

THE GREEN PURCHASE BEHAVIOR OF YOUNG CONSUMERS: THE ROLE OF ENVIRONMENTAL KNOWLEDGE

Gökhan Akandere

Selcuk University, Vocational School of Social Science, Türkiye

e-mail: gakandere@selcuk.edu.tr

ORCID: 0000-0002-5051-1154

Abdurrahman Gümrah

Selcuk University, Vocational School of Social Science, Türkiye

e-mail: agumrah@selcuk.edu.tr

ORCID: 0000-0003-2588-7448

Received 8.02.2024, Revised 5.03.2025, Accepted 10.03.2025

Abstract

Research background: Growing global concerns about pollution and environmental degradation have heightened interest in eco-friendly, sustainable, and green consumption. As individuals become more environmentally conscious, they adopt “green” lifestyles as part of their responsibility toward sustainability.

Purpose: This study examines whether environmental knowledge influences green purchasing behavior, focusing on students from 11 universities affected by the 2023 earthquake in Türkiye. Through a survey of 390 respondents, the research explores the link between green purchasing behavior and environmental knowledge to understand consumer awareness in post-disaster settings.

Research methodology: A questionnaire survey was conducted with 390 participants. Scale reliability was assessed using Cronbach’s alpha in SPSS, while a confirmatory factor analysis (CFA) in AMOS ensured validity. Structural equation modeling (SEM) in AMOS analyzed variable correlations within the research model.

Results: The findings reveal that higher environmental knowledge significantly enhances green purchasing behavior, suggesting that informed consumers are more likely to engage in sustainable purchasing.

Novelty: This study contributes to the literature by investigating the link between environmental knowledge and green purchasing in a post-disaster context. Using data from students at 11 earthquake-affected universities in Türkiye, it underscores the need to increase consumer awareness of sustainability.

Keywords: green purchase behavior, green product, environmental knowledge, structural equation modeling (SEM)

JEL classification: Q56

Introduction

Today's escalating ecological concerns heighten the risk of natural resource depletion, increasing consumer awareness of environmental issues. The environmental damage from production and consumption cycles has become a critical concern, making it essential for consumers to develop environmental consciousness and adopt protective measures. As a result, green consumption favoring products that minimize pollution, use fewer resources, and support recycling has gained prominence (Wong et al., 2020).

Green consumption reflects a commitment to sustainability, where consumers make choices that minimize harm to humans, animals, and the environment. It ensures efficient resource use, preserving ecological integrity for current and future generations (Joshi, Rahman, 2015). As environmental concerns grow, shopping behaviors are shifting toward green purchasing practices, promoting sustainability and aligning with consumer environmental values (Korkmaz, Atay, 2017).

A livable world requires enhanced environmental awareness and sustainability knowledge, leading to transformative changes in business, social, and cultural life (Demir *et al.*, 2023). Recognizing shifting consumer behavior, businesses have adapted their operations to eco-friendly practices, aligning with sustainability goals and incorporating green marketing and production strategies (Yılmaz et al., 2019).

As green purchasing behavior gains momentum, concepts like green marketing, green advertising, green products, and green packaging have emerged, reflecting the growing emphasis on sustainability in consumer preferences and business strategies (Garg, 2015). However, despite increasing awareness, green consumption still accounts for only 4% of global consumption, highlighting a gap between environmental awareness and actual purchasing behavior. This highlights the importance of developing effective strategies to mainstream green purchasing in consumer markets (Yılmaz et al., 2019).

The aim of this paper is to investigate the impact of green purchasing behavior on consumers using environmental data collected from students at 11 universities affected by the earthquake in Türkiye in 2023, through a combination of critical literature analysis and empirical research. The study introduces a theoretical model that outlines the relationship between environmental knowledge and green purchasing behavior, aiming to deepen the understanding of how environmental awareness shapes consumer decision-making. The findings of this study contribute to the growing body of literature on sustainable consumption by highlighting the critical role of environmental knowledge in shaping green purchasing behavior, especially in

disaster-affected regions. It also offers practical implications for businesses and policymakers looking to promote environmentally friendly practices. The paper consists of five sections. General information and results are presented in the introduction.

The first section of the study is a synthesis of contemporary views on environmental information and green purchasing behavior, based on a critical review of the literature. The next sections cover the findings of the study on the impact of environmental knowledge on the green purchasing behavior of students at 11 universities identified after the earthquake in Türkiye. The conclusion of the paper includes the limitations of the study and suggestions for further research.

