

Cosmetology Products and Sustainability: Greek Consumer's Social and Environmental Attitudes and Perceptions

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Abstract

This study examines Greek consumers' environmental and social attitudes, perceptions, and purchasing intentions regarding cosmetic products, with particular emphasis on sustainability and corporate social responsibility (CSR). A quantitative cross-sectional design was employed using an anonymous online questionnaire administered between January 12 and February 26, 2025. The final sample consisted of 375 respondents from various age groups, primarily residing in the Attica region. Data were analyzed using descriptive statistics and chi-square (χ^2) tests of independence, with effect sizes calculated through Cramer's V. The findings indicate that functional and economic criteria such as product effectiveness, price, quality, and brand reputation remain the dominant determinants of cosmetic purchasing behavior. Although environmental and social factors are recognized, they operate mainly as secondary considerations. Cruelty-free certification emerged as the most influential sustainability attribute, with a notable proportion of participants expressing willingness to pay a premium for products not tested on animals. In contrast, willingness to pay more for eco-friendly packaging or socially responsible production was more limited, suggesting the presence of an attitude-behavior gap. Gender significantly influenced ethical purchasing tendencies, while income and education showed weaker or non-significant effects. The study contributes empirical evidence from the Greek market and offers managerial and policy implications.

Keywords: Ethical consumption, Sustainable consumer behavior, Cosmetics industry, Cruelty-free products, Willingness to pay, Corporate Social Responsibility (CSR), Greece.



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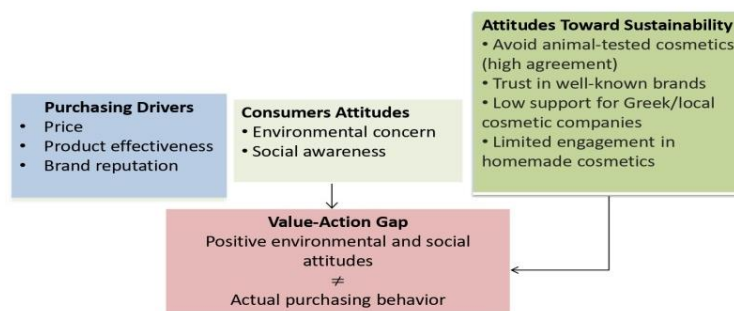
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Graphical abstract

Graphical extract



1. Introduction

The cosmetics industry occupies one of the leading positions in the global economy, with forecasts indicating further growth in the coming years (Statista, 2024). Its dynamism is primarily attributed to its ability to adapt to contemporary challenges and the evolving needs of consumers. In order to remain competitive, the industry must continuously innovate, responding promptly to emerging trends in both product development and business strategies (Mintel, 2024).

In recent years, consumers have increasingly evaluated cosmetic products not solely based on their external appearance or brand image, but also by considering factors such as product ingredients, packaging, recyclability, and overall environmental impact (Becker-Leifhold & Iran, 2018). The growing public awareness of environmental protection has contributed to the strengthening of ecological movements and, consequently, to the tightening of environmental legislation at both national and international levels. This shift has significantly influenced market dynamics, compelling businesses to adapt their strategies in order to maintain or enhance their competitiveness (Kamenidis, 2018). As a result, the demand for sustainable cosmetic products has increased substantially, driven by growing concerns regarding the negative effects of conventional products on the environment, human health, and overall quality of life (Gubitosa *et al.*, 2019). In response, many companies have invested in new production processes and upgraded their infrastructures with the aim of reducing their ecological footprint. The transition toward resource-efficient and sustainable business models has been shown to foster trust and enhance transparency among stakeholders (EcoOnline, 2023).

Nevertheless, investment in sustainability requires complex decision-making processes that prioritize not only economic performance but also environmental and social consequences. Therefore, appropriate strategic choices are essential in order to combine profitability with the promotion of sustainable development (Worldwatch Institute, 2008). The purpose of this study is to examine

consumer behavior in the cosmetics sector, focusing on consumers' level of awareness and sensitivity toward sustainable production and distribution practices.

Despite a growing number of international studies on consumer attitudes toward sustainable and socially responsible cosmetic products, research focusing explicitly on the Greek market remains notably scarce. Given unique socio-cultural and economic characteristics of the Greek market, findings from other countries cannot simply be generalized. This gap highlights a critical need for context-specific evidence, which the present study aims to address.

The research is guided by the following questions:

- RQ1: To what extent do Greek consumers consider environmental and social factors when purchasing cosmetic products?
- RQ2: Are consumers willing to pay a premium for sustainable and socially responsible cosmetics?
- RQ3: Do demographic characteristics significantly influence sustainability-related attitudes and behaviors?

By providing empirical evidence from an underexplored national context, this study contributes to the literature on sustainable consumption and ethical consumer behavior. Furthermore, it offers practical implications for cosmetic companies and policymakers seeking to promote environmentally and socially responsible products in markets characterized by both growing sustainability awareness and persistent price sensitivity.

2. Theoretical Framework

2.1. Sustainability in the Cosmetics Industry

Cosmetic products are considered particularly harmful to the environment due to their continuous production and consumption. As they are intended for external use and do not undergo metabolic transformation, they enter the environment largely unchanged (Ternes & Siegrist, 2004). All manufactured products, including cosmetics, generate environmental impacts, such as the consumption of non-renewable resources (e.g., raw materials and energy), atmospheric emissions during manufacturing, transportation, and usage, which contribute to air

pollution, ozone depletion, and global warming, as well as waterborne emissions that pollute aquatic ecosystems (Sustainable Packaging Alliance, 2002).

Sustainability in the cosmetics sector is defined as producing goods that meet human needs without harming the environment, animals, or depleting natural resources. Most sustainable or green cosmetics are produced from natural ingredients and renewable raw materials (Rawof, 2021). Examining each phase of a product's life cycle is essential for identifying factors that enhance sustainability. The cosmetic product life cycle highlights the importance of sustainable design, production, and packaging in reducing environmental impact (Bom *et al.*, 2019).

The cosmetics industry must take a leading role in designing products and processes that improve sustainability across the value chain while ensuring consumer safety and regulatory compliance. Sustainable beauty products should not harm the planet or consumer health. Ingredients must be safe, non-toxic, and sourced from renewable resources, and manufacturers should provide fair working conditions for employees. According to journalist Tamara Davison, "sustainable beauty" lacks a formal definition, encompassing multiple dimensions from ingredients and production processes to packaging and social responsibility (Davison, 2024).

Today, the cosmetics industry undertakes various initiatives aimed at environmental friendliness and reducing atmospheric pollution at national and international levels. Sustainability also functions as an effective marketing tool, as companies strive to develop eco-friendly products to attract a broader consumer base (McMullen, 2023). Nevertheless, significant opportunities for improvement remain in Corporate Social Responsibility (CSR) and sustainability-oriented design (Kolling *et al.*, 2022).

Consumer awareness and attitudes play a critical role in shaping sustainable consumption. Social media, in particular, raises awareness of environmental and ethical issues (Dimitrova, 2009). Influencers, social networks, and brand reputation also affect purchase intentions (Kose & Arslan, 2024).

Internationally, demand for natural and environmentally friendly cosmetics has grown substantially. Consumers increasingly seek information about ingredients and potential health implications, expressing concerns about synthetic or chemically intensive formulations (Melloy *et al.*, 2019). Natural and plant-based cosmetics are widely perceived as safer and more environmentally responsible alternatives (Hirata, 2022). Global market data indicate significant expansion in the natural cosmetics segment, with countries such as China, the United States, and India leading in revenues (Statista, 2024). These trends suggest a structural shift toward sustainability-oriented consumption patterns worldwide.

National markets, however, exhibit considerable heterogeneity. In Greece, the cosmetics industry has demonstrated resilience and growth. According to the Hellenic Association of Fragrance and Cosmetic Industries

(PSVAK, 2022), sales increased across all major product categories in 2022. Price sensitivity, however, remains a defining feature of Greek consumer behavior, with many seeking discounted products due to rising living costs. This economic constraint may create a tension between ethical preferences and affordability, potentially reinforcing the attitude-behavior gap.

2.2. Consumer Attitudes & Ethical Consumption

According to Statista (2024), North Asia and North America were the leading regions in the global cosmetics market in 2023, each accounting for nearly 30% of total market share, followed by Europe with 24%. In the same year, skincare products generated approximately €27.7 billion, while makeup products reached €12.7 billion. Within Europe, Germany recorded the highest market value at approximately €16 billion, followed by France, the United Kingdom, Italy, and Spain. These figures illustrate both the geographical concentration of market power and the strong performance of specific product categories within the global cosmetics industry.

Recent developments further confirm the dominance of skincare, which accounted for nearly 40% of total market share in 2024. At the corporate level, L'Oréal has maintained its position as the leading global cosmetics manufacturer since 2023, with revenues exceeding USD 44 billion. At the same time, social media increasingly shapes consumer behavior and sector dynamics, particularly among specific demographic groups reinforcing the rapid diffusion of trends and influencing purchasing decisions (Statista, 2024).

Alongside these structural and corporate developments, notable shifts in consumer values have emerged. Consumers increasingly support small and local businesses and are willing to pay a premium for locally produced goods (Yue *et al.*, 2009). Ethical considerations also play a significant role, as consumers who purchase natural cosmetics report greater satisfaction, believing that their choices contribute to environmental protection (Šálková *et al.*, 2023). Moreover, environmentally friendly practices have evolved into a lifestyle choice for many individuals (Statista, 2024). Empirical evidence further supports this transformation: approximately 79% of consumers seek products that are healthier and more environmentally friendly (Ipsos, 2020), around 40% prioritize purpose-driven brands that align with their personal values (IBM, 2021), and 66% are willing to pay more for sustainable products (Nielsen, 2015). Collectively, these findings indicate a growing alignment between consumer purchasing behavior and environmental and social responsibility.

International studies provide additional insight into consumer environmental and social attitudes toward cosmetics. In the United Kingdom, a study involving thirty women revealed limited knowledge about green cosmetics, with information primarily derived from personal experience and mass media sources (Lin *et al.*, 2018). In Hungary, research with 197 participants showed that 70% desired natural cosmetics, while 56% expressed a

preference for new market entrants (Amberg & Fogarassy, 2019). In Spain, a study with 1,752 participants found that the perceived impact of corporate responsibility on purchase decisions was moderate; older consumers (aged 51–75) generally lacked awareness, and women demonstrated higher responsibility than men (Vazquez-Burguete, 2017). Similarly, in Poland, a study involving 807 consumers indicated that 77.6% were willing to purchase natural cosmetics, prioritizing product properties, quality, and price, followed by chemical composition. Polish consumers also preferred cruelty-free products and were willing to pay more for them (Ratajczak *et al.*, 2023).

The global cosmetics market is characterized not only by strong regional performance and product segmentation but also by a pronounced shift toward sustainability, ethical consumption, and value-driven purchasing behavior. The convergence of market expansion and evolving consumer attitudes underscores the increasing importance of environmental and social considerations within the cosmetics industry.

2.3. Research Gap

Despite the growing international literature on sustainable cosmetic consumption, empirical evidence remains limited in the Greek context. Existing studies primarily focus on broader European or global markets, while little attention has been given to the interaction between demographic characteristics and willingness to pay for specific sustainability attributes within Greece. Moreover, although the attitude–behavior gap has been widely documented in international research, its manifestation in the Greek cosmetics sector has not been systematically examined. Therefore, the present study seeks to address this gap by providing quantitative evidence on Greek consumers' attitudes, purchasing intentions, and demographic influences related to sustainable and socially responsible cosmetic products.

3. Methods and Data

3.1. Research Design and Data Collection

This study aims to investigate Greek consumers' environmental and social attitudes and perceptions regarding cosmetic products. Data were collected through an anonymous online questionnaire developed using the Google Forms platform and distributed via social media channels (Gmail, Instagram, Messenger, and Viber). The questionnaire was administered between January 12 and February 26, 2025, and was written entirely in Greek, as it targeted Greek consumers. The sample comprised individuals from various age groups, and the average completion time was approximately 15 minutes.

The questionnaire primarily consisted of closed-ended questions, including Likert-scale items, Yes/No/Maybe questions, and multiple-choice items, alongside a limited number of optional open-ended questions.

The questionnaire was developed following a review of the relevant literature on sustainable consumption, ethical consumer behavior, and consumer attitudes toward cosmetic products. The questionnaire items were designed

to reflect key themes identified in previous studies, including environmental awareness, social responsibility, willingness to pay for sustainable products, support for local businesses, preferences for cruelty-free cosmetics, and the influence of product quality and price on purchasing decisions (Yue *et al.*, 2009; Nielsen, 2015; Vazquez-Burguete, 2017; Ipsos, 2020; IBM, 2021; Rataichak *et al.*, 2023; Šálková *et al.*, 2023). Additional items were developed to address the specific objectives of the present study and the characteristics of the Greek cosmetics market.

3.2. Data Analysis and Statistical Procedures

Descriptive analysis was initially conducted to summarize and organize the data prior to inferential testing. For demographic and closed-ended questions, absolute frequencies and percentage distributions were calculated. For Likert-scale variables, measures of central tendency and dispersion were computed, including the mean (M) and standard deviation (SD), according to the following formulas:

$$M = \frac{1}{n} \sum_{i=1}^n x_i$$

$$SD = \sqrt{\frac{1}{n-1} \sum_{i=1}^n (x_i - M)^2}$$

These measures were used to assess participants' purchasing frequency of Greek cosmetic products and their preference for small local cosmetic businesses. Open-ended responses were manually reviewed and categorized, with similar answers grouped together to address spelling inconsistencies. The proportion of respondents who chose not to answer optional questions was also recorded and included in the analysis.

Quantitative data analysis was performed using Microsoft Excel. The software was selected due to its adequate functionality for descriptive statistics and chi-square testing, which were appropriate for the categorical nature of the variables examined. Data classification and grouping were carried out through pivot tables, while graphical representations were generated to visualize key findings. Inferential statistical analysis was conducted using the chi-square (χ^2) test of independence to examine potential associations between categorical variables.

The chi-square statistic was calculated using the following formula:

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

where O represents the observed frequencies and E the expected frequencies, which were calculated as:

$$E_{ij} = \frac{(RowTotal_i \times ColumnTotal_j)}{N}$$

Specifically, chi-square tests were calculated using pivot tables in combination with the Excel function:

CHISQ.TEST(actual_range, expected_range)

The chi-square test evaluates whether observed differences between categorical variables deviate significantly from expected distributions under the null hypothesis, which assumes no association between variables (Bryman, 2016). Statistical significance was determined at the conventional threshold of $p < .05$, indicating that the likelihood of the observed association occurring by chance was sufficiently low (Abbadia, 2023).

To assess the strength of statistically significant associations, effect sizes were calculated using Cramer's V, defined as:

$$V = \sqrt{\frac{x^2}{N(k-1)}}$$

where N is the total sample size and k is the smaller number of categories in the contingency table.

3.3. Ethical Considerations

Participation in the study was voluntary and anonymous. Participants were informed about the purpose of the research and provided informed consent prior to completing the questionnaire. No personal identifying data were collected.

4. Results and Discussion

4.1. Sample Characteristics

This chapter presents the findings of the quantitative analysis of the survey. Initially, the demographic characteristics of the participants are provided in order to offer a clear understanding of the sample. Subsequently, the analysis focuses on responses to questions regarding consumer attitudes, preferences, and intentions concerning sustainable and socially responsible cosmetic products.

In the present study, 375 individuals participated, of whom 245 (65.3%) were women, 128 (34.1%) were men, and 2 (0.5%) chose not to disclose their gender. The age distribution of the sample shows that the largest proportion of participants belonged to the 25–34 age group, accounting for 48.5% of the total sample. This was followed by participants aged 15–24 years (18.7%) and those aged 35–44 years (15.2%). Smaller proportions were observed in the 45–54 age groups (10.9%) and the 55–63 age groups (6.7%).

Regarding educational attainment, the majority of participants held a university degree (133 individuals, 35.5%), followed by those with a postgraduate degree (105 participants, 28%). Smaller proportions of respondents were graduates of secondary education (65 participants, 17.3%) or vocational institutes (53 participants, 14.1%). Only a few participants had completed primary education (9 participants, 2.4%) or held a doctoral degree (10 participants, 2.7%).

In terms of personal annual (net) income, the largest proportion of participants reported earning up to €10,000 per year (42.9%), followed by the €10,001–18,000 income bracket (37.1%). Smaller proportions of respondents reported incomes between €18,001–25,000 (11.7%), €25,001–30,000 (3.7%), and above €30,000 (4.5%). These results indicate that a majority of the sample belongs to lower to middle-income brackets, which may influence purchasing decisions and the degree to which price sensitivity affects attitudes toward sustainable and socially responsible cosmetic products.

Finally, the majority of participants resided in the Attica region, with only 27 participants living outside this area, suggesting a sample primarily concentrated in urban and suburban centers.

4.2. Consumer Purchasing Behavior and Preferences

4.2.1. Lifestyle Characteristics of Respondents

In relation to lifestyle habits, 58.9% of respondents reported that they follow a healthy lifestyle, while 41.1% indicated that they do not. This finding suggests that although a majority perceive themselves as maintaining healthy habits, a substantial proportion of the sample does not adopt such practices.

4.2.2. Preferred Cosmetic Brands

Most participants responded to the optional question concerning their preferred cosmetic brands, with only 21.87% ($n = 82$) choosing not to provide an answer. Among the brands most frequently mentioned, Dior was cited by 10.93% ($n = 41$) of respondents, followed by Maybelline New York (8.27%, $n = 31$) and Apivita (7.73%, $n = 29$). Lancôme was reported by 6.93% ($n = 26$) of participants. Other commonly cited brands included La Roche-Posay (6.67%, $n = 25$), Korres (6.40%, $n = 24$), Kiko Milano (5.87%, $n = 22$), NYX (5.33%, $n = 20$), MUA (4.80%, $n = 18$), Yves Saint Laurent (4.80%, $n = 18$) and Estée Lauder (4.53%, $n = 17$). Overall, the results reflect a preference for both international and Greek cosmetic brands.

Table 1 presents the descriptive statistics for participants' purchasing behavior regarding Greek cosmetic products and their preference for small local cosmetic businesses. Both variables were measured using a 5-point Likert scale (1 = very low, 5 = very high). The findings indicate a moderate frequency of purchasing Greek cosmetic products and a relatively limited preference for small local cosmetic businesses. This suggests that local origin and support for small enterprises are not among the primary determinants of cosmetic purchasing behavior within the sample.

4.2.3. Preparation of Natural Cosmetics at Home

The vast majority of respondents reported that they do not prepare their own natural cosmetics at home (96.5%), whereas only 3.5% indicated engaging in homemade cosmetic preparation. This finding suggests that self-production of cosmetic products remains uncommon among consumers.

Table 1. Mean Scores and Standard Deviations for Consumer Purchasing Preferences

Variable	Mean (M)	Standard Deviation (SD)
Purchasing frequency of Greek cosmetic products	2.6	1.1
Preference for small local cosmetic businesses	2.3	1.2

Table 2. Factors Influencing Cosmetic Purchasing Decisions

Which of the following factors do you mainly take into account when purchasing a cosmetic product? (You may select more than one answer).	
Factor	% of respondents
Price	76,80%
Product promotion method	6,90%
Packaging	14,70%
Perfume	33,90%
Brand reputation	50,10%
Properties	47,50%
Chemical composition	27,70%
Reputation	28%
Innovation	4,50%
Effectiveness	66,40%

4.3. Factors Influencing Cosmetic Purchasing Decisions

Table 2 indicates that consumers place greater emphasis on price, product effectiveness, and brand reputation than on other product characteristics. These findings highlight the continued importance of economic and functional considerations in cosmetic purchasing decisions and suggest that consumers prioritize product performance and value when evaluating available alternatives.

4.3.1. Importance of Selection Criteria

Regarding the perceived importance of specific selection criteria, quality and product suitability were identified as the most decisive factors, with the highest proportions of respondents rating them as very important (66.7% and 65.3%, respectively). Price and ingredients were also considered important, though they were more frequently rated as quite important rather than very important. In contrast, packaging and recommendations by others were assigned relatively low importance. Finally, environmental friendliness and social responsibility were acknowledged by a moderate share of respondents, indicating growing—but not yet dominant—concern for sustainability-related attributes.

4.4. Attention to Sustainability Labels and Certifications

When participants were asked which labels and certifications they pay particular attention to when purchasing cosmetic products (multiple responses allowed), 51.2% reported paying attention to cruelty-free certification. Certification of natural or organic products was selected by 43.2% of respondents, while 35.2% indicated environmentally friendly packaging.

Additionally, 31.7% of participants reported attention to products without genetically modified ingredients. Lower proportions selected products without animal-derived ingredients (24.0%) and sulfate-free products (No SLS) (18.4%). Finally, 21.1% of respondents stated that they do not pay attention to any of the listed labels or certifications.

4.5. Willingness to Pay for Sustainable Attributes

Table 3 demonstrates varying levels of willingness to pay for different ethical and sustainable cosmetic attributes. Among the attributes examined, cruelty-free certification received the highest level of support, with the majority of respondents expressing a willingness to pay a premium for products not tested on animals. In contrast, willingness to pay more for natural ingredients, eco-friendly packaging, and socially responsible production was considerably lower and characterized by substantial levels of uncertainty. These findings suggest that animal welfare represents the most salient ethical concern among consumers, whereas other sustainability-related attributes appear to exert a weaker influence on purchasing decisions. The results further indicate the presence of an attitude–behavior gap, as positive attitudes toward sustainability are not consistently accompanied by a willingness to incur additional costs.

4.5.1. Perceived importance of corporate social contribution

Regarding the importance of cosmetic companies contributing to the support of society, 42.67% of participants rated this factor as “important,” while 35.20% considered it “very important.” A smaller proportion of respondents reported uncertainty (10.13%), whereas 8.53% rated it as “slightly important” and 3.47% indicated that it is “not important at all.”

4.5.2. Environmentally responsible brand choice

Regarding environmentally responsible purchasing behavior, 53.6% of respondents reported that they choose cosmetic brands that undertake actions to protect the planet, while 46.4% indicated that they do not. The responses were relatively evenly distributed between the two categories.

4.6. Inferential Analysis: Demographic Associations

Within the framework of the quantitative analysis, the results of the application of the chi-square (χ^2) test of independence are presented below, aiming to investigate potential associations between demographic variables (such as gender, age, and level of education) and consumer

attitudes and intentions related to sustainable cosmetic products. However, some of the examined associations were not statistically significant ($p > 0.05$). As a result, these specific findings were not discussed extensively in the presentation of the results, as they do not meet the criteria for sufficient statistical evidence. This methodological choice was made in order to ensure the validity and robustness of the interpretation of consumer trends.

Table 3. Willingness to Pay for Ethical and Sustainable Cosmetic Attributes

Willingness to Pay for Ethical and Sustainable Cosmetic Attributes (n = 375)			
Attribute	Yes (%)	Maybe / Undecided (%)	No (%)
Natural ingredients	30.1	53.6	16.3
Cruelty-free (not tested on animals)	59.5	29.6	10.9
Eco-friendly packaging	27.5	47.7	24.8
Socially responsible production	31.7	53.6	14.7

4.6.1. Income and Price Importance

A chi-square test of independence was conducted to examine the association between respondents' annual income and the perceived importance of socially responsible business practices in cosmetic product selection. The results indicated a statistically significant association, $\chi^2(8, N \approx 360) = 16.40, p = .036$. Respondents in lower and middle income categories more frequently rated socially responsible practices as "important" or "very important," whereas higher income groups showed a more evenly distributed pattern of responses. The effect size was small (Cramer's $V = .15$), suggesting a modest relationship between income level and the perceived importance of corporate social responsibility.

4.6.2. Income and Social Responsibility

A chi-square test of independence was conducted to examine the association between annual personal income and the perceived importance of price when selecting a product. The relationship was statistically significant, $\chi^2(16, N = 375) = 43.2, p < .001$. Respondents with lower annual income (up to €10,000 and €10,001–€18,000) were more likely to rate price as "very important" or "quite important," whereas higher-income groups (particularly above €30,000) more frequently selected moderate or lower levels of importance.

The effect size was small (Cramer's $V = .17$), indicating that although income level is significantly associated with the perceived importance of price, the strength of this relationship is modest.

4.6.3. Gender and Socially Responsible Practices

A chi-square test of independence was conducted to examine the association between gender and the perceived importance of socially responsible business practices when selecting cosmetic products. Respondents who did not disclose their gender ($n = 2$) were excluded from the chi-square analysis due to insufficient cell frequencies. The results indicated a statistically significant association, $\chi^2(4, N = 373) = 19.87, p < .001$. Women were more likely than men to rate socially responsible practices as "very important" or "quite important," whereas men more frequently selected lower importance categories. The

Of particular interest is the fact that the statistical analysis did not reveal a statistically significant association between respondents' level of education and their willingness to pay a premium for sustainable cosmetic products. Although several associations were statistically significant, effect sizes ranged from small to moderate, indicating limited but meaningful relationships.

effect size was small to moderate (Cramer's $V = .23$), suggesting that gender is meaningfully associated with the perceived importance of corporate social responsibility in cosmetic purchasing decisions.

4.6.4. Gender and Willingness to Pay for Cruelty-free cosmetic products

A chi-square test of independence was performed to examine the relationship between gender and willingness to pay more for cosmetics that are not tested on animals. Respondents who did not disclose their gender ($n = 2$) were excluded from the chi-square analysis due to insufficient cell frequencies. The association was statistically significant, $\chi^2(2, N = 373) = 25.47, p < .001$. Women were substantially more likely than men to report willingness to pay a premium for cruelty-free cosmetics, whereas men more frequently selected "no." The effect size was small to moderate (Cramer's $V = .26$), indicating that gender is an important factor influencing ethical purchasing decisions related to animal welfare.

4.6.5. Gender and willingness to pay for socially responsible cosmetic production

A chi-square test of independence was conducted to examine the association between gender and willingness to pay a higher price for cosmetics produced through socially responsible business practices (excluding respondents who did not disclose their gender, $n = 2$). The association was statistically significant, $\chi^2(2, N = 373) = 6.92, p = .031$. Women were more likely to express uncertainty ("maybe") regarding paying a premium, whereas men more frequently reported unwillingness to pay extra. Willingness to pay ("yes") was relatively similar across genders. The effect size was small (Cramer's $V = .14$), indicating a modest relationship between gender and socially responsible purchasing intentions.

4.6.6. Gender and Corporate Social Contribution

A chi-square test of independence was conducted to examine the association between gender and the perceived importance of cosmetic companies contributing to social causes. Respondents who did not disclose their gender ($n = 2$) were excluded from the chi-square analysis due to insufficient cell frequencies. The relationship was

statistically significant, $\chi^2(4, N = 373) = 27.6, p < .001$. Women were more likely than men to consider corporate social contribution as “very important” or “important,” while men more frequently selected neutral or lower-importance responses. The effect size was small to moderate (Cramer’s $V = .27$), indicating that gender plays a meaningful role in shaping expectations regarding corporate social responsibility in the cosmetics sector.

4.7. *Limitations of the research study:*

The results of the present study should be interpreted considering the following limitations:

4.7.1. *Data collection method*

The questionnaire was distributed exclusively through online platforms, which may have limited participation to individuals familiar with digital technologies. Consequently, certain population groups, such as older individuals or those with limited internet access may be underrepresented.

4.7.2. *Age distribution*

The sample consisted predominantly of participants under the age of 35, which may limit the representation of attitudes and perceptions of older consumer groups.

4.7.3. *Geographical coverage*

Data were collected only from residents of the Attica region, excluding consumers from other parts of Greece, particularly rural and non-urban areas.

4.8. *Future Research*

Future research could extend the geographical scope of the present study by incorporating a more nationally representative sample, including rural and non-urban regions of Greece. Further investigation of older age groups would also contribute to a more comprehensive understanding of generational differences in sustainable cosmetic consumption. Finally, future studies may employ more advanced statistical techniques, including logistic regression or structural equation modeling, to explore predictive relationships between ethical attitudes and actual purchasing behavior.

4.9. *Discussion*

The findings of the present study are broadly consistent with previous research on ethical and sustainable consumption. Although respondents expressed positive attitudes toward environmental and social responsibility, traditional purchasing criteria such as product effectiveness, quality, brand reputation, and price remained the primary determinants of purchasing decisions. This finding supports previous studies suggesting that ethical concerns often coexist with, rather than replace, functional and economic considerations.

The observed attitude–behavior gap may be interpreted through the Theory of Planned Behavior (Ajzen, 1991). According to this theoretical framework, behavioral intentions are influenced by attitudes, subjective norms, and perceived behavioral control. In the present study, participants generally expressed positive attitudes toward environmentally and socially responsible cosmetic

products, particularly regarding cruelty-free practices and corporate social responsibility. However, these positive attitudes were not consistently translated into a willingness to pay higher prices for sustainable attributes. This finding suggests that perceived behavioral control, particularly financial constraints and price sensitivity, may limit the conversion of ethical attitudes into actual purchasing behavior. Therefore, the results support previous research indicating that favorable environmental attitudes alone are insufficient to guarantee ethical consumption unless consumers also perceive sustainable products as economically accessible and practical alternatives (Ajzen, 1991).

5. *Conclusions*

The present study examined Greek consumers’ attitudes, perceptions, and purchasing intentions toward sustainable and socially responsible cosmetic products, employing a quantitative, cross-sectional research design. By focusing on descriptive patterns and non-parametric associations between key demographic variables and ethical consumption indicators, the study offers a reliable snapshot of prevailing consumer tendencies within the Greek cosmetics market.

The findings demonstrate that conventional purchasing criteria, such as product effectiveness, price, brand reputation, and perceived quality, continue to play a dominant role in consumer decision-making. Although environmental and social considerations are increasingly acknowledged, they generally function as secondary or complementary factors rather than primary determinants of purchase. This suggests that, within the Greek context, sustainability-related attributes have not yet supplanted functional and economic considerations in shaping cosmetic consumption behavior.

Among ethical attributes, animal welfare emerged as the most salient concern. A substantial proportion of respondents reported paying attention to cruelty-free certifications and expressed a clear willingness to pay a premium for cosmetic products not tested on animals. In contrast, willingness to pay higher prices for other sustainability-related attributes, such as eco-friendly packaging and socially responsible production, was characterized by high levels of ambivalence. This pattern reflects a well-documented attitude–behavior gap, whereby positive ethical attitudes do not consistently translate into firm purchasing commitments, particularly when higher prices are involved. This gap may be partially attributed to the reliance on self-reported measures, which tend to capture stated intentions more strongly than actual purchasing behavior, especially in ethically sensitive consumption domains.

The study also revealed limited engagement with locally produced cosmetics and small local businesses. Purchasing frequency of Greek cosmetic products was moderate, while preference for small local cosmetic enterprises remained relatively low. These findings indicate that national origin and support for local entrepreneurship do not yet constitute decisive purchasing criteria in the

cosmetics sector. Furthermore, the extremely low prevalence of homemade cosmetic preparation suggests that consumers predominantly rely on commercially available products, even when expressing interest in natural or sustainable attributes.

Demographic analyses highlighted gender as a meaningful factor influencing ethical consumption patterns. Women consistently exhibited higher sensitivity toward socially responsible business practices, corporate social contribution, and ethical production standards. They were also more willing to pay a premium for cruelty-free and socially responsible cosmetic products. In contrast, level of education was not significantly associated with willingness to pay for sustainable cosmetics, suggesting that ethical consumption in this context may be driven more by personal values and moral orientations than by formal educational attainment. Income level showed statistically significant but modest associations with perceptions of corporate social responsibility, indicating limited yet noteworthy relationships. Income level also influenced the importance attributed to price, with lower-income consumers placing significantly greater emphasis on price compared to higher-income groups. This finding further highlights the decisive role of economic constraints in shaping purchasing decisions within the cosmetics market.

From a practical perspective, the findings suggest that cosmetic companies aiming to promote sustainable products in the Greek market should prioritize cruelty-free practices while maintaining high product performance and competitive pricing. Clear and transparent communication of ethical attributes, combined with an emphasis on effectiveness, may enhance consumer trust and reduce purchasing ambivalence. Policymakers and industry stakeholders may benefit from initiatives that promote sustainability awareness and support domestic cosmetic production, thereby fostering both ethical consumption and local economic development. Educational campaigns aimed at increasing consumer awareness of sustainable consumption and the environmental impact of purchasing decisions could further encourage ethical consumer behavior. At the same time, companies could increase the visibility of certified cruelty-free labels and sustainability certifications on product packaging and digital marketing channels, enabling consumers to identify ethical product attributes more easily.

In conclusion, this study contributes to the growing body of literature on sustainable consumption by providing empirical evidence from the Greek cosmetics market and highlighting the coexistence of ethical awareness and traditional purchasing priorities. Although consumer sensitivity toward environmental and social responsibility is evident, functional and economic considerations remain decisive in shaping purchasing behavior. The findings underline the complexity of ethical consumption in economically constrained contexts and emphasize the need for balanced strategies that integrate sustainability with affordability and product performance.

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