23	56	37	56	172	100%
%		13.14%	32.00%	21.14%	32.00% <sup>H</sup>	100%	

**Chi-Square Tests**

	<i>Value</i>	<i>df</i>	<i>Asymptotic Significance (2-sided)</i>
<i>Pearson Chi-Square</i>	9.670 <sup>a</sup>	6	0.139
<i>Likelihood Ratio</i>	10.412	6	0.108
<i>Linear-by-Linear Association</i>	0.155	1	0.694
<i>N of Valid Cases</i>	172		

a. 4 cells (33.3%) have expected count less than 5. The minimum expected count is 1.87.

A substantial, 65.14% of respondents express cautious pessimism regarding overall economic conditions, indicative of a prevailing sense of uncertainty. This sentiment is reinforced by the 25.14% who hold a pessimistic view, reflecting a collective apprehension about the economic landscape. The diverse responses within these groups highlight the complexity of consumer decision-making during uncertain times. Consumers in these groups seem to balance their economic outlook with varying degrees of spending adjustments. Analysing the effect of the pandemic on fashion spending, a nuanced pattern emerges while 32% of respondents reduced their spending significantly an equal percentage reported a slight reduction, highlighting the diverse impact on consumer preferences within the fashion industry. Interestingly 13.14%

increased their fashion spending, challenging conventional expectations that economic downturns universally lead to reduced consumer expenditures. Respondents who reported increased confidence in economic conditions post-pandemic were more likely to have increased their fashion spending or kept it about the same. This suggests a potential alignment between positive economic sentiment and consumer willingness to spend on fashion. Respondents with a very pessimistic outlook exhibited varied responses with no clear trend in spending behaviour. However, this group comprises a smaller percentage of the overall sample. The Chi-square test results indicate that the association between overall confidence and the effect on fashion spending is not statistically significant ( $p=0.139$ ), which means the observed relationship could be due to random chance. The likelihood ratio test also supports this yielding a  $p$  value of 0.108. The lack of statistical significance suggests caution in generalising the observed relationship, based on which we can conclude that economic confidence might not be the sole driver of post-pandemic spending behaviour in the fashion industry. The absence of a significant linear trend implies that individual differences and contextual factors might play a crucial role in shaping post-pandemic spending decisions.

#### 4.4 Pandemic-driven Sustainable Fashion Choice

In exploring the dynamics of pandemic-driven consumer preferences, a critical focus lies on the adoption of sustainable fashion. A comprehensive analysis as depicted in table 7 through ANOVA reveals the key predictors influencing consumer behaviour in this context.

Table 7: ANOVA based -Sustainable fashion impact predictors

Predictor	<i>Beta</i>	<i>Std. Error</i>	<i>Std. Beta</i>	<i>T stat</i>	<i>Sig.</i>
(Constant)	0.648	0.404		1.603	0.111
Gender ( <i>Xgen</i> )	0.115	0.112	0.076	1.033	0.303
Country ( <i>Xcty</i> )	0.615	0.104	0.457	5.905	0.000
Age ( <i>Xage</i> )	-0.091	0.072	-0.092	-1.257	0.211
The impact of the pandemic on the valuation of fashion among consumers ( <i>Xval</i> )	-0.019	0.075	-0.021	-0.253	0.800
The changes in consumer interest for various categories of clothing during the pandemic ( <i>Xint</i> )	0.178	0.075	0.204	2.384	0.018
The effect of the pandemic on the importance of fashion and trendiness in consumer clothing choices ( <i>Xtre</i> )	0.082	0.075	0.097	1.086	0.279
First-time online shopping ( <i>Xonl</i> )	0.093	0.132	0.052	0.708	0.480
Post Pandemic- Overall economic confidence ( <i>Xeco</i> )	0.183	0.089	0.144	2.053	0.042
Pandemic effect on fashion shopping spending ( <i>Xspe</i> )	-0.028	0.050	-0.044	-0.554	0.581

Note.  $N = 175$ . Dependent variable: ( $Y_s$ ) Consumer behaviour towards Sustainable fashion.  $R^2 = 0.4956$ .

$$Ys = 0.648 + 0.115Xgen + 0.615Xcty - 0.091Xage - 0.019Xval + 0.178Xint \\ + 0.082Xtre + 0.093Xonl + 0.183Xeco - 0.028Xspe$$

From the table 7, it can be noted that three predictors showed a significant effect (*with less than 0.05 p-value and higher t stat*) on consumer behaviour towards sustainable fashion, which are country ( $Xcty$ ), changes in consumer interest for distinct categories of clothing ( $Xint$ ) and Post Pandemic- Overall economic confidence ( $Xeco$ ) during the pandemic. This implies that these three predictors are the most key factors that explain the variation in consumer behaviour towards sustainable fashion. The  $\beta$  of these variables  $0.615 \beta Xcty$ ,  $0.178 \beta Xint$ ,  $0.183 \beta Xeco$ , respectively show that they have a direct relationship with sustainable fashion. A  $\beta Xcty$  of 0.615 shows that the country has a strong and positive effect on consumer behaviour towards sustainable fashion and this can be explained based on the consumer behaviour beliefs, attitudes, and behaviours regarding sustainable fashion.  $\beta Xint$  of 0.178 for changes in consumer interest for different categories of fashion during the pandemic implies that the pandemic has a positive and moderate effect on consumer behaviour towards sustainable fashion. Consumers who have increased their interest in categories such as casual wear, activewear, home categories fashion apparels are more likely to buy sustainable fashion than consumers who have not.

Based on consumer behaviour concepts such as *involvement, motivation and self-concept*, consumers who have increased their interest in fashion may have higher levels of motivation to seek sustainable fashion as a way of enhancing their well-being, self-care, or self-expression. Post Pandemic overall economic confidence ( $Xeco$ ) predictor of 0.183 coefficient shows that it has a positive and moderate impact on the sustainable fashion shopping behaviour of the consumers. Consumers who have higher levels of economic confidence after the pandemic are more likely to buy sustainable fashion than consumers who have lower levels of economic confidence. This may be explained by the consumer behaviour concept of *perceived risk-value and quality*, which suggests that consumers who have higher levels of economic confidence after the pandemic may have lower levels of perceived risk. Higher levels of perceived value or perceived quality regarding sustainable fashion depend on their budget or expectations as they may associate sustainable fashion with higher standards, durability, or aesthetics. Marketers may approach these customers with efforts that can boost sustainability in fashion awareness, interest, and motivation.

The table 8 delves into the intricate relationship between consumer sentiments and behaviours on sustainable fashion choices post-pandemic. From awareness of natural resource scarcity to emotional connections with sustainable products and shifts in purchasing decisions, the analysis unveils a comprehensive overview of how consumers are navigating the intersection of fashion and sustainability in the aftermath of global challenges.

Table 8. Consumer Attitudes and Behaviors Towards Sustainable Fashion After the Pandemic

Variables	Strongly Agree	Agree	Disagree	Strongly Disagree
Consumer awareness of natural resource scarcity due to the pandemic	26 (14.9%)	74 (42.3%) <sup>H</sup>	52 (29.7%)	20 (11.4%)
Consumer happiness in purchasing sustainable products since the pandemic started	32 (18.3%)	86 (49.1%) <sup>H</sup>	40 (22.9%)	13 (7.4%)
Consumer lifestyle changes for environmental impact reduction since the pandemic	19 (10.9%)	60 (34.3%)	63 (36.0%) <sup>H</sup>	30 (17.1%)
Consumer recycling behavior and interest since the pandemic	19 (10.9%)	60 (34.3%)	63 (36.0%) <sup>H</sup>	30 (17.1%)
Consumer preference for environmentally friendly packaging during the pandemic	26 (14.9%)	71 (40.6%) <sup>H</sup>	53 (30.3%)	22 (12.6%)
Consumer future intent to purchase more second-hand fashion items after the pandemic	16 (9.1%)	56 (32.0%)	64 (36.6%) <sup>H</sup>	36 (20.6%)

A substantial 57.2% of respondents acknowledge natural resource scarcity, 45.2% made lifestyle changes to reduce environmental impact, 45.2% engage in recycling, and 55.5% express a preference for environment-friendly packaging suggests that consumers are increasingly cognizant of the environmental impact of their consumption habit which in turn will reflect on their sense of responsibility towards sustainable choices. 67.4% of respondents express happiness in purchasing sustainable products, which shows that this positive emotion contributes to consumer satisfaction, reinforcing the likelihood of continued sustainable purchasing behaviour. The prominent levels of awareness, emotional connection and positive behavioural changes highlight a transformative shift in consumer consciousness towards more sustainable and environmentally responsible choices.

Table 9. ANOVA based post pandemic predictors of millennial consumer preference for sustainable fashion shopping

	<i>Beta</i>	<i>Std. Error</i>	<i>Std. Beta</i>	<i>T stat</i>	<i>Sig.</i>
(Constant)	0.486	0.207		2.343	0.020
Consumer awareness of natural resource scarcity due to the pandemic ( <i>Xnr</i> )	0.152	0.076	0.153	2.016	0.045
Consumer emotional connection with perceived sustainable products after the pandemic ( <i>Xcon</i> )	0.158	0.084	0.161	1.883	0.061
Consumer happiness in purchasing sustainable products since the pandemic started ( <i>Xhap</i> )	0.314	0.088	0.3	3.588	0.000
Consumer lifestyle changes for environmental impact reduction since the pandemic ( <i>Xlif</i> )	0.238	0.083	0.245	2.857	0.005
Consumer recycling behavior and interest since the pandemic ( <i>Xrcy</i> )	-0.117	0.077	-0.121	-1.508	0.134
Consumer preference for environmentally friendly packaging during the pandemic crisis ( <i>Xpac</i> )	-0.067	0.072	-0.069	-0.919	0.359
Consumer future intent to purchase more second-hand fashion items after the pandemic crisis ( <i>Xfut</i> )	0.139	0.066	0.142	2.108	0.037

Note.  $N = 175$ . Dependent variable: ( $Y_s$ ) Consumer Preference for Sustainable fashion.  $R^2 = 0.683$ .

$$Y_s = 0.486 + 0.152X_{nr} + 0.158X_{con} + 0.314X_{hap} + 0.238X_{lif} - 0.117X_{rcy} - 0.067X_{pac} + 0.139X_{fut}$$

Consumer awareness of natural resources due to the pandemic ( $X_{nr}$ ) has a positive impact ( $\beta_{X_{nr}} 0.152$ ) on consumer preference for sustainable fashion choices and is statically significant ( $p=0.045$ ). This aligns with the notion that heightened awareness of environmental issues influences consumer choices, reflecting a growing trend of eco-consciousness. Consumer emotional connection with perceived sustainable products ( $X_{con}$ ) is marginally non-significant ( $p=0.061$ ), although the trend is positive and worth noting as emotional connections often drive

sustainable choices. Consumer happiness in purchasing sustainable products since the pandemic ( $Xhap$ ) is highly statistically significant and  $\beta$  0.314 shows a comparatively higher impact on sustainable fashion choices, which aligns with the idea that positive emotional experience linked to sustainable purchases can foster a continuous commitment to eco-friendly choices. The positive  $\beta$  0.238 and high statistical significance of 0.005 of consumer lifestyle changes for environmental impact reduction ( $Xlif$ ) since the pandemic shows the role of personal commitment and behavioural shifts influencing consumer choices towards sustainability. Consumer future intent to purchase more second-hand fashion items after the pandemic ( $Xfut$ ) with a positive beta of 0.139 and statistical significance ( $p= 0.037$ ) indicates a growing inclination towards embracing the circular economy model and a preference for pre-owned fashion items.

## 5. Conclusion

In conclusion, the shifts in consumer behavior during the pandemic have significantly impacted the fashion industry, prompting a reevaluation of traditional marketing strategies. The detailed analysis presented in this discussion sheds light on key aspects of consumer fashion shopping preferences, behavior, and shifts toward sustainable choices.

The study highlights the dynamic nature of consumer attitudes towards fashion and apparel during the COVID-19 health crisis. While a substantial percentage experienced a shift in their valuation of fashion and a decline in concern for trends, a majority maintained a stable attitude. Fashion marketers should strategically engage with both segments, focusing on customer relationship management tools, loyalty programs, and personalized offers to retain and enhance satisfaction.

The research reveals notable shifts in consumer preferences during different phases, emphasizing a move towards comfort over trendiness. The statistical analysis indicates a significant correlation between increased fashion preferences during the pandemic and a sustained elevation post-pandemic, particularly towards comfort-oriented clothing. This trend suggests a lasting impact on consumer behavior, with a preference for casual and comfortable wear driven by remote work and limited social interactions.

The post-pandemic landscape unveils a complex relationship between consumer confidence in economic conditions and spending behavior in the fashion industry. While a majority expresses cautious pessimism, spending adjustments vary, challenging conventional expectations. The lack of statistical significance in the association between overall confidence and fashion spending suggests that individual differences and contextual factors play a crucial role in shaping post-pandemic spending decisions.

Lastly, the study delves into pandemic-driven sustainable fashion choices, identifying key predictors influencing consumer behavior. Country, changes in consumer interest for distinct clothing categories, and post-pandemic overall economic confidence emerge as crucial factors. Marketers are encouraged to boost awareness, interest, and motivation among

consumers by aligning sustainable fashion choices with perceived value, quality, and economic confidence.

In conclusion, the research underscores the need for fashion industry stakeholders to adapt to the evolving landscape, tailoring strategies to accommodate shifting consumer preferences, emphasizing sustainability, and recognizing the nuanced interplay between economic confidence and spending behavior in the post-pandemic era.

#### *Limitations of research*

The present study, while illuminating significant insights into the impact of the pandemic on consumer fashion preferences, comes with inherent limitations. The generalizability of findings is confined to the specific demographics and geographic locations sampled, raising questions about the broader applicability of results. Additionally, reliance on self-reported data introduces potential bias, as participants may offer socially desirable responses, impacting the accuracy of reported attitudes and behaviors. The temporal context of the research, focused on the health-crisis, might limit the applicability of the findings as consumer behaviors continue to evolve. Furthermore, the study's predominantly quantitative approach may overlook nuanced qualitative insights that could provide a deeper understanding of consumer motivations and preferences. It is recommended that future research adopts a longitudinal perspective to track the enduring evolution of consumer fashion preferences post-pandemic. Exploring cross-cultural variations and incorporating a mixed-methods approach could offer a more comprehensive understanding of the complex interplay between consumer attitudes and behaviors. Additionally, further investigations into the influence of broader economic indicators and the psychological factors shaping sustainable fashion choices would contribute to a more holistic comprehension of post-pandemic consumer behavior in the fashion industry.

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#### **Authors contributions**

Prof. Ilijana Petrovska led the study design, supervised data collection, and contributed to drafting the manuscript. Dr. Anu Jossan conducted data analysis, formulated the results discussion, and provided critical revisions to the manuscript. Both authors have thoroughly reviewed and approved the final version of the manuscript.



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The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

### **Data sharing statement**

No additional data are available.

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