1. Literature review

In recent years, global interest in environmental problems has increased due to changing consumer habits and the overconsumption of resources. As awareness of ecological challenges grows, individuals are adopting new environmental philosophies and seek ways to repair their relationship with nature. However, sustainability efforts must take a forward-thinking approach, addressing both immediate concerns and long-term environmental stability.

Gordon et al. (2011) defines environmental anxiety as a mix of perception, emotion, and knowledge, shaping individuals' attitudes and behaviors toward sustainability. Similarly, environmental concern awareness of pollution risks and resource depletion plays a vital role in raising ecological sensitivity and promoting sustainable actions (Mostafa, 2006; Cruz, Manata, 2020; Hirsh, 2010). Research suggests that environmental concern positively influences green purchasing behavior, yet contradictory findings highlight an attitude-behavior gap (Dagher, Itani, 2012; Alwis, Ariyaratna, 2022; Özmerdivanlı, 2022).

Mainieri et al. (1997) and Kim, Choi (2005) emphasize that heightened environmental awareness leads to green purchasing behavior, reinforcing its role as a key determinant of sustainable consumption. Environmental knowledge, covering awareness of ecological issues and mitigation strategies, enables consumers to make informed, eco-friendly decisions (Mostafa, 2006; Özmerdivanlı, 2022). Peattie (2010) and Rokicka (2002) further argue that a combination of environmental knowledge and concern fosters responsible consumption, supporting green purchasing intentions (Ünüvar, Tagay, 2018).

Green purchasing behavior refers to the selection of products with minimal ecological impact, reflecting a commitment to sustainability (Kumar et al., 2019; Hazaea et al., 2022). Businesses integrate green purchasing strategies to reduce waste and lower costs while

aligning with consumer preferences (Min, Galle, 2001). Environmental awareness remains a primary motivator for both individuals and corporations in adopting eco-friendly purchasing habits (Chen et al., 2019). Consumer attitudes significantly shape green purchasing behavior, as individuals with stronger environmental values are more likely to make sustainable consumption choices (Farjam et al., 2019; Chan, 2001; Hassan et al., 2010).

Despite extensive research on environmental concern, knowledge, and green purchasing, notable gaps remain. Some studies highlight a strong relationship between concern and green behavior (Kim, Choi, 2005; Mainieri et al., 1997; Fontes et al., 2021), while others emphasize an intention-behavior gap (Dagher, Itani, 2012; Alwis, Ariyaratna, 2022). Additionally, socio-environmental events, such as natural disasters, remain underexplored in consumer behavior research. The 2023 earthquake in Türkiye presents a unique opportunity to analyze post-disaster shifts in green purchasing behavior, as crises often heighten public concern for sustainability.

Another under examined factor is price sensitivity, especially among financially constrained groups like university students. While green products often carry a price premium (Peattie, 2010), research is limited on how cost barriers affect young consumers' purchasing decisions. This study fills these gaps by examining students from 11 universities affected by the earthquake, exploring the effects of environmental knowledge, concern, and price sensitivity on green purchasing in a post-disaster context.

This research contributes to the literature by analyzing how disasters and financial constraints influence green purchasing behavior. It highlights the importance of environmental education and price incentives in promoting sustainability among young consumers, who are future market drivers. The findings of the study offer practical insights for businesses and policymakers to enhance sustainable consumption strategies.

The research model in Figure 1 summarizes the hypothesized relationships between environmental knowledge and green purchasing behavior, guides the empirical analysis, and ensures consistency with established academic frameworks.

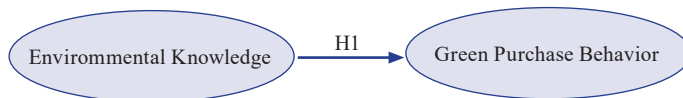


Figure 1. Research framework

Source: own elaboration

The reasons of prior research given in the Literature Review section allow this paper to bring up the following “hypothesis”:

Hypothesis H1. Environmental knowledge has a positive effect on green purchasing behavior.

2. Methodology

In order to test the hypothesis, an appropriate research method is needed. In this section, the quantitative research method is preferred in order to test the hypothesis, and research data are collected by the questionnaire method within the scope of the study.

2.1. Sample design

In the sampling process, the purposive sampling technique, which is a non-probability-based method in which researchers select items based on their own evaluations, was used (Campbell et al., 2020). The data for this study were collected through an online survey targeting students aged 18–35 from 11 earthquake-affected universities in Türkiye between May 2023 and August 2023. A total of 480 responses were initially collected from students at 11 universities, but after extensive evaluation, only 390 valid and complete responses from students at 11 universities were selected for analysis, ensuring the reliability and accuracy of the study findings. Consequently, the final sample size was 390.

2.2. Research instruments

The survey is divided into two sections: (1) demographic data, including age, gender, education, and income, and (2) environmental knowledge and green purchasing behavior, measured using the scales of Mohr et al. (1998) and Lee (2008). Participants’ perceptions and behaviors were assessed using a 5-point Likert scale.

2.3. Data collection

Primary data were collected for the study. The necessary data was collected in an online survey using Google Forms. This online survey was administered to students at 11 universities affected by the earthquake in Türkiye in 2023 and targeted individuals aged 18–35.

2.4. Data analysis

Data analysis was conducted using an IBM SPSS 26 statistical application, applying descriptive and inferential statistics to evaluate the relationships between variables and test measurement validity. Structural Equation Modeling (SEM) was employed to assess the linear relationships between variables, incorporating descriptive statistics, an exploratory factor analysis (EFA), a confirmatory factor analysis (CFA), and hypothesis testing (Chatterjee et al., 2022). Several statistical tests ensured data validity and reliability, including skewness and kurtosis coefficients, PP-Plot graphs, the Anderson-Darling normality test for normality, and Levene's homogeneity test for variance consistency.

3. Analysis and findings

3.1. Sample characteristics

In the first phase of the survey, four descriptive questions were included to gather data on participants' demographic characteristics, capturing key variables such as age, gender, education level, and income to provide a comprehensive profile of the sample. The demographic data collected served as a foundation for understanding the background of the respondents and for examining potential differences in green purchasing behavior based on demographic factors. The detailed demographic breakdown of the selected sample is presented in Table 1.

Table 1. Sample characteristics

Parameter	Number (%)
Gender	390
Women	200 (51.2%)
Male	190 (48.8%)
Age	390
18–25 age	192 (49.2%)
26–35 age	198 (50.8%)
Educational Status	390
Associate degree	191 (48.9%)
Bachelor's degree	189 (51.1%)
Income status	390
1–2000 TL	115 (29.4%)
2001–3000 TL	125 (32%)
3001+ TL	150 (38.6%)

Source: own elaboration.

3.2. Reliability analysis

Considering the dependability of the scales presented in Table 2, the reliability analysis was conducted to evaluate the internal consistency of the measurement items used in the survey.

Table 2. Reliability analysis of scales

Variables	Cronbach Alpha	Items
Environmental Knowledge	0.90	5
Green Purchase Behavior	0.88	4

Source: own elaboration.

The scales in Table 2 demonstrate high reliability, with Cronbach's Alpha values exceeding 0.70 (Taber, 2018), indicating strong internal consistency. The environmental knowledge scale effectively assesses respondents' understanding of environmental issues, while the green purchasing behavior scale reliably measures eco-friendly purchasing tendencies. These strong reliability metrics ensure data consistency and accuracy, enabling robust statistical analysis and valid interpretations of the relationship between environmental knowledge and green purchasing behavior. This enhances the credibility of the study's findings and supports the future use of these instruments in research on environmental attitudes and consumer behavior.

3.3. Exploratory factor analysis

This study, conducted after the 2023 earthquake in Türkiye, used a survey-based approach to assess the environmental knowledge levels and green purchasing behaviors of 390 students from 11 affected universities. A five-point Likert scale questionnaire was employed to measure environmental awareness and sustainable consumption practices. The online survey yielded 390 valid responses, forming a robust dataset for analysis. To verify the suitability of the data for a factor analysis, Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy were applied (Fabrigar et al., 1999). Bartlett's Test confirmed that the correlation matrix was sufficiently structured for a factor analysis, while the KMO test validated the sample's adequacy, with values closer to 1.0 indicating stronger suitability.

The Exploratory Factor Analysis results indicate that within the environmental knowledge construct, 'EK5' had the highest factor loading (0.941), strongly representing the construct, while 'EK1' had the lowest loading (0.870) but remained significant. For the green purchasing behavior construct, 'GPB1' showed the highest factor loading (0.946), while 'GPB2' had the lowest (0.763), albeit, still within acceptable limits. Importantly, no cross-loading was detected,

confirming that each item distinctly aligned with its intended factor, ensuring discriminant validity. These findings validate the factor structure, confirming its suitability for further analysis. The data is deemed appropriate for a Confirmatory Factor Analysis to rigorously test the measurement model and examine the relationships between environmental knowledge and green purchasing behavior.

Table 3. Rotated component matrix

Items & Component	Loading	AVE	KMO	Eigenvalues	Bartlett Sphericity Test	Cumulative Percent VA
Environmental Knowledge	–	3.91	–	–	–	–
I have knowledge about environmentally friendly products and packages (EK1)	0.870	3.98	0.910	4.060	3,336.924	81.204
I know more about recycling than an average person (EK2)	0.900	3.88	–	–	–	–
I can understand environmental statements and symbols on product packages (EK3)	0.885	3.96	–	–	–	–
I know how to classify my recyclable materials correctly (EK4)	0.904	3.84	–	–	–	–
I am sufficiently knowledgeable about environmental problems (EK5)	0.941	–	–	–	–	–
Green Purchase Behavior	–	3.63	–	–	–	–
I look at the products ingredients label to see if it contains things that harm the environment (GPB1)	0.946	3.53	0.820	3.311	1,102.285	63.459
I prefer green products to non-green products when product qualities are similar (GPB2)	0.763	3.53	–	–	–	–
I prefer to buy environmentally friendly products (GPB3)	0.769	3.48	–	–	–	–
Even if the green version of a product is more expensive than the non-green version, I buy the green version (GPB4)	0.820	4.01	–	–	–	–

Source: own elaboration.

3.4. Confirmatory factor analysis

The Confirmatory Factor Analysis was conducted to assess the structural validity of environmental knowledge and green purchasing behavior constructs, allowing them to interact while maintaining their integrity. The model included five items for environmental knowledge and four for green purchasing behavior. As shown in Table 4, the goodness-of-fit indices including CFI, TLI, RMSEA, and Chi-square/df ratio fall within acceptable ranges,

confirming a good model fit. Most factor loadings exceeded 0.60, indicating strong convergent validity (Barki, Hartwick, 2001). The absence of significant cross-loadings further supports discriminant validity, ensuring each item aligns with its intended construct. The CFA path diagram (Figure 2), developed using AMOS software, visually represents the latent constructs and observed indicators, highlighting the strength of their relationships. Overall, the CFA results confirm an adequate model fit, strong convergent validity, and satisfactory reliability, making it suitable for structural equation modeling and hypothesis testing.

Table 4. CFA fit index

	χ^2/df	GFI	RMSEA	CFI	TLI	IFI	RMR
Standard	<3	>0.90	<0.08	>0.90	>0.90	>0.90	<0.08
Model	2.920	0.940	0.069	0.911	0.915	0.922	0.061

χ^2 : Ki square (CMIN) df: Degrees of Freedom; RMSEA: Root Mean Square Error of Approximation; CFI: Comparative Fit Index; GFI: Goodness of Fit Index; RMR: Root Mean Square Residual; IFI: Incremental Fit Index (Bagozzi, Yi, 1988).

Source: own elaboration.

Table 5 presents the goodness-of-fit indices and structural validity scores, assessing the suitability of the Confirmatory Factor Analysis model. These indices evaluate how well the measurement model fits the observed data and confirm the validity and reliability of the environmental knowledge and green purchasing behavior constructs. The results indicate that the goodness-of-fit indices fall within acceptable thresholds, with strong CFI and TLI values

Table 5. Estimates for CFA model

Item	Loading	Construct	Standardized Estimate	Unstandardized Estimate	Standard Error (S.E.)	Critical Ratio(C.R.)	P-Value
EK1	←	EK	0.916	—	—	—	—
EK2	←	EK	0.891	1.202	0.068	17.736	***
EK3	←	EK	0.912	1.223	0.075	16.354	***
EK4	←	EK	0.867	1.398	0.083	16.762	***
EK5	←	EK	0.878	1.000	0.036	—	—
GPB1	←	GPB	0.685	—	—	—	—
GPB2	←	GPB	0.825	0.989	0.050	16.038	***
GPB3	←	GPB	0.835	0.989	0.039	17.402	***
GPB4	←	GPB	0.667	0.989	0.038	25.514	***

*** Significant at $p < 0.001$.

Source: own elaboration.

and low RMSEA, confirming a good model fit. Additionally, high AVE and CR scores validate internal consistency and convergent validity. These findings establish the measurement model's robustness, ensuring a solid foundation for further structural equation modeling and hypothesis testing.

According to Table 5, the scale values were close to or above 0.70, which is in line with widely accepted thresholds (Browne, Cudeck, 1992), confirming strong reliability and internal consistency. The p-values were significant at $p < 0.001$ (***), indicating that the relationships between latent constructs and the observed variables are statistically meaningful. The model fit indices suggest that the environmental knowledge and green purchasing behavior scales align well within the structural equation model, accurately representing their theoretical framework. The absence of substantial measurement errors further supports the model's reliability. These findings confirm that the scales meet validity and reliability criteria, allowing for a robust interpretation of the relationship between environmental knowledge and green purchasing behavior. Consequently, the CFA model fit is deemed satisfactory, providing a strong foundation for structural equation modeling and hypothesis testing.

3.5. Correlations analysis

Table 6 below presents the correlation analysis results, indicating statistically significant relationships among the key variables. Correlations were significant at both the 95% ($p < 0.05$, 2-tailed) and 99% ($p < 0.01$, 2-tailed) confidence levels, aligning with standard statistical interpretations (Gogtay, Thatte, 2017). The findings confirm a meaningful association between environmental knowledge and green purchasing behavior, reinforcing the premise that greater environmental awareness leads to increased eco-friendly consumption. Additionally, the absence of excessively high correlation values (0.779) ensures no multicollinearity concerns, preserving the distinctiveness of constructs. This analysis supports the construct validity of the measurement model and provides preliminary evidence for the hypothesized relationships, further explored in the structural equation modeling analysis. The findings contribute to the

Table 6. Correlations table

	EK	GPB
EK	1	–
GPB	0.779*	1

* Correlation is significant at the 0.01 level (2-tailed).

Source: own elaboration.

broader understanding of consumer awareness and sustainable purchasing, offering insights for academic research and business practices.

According to Table 6, a positive relationship exists between environmental awareness and green purchasing behavior, indicating that as environmental awareness increases, green purchasing behavior also rises. The statistically significant correlation coefficients support the premise that greater environmental consciousness fosters sustainable consumer choices. The findings confirm that environmentally aware individuals are more likely to purchase eco-friendly products, minimize waste, and support sustainable consumption. These results align with previous research, emphasizing the role of environmental knowledge in shaping consumer behavior.

3.6. Structural equation modeling

In structural equation modeling, both correlational (non-causal) and causal relationships are analyzed. In the CFA model, bidirectional arrows represent correlations between latent constructs, whereas in SEM, single-headed arrows establish directionality and predictive priority (Ullman, Bentler, 2012). This transformation clarifies the direct and indirect effects among environmental knowledge, environmental awareness, and green purchasing behavior.

Figure 2 presents the structural model using a path diagram, visually depicting hypothesized relationships and standardized path coefficients that indicate the strength and significance of each connection. Table 7 summarizes the SEM results, including path coefficients, standard errors, significance values, and model fit indices. The findings confirm that the goodness-of-fit statistics fall within acceptable thresholds, validating the structural model. The results reinforce the hypothesized relationships, showing that environmental knowledge and awareness significantly influence green purchasing behavior. These insights contribute to sustainable consumer behavior research and offer guidance for businesses and policymakers in promoting eco-friendly purchasing decisions.

Table 7. Model fit index

	χ^2/df	GFI	RMSEA	CFI	TLI	IFI	RMR
Standard	<3	>0.90	<0.08	>0.90	>0.90	>0.90	<0.08
Model	2.669	0.945	0.052	0.922	0.925	0.944	0.040

χ^2 : Ki square (CMIN) df: Degrees of Freedom; RMSEA: Root Mean Square Error of Approximation; CFI: Comparative Fit Index; GFI: Goodness of Fit Index; RMR: Root Mean Square Residual; IFI: Incremental Fit Index (Bagozzi, Yi, 1988).

Source: own elaboration.

Table 8 presents the structural model estimates, summarizing the path coefficients between environmental knowledge, environmental awareness, and green purchasing behavior. These estimates provide insights into the strength and significance of direct and indirect effects. The findings confirm that the SEM results align with theoretical expectations, with positive and statistically significant path coefficients indicating that environmental knowledge and awareness play a key role in shaping green purchasing behavior. Additionally, model fit indices validate the structural model, confirming its adequacy in explaining the observed data. These results emphasize the importance of promoting environmental education and awareness programs, as they directly influence consumer sustainability behaviors.

Table 8. Estimates for the structural model

Item	Loading	Construct	Standardized Estimate	Unstandardized Estimate	Standard Error (S.E.)	Critical Ratio(C.R.)	P-Value
GPB	←	EK	0.487	0.258	0.052	4.972	***
EK1	←	EK	0.764	1.000			
EK2	←	EK	0.757	1.202	0.068	17.731	***
EK3	←	EK	0.801	1.224	0.075	16.348	***
EK4	←	EK	0.819	1.399	0.083	16.754	***
EK5	←	EK	0.833	1.000			
GPB1	←	GPB	0.751	0.989	0.026	38.368	***
GPB2	←	GPB	0.805	1.022	0.029	35.575	***
GPB3	←	GPB	0.770	0.998	0.035	28.685	***
GPB4	←	GPB	0.810	0.824	0.033	24.715	***

*** Significant at $p < 0.001$.

Source: own elaboration.

The Structural Equation Modeling analysis revealed a positive association between environmental knowledge and green purchasing behavior, with a path coefficient of 0.487. This confirms that increased environmental knowledge enhances sustainable purchasing decisions, leading to the acceptance of the H1 hypothesis. Table 9 presents regression weights, detailing both direct and indirect effects within the structural model. The regression coefficients highlight the strength and significance of relationships, emphasizing the impact of environmental knowledge on green purchasing behavior. Additionally, Figure 2 visually represents these effects through a path diagram, illustrating how environmental knowledge directly influences sustainable consumption and the relative importance of different predictors.

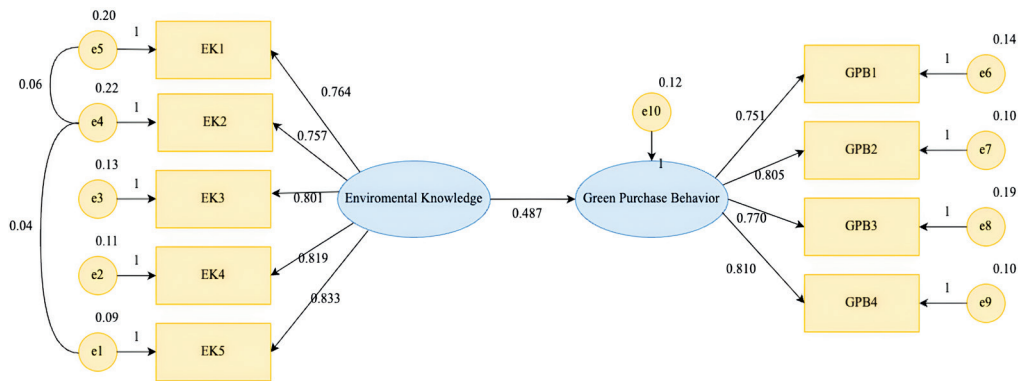


Figure 2. SEM path diagram

Source: own elaboration.

After confirming the validity and reliability of the measurement model, the relationships between constructs were examined using Structural Equation Modeling. The hypothesis was tested by calculating path coefficients and assessing their statistical significance. Table 9 summarizes the hypothesis testing results, showing that H1 positing a positive relationship between environmental knowledge and green purchasing behavior was accepted with a statistically significant p-value ($p < 0.05$). The path coefficients confirm that environmental knowledge significantly impacts green purchasing behavior.

These findings indicate that individuals with greater environmental knowledge are more likely to engage in eco-friendly purchasing, emphasizing the importance of environmental education in shaping sustainable consumer habits. Figure 2 visually represents these relationships, further reinforcing the study's conclusions. Overall, the results validate the theoretical framework and highlight the necessity of enhancing environmental awareness to drive sustainable consumption behaviors.

Table 9. Regression weights, direct effect

Item	(Beta) (Path coefficient)	Construct	Standardized Estimate (Path coefficient)	R^2	P-Value	Result
		S.E.	T-value			
EK → GPB	0.487	0.052	4.972	0.550	0.008	Accept H1

Significant at $p < 0.01$.

Source: own elaboration.

When analyzing the effects of the variables on each other, the research findings indicate that environmental awareness has a positive impact on green purchasing behavior, with an R^2 value of 0.550 and a statistically significant p-value ($p = 0.008$). This result confirms the H1 hypothesis, supporting the notion that individuals with higher environmental awareness are more likely to engage in sustainable consumption practices. Environmental knowledge refers to the extent to which consumers understand environmental issues and their implications. It is widely believed that greater environmental awareness fosters stronger environmental attitudes, which in turn positively influence engagement in environmentally responsible behaviors. Research also suggests that as consumers become more informed about environmental concerns, their attitudes toward green purchasing become more favorable. Supporting this view, Zang et al. (2024) found that higher environmental knowledge significantly increases purchasing behavior, indicating that informed consumers are more likely to make sustainable choices. These findings highlight the importance of educational initiatives and awareness campaigns in promoting pro-environmental behavior and encouraging green consumption.

This impact can also be explained by the role of information in shaping consumer decision-making processes. Information availability and accessibility influence how consumers gather and evaluate product-related details, which in turn guides their purchase decisions. Research suggests that information affects every stage of the consumer decision-making process, from problem recognition and evaluation to the final purchasing decision (Chaihanchai, Anantachart, 2023). Additionally, consumer attitudes toward sustainability are shaped by their level of environmental knowledge, reinforcing the importance of education and awareness campaigns in promoting eco-friendly consumer behavior.

Overall, these findings highlight the crucial role of environmental knowledge in driving sustainable consumer choices. They suggest that businesses, policymakers, and educators should focus on enhancing environmental education initiatives, making eco-friendly product information more accessible, and fostering positive environmental attitudes to encourage green purchasing behavior.

4. Discussion

According to the findings, environmental knowledge (EK) has a significant positive impact on green purchasing behavior, indicating that greater environmental awareness leads to more eco-friendly purchases. Consumers who understand recyclable products, eco-labeling, and sustainable packaging are more likely to buy green items (Silintowe, Sukresna, 2022).

Previous studies in Malaysia (Noor et al., 2017) and Lee (2010) also confirmed EK's direct influence on green purchasing behavior, while Mostafa (2007) found a link between EK and expected green behavior. These results align with prior research showing that EK positively affects environmental behavior (Noor et al., 2012; Noor et al., 2017; Fontes et al., 2021; Chaihanchai, Anantachart, 2023; Zang et al., 2024).

A moderation analysis further reveals that EK strengthens the relationship between attitude toward green products (ATGP) and green purchasing behavior (GPB), particularly when green value (GV) is low but EK is high (Chaihanchai, Anantachart, 2023). Similarly, EK enhances the link between psychological ownership (PO) and green purchase intention (GPI), reinforcing the idea that higher environmental awareness leads to actual purchasing decisions (Malhotra, Srivastava, 2024). Interest in ecological knowledge (IEK) also strengthens ecological attitudes, while knowledge of ecological issues (KEI) supports sustainable purchasing habits (Kuzniar et al., 2021).

However, the effect of EK on green purchasing behavior is still debated in some studies. Indriani et al. (2019) and Newton et al. (2015) argue that EK alone does not drive green purchases because awareness of environmental damage does not always translate into action without strong environmental concern. In addition, Qureshi et al. (2023) noted that green brand knowledge (GBK) did not significantly affect attitudes toward green purchasing, indicating that knowledge alone is not sufficient. Instead, factors such as environmental concern, perceived value, and personal motivation play a more important role in shaping sustainable consumer behavior.

Conclusions

The growing threats of climate change and pollution highlight the urgent need for sustainability. Consumers increasingly opt for green products, driven by environmental awareness and the desire to reduce ecological harm. Environmental knowledge plays a key role in shaping green purchasing behavior, as individuals with greater awareness are more likely to engage in sustainable consumption.

This study examines attitudes toward green products and the influence of environmental knowledge on purchasing decisions. The findings of the study reveal a positive, linear relationship between green purchasing behavior and environmental knowledge, emphasizing the need for consumer education and awareness initiatives. Businesses can enhance environmental

responsibility by promoting the benefits of sustainable products and integrating eco-conscious strategies into marketing.

Despite valuable insights, the study acknowledges its limitations. Price remains a major barrier, particularly for students with financial constraints, potentially affecting purchasing intentions. Additionally, the 2023 Türkiye earthquakes may have heightened temporary environmental awareness, leading to a response bias. Furthermore, the study's focus on students limits its generalizability to the broader population.

To address these challenges, consumer education campaigns should emphasize the long-term impact of sustainable consumption. Policymakers and businesses could incentivize green products through tax breaks and subsidies, making them more accessible. Additionally, behavioral change programs including community-based initiatives, workshops, and school curricula can encourage lasting pro-environmental habits.

From a policy perspective, governments should subsidize sustainable products, integrate environmental education into curricula, and establish standardized eco-labeling systems to guide consumers. Furthermore, post-disaster recovery plans should leverage heightened environmental awareness to implement long-term sustainability measures.

In conclusion, achieving sustainable consumption requires a multi-faceted approach addressing financial, educational, and policy barriers. By fostering environmental responsibility through collective action, society can ensure the prospect of a livable planet for future generations.

Appendix

Environmental Knowledge

I have knowledge about environmentally friendly products and packages (EK1)

I know more about recycling than an average person (EK2)

I can understand environmental statements and symbols on product packages (EK3)

I know how to classify my recyclable materials correctly (EK4)

I am sufficiently knowledgeable about environmental problems (EK5)

Green Purchase Behavior

I look at the products ingredients label to see if it contains things that harm the environment (GPB1)

I prefer green products to non-green products when product qualities are similar (GPB2)

I prefer to buy environmentally friendly products (GPB3)

Even if the green version of a product is more expensive than the non-green version, I buy the green version (GPB4)

References

- Alwis, M.A.S.N., Ariyaratna, K.C. (2022). A study on green purchasing intention and green purchasing behaviour gap towards organic products (with special reference to the millennials with an income, in the Colombo district. *Sri Lanka Journal of Management Studies*, 4(1), 70–86. DOI: 10.4038/sljms.v4i1.88.
- Bagozzi, R.P., Yi, Y. (1988). On the evaluation of structural equation models. *Journal of The Academy of Marketing Science*, 16, 74–94. DOI: 10.1007/BF02723327.
- Barki, H., Hartwick, J. (2001). Interpersonal conflict and its management in information system development. *MIS Quarterly*, 25(2), 195–228. DOI: 10.2307/3250929.
- Browne, M.W., Cudeck, R. (1992). Alternative ways of assessing model fit. *Sociological Methods & Research*, 21(2), 230–258. DOI: 10.1177/00491241920210020.
- Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Walker, K. (2020). Purposive sampling: complex or simple? Research case examples. *Journal of research in Nursing*, 25(8), 652–661. DOI: 10.1177/1744987120927.
- Chaihanchai, P., Anantachart, S. (2023). Encouraging green product purchase: Green value and environmental knowledge as moderators of attitude and behavior relationship. *Business Strategy and the Environment*, 32(1), 289–303. DOI: 10.1002/bse.3130.
- Chan, R.Y. (2001). Determinants of Chinese consumers green purchase behavior. *Psychology & Marketing*, 18(4), 389–413. DOI: 10.1002/mar.1013.
- Chatterjee, S., Sreen, N., Sadarangani, P.H., Gogoi, B.J. (2022). Impact of green consumption value, and context-specific reasons on green purchase intentions: A behavioral reasoning theory perspective. *Journal of Global Marketing*, 35(4), 285–305. DOI: 10.1080/08911762.2021.1996670.
- Chen, X., Huang, B., Lin, C.T. (2019). Environmental awareness and environmental Kuznets curve. *Economic Modelling*, 77, 2–11. DOI: 10.1016/j.econmod.2019.02.003.

- Cruz, S.M., Manata, B. (2020). Measurement of environmental concern: A review and analysis. *Frontiers in Psychology*, 11, 363. DOI: 10.3389/fpsyg.2020.00363.
- Dagher, G, Itani, O. (2012). The influence of environmental attitude, environmental concern and social influence on green purchasing behaviour. *Review of Business Research*, 12(2), 104–111. DOI: 10.2139/ssrn.3525917.
- Demir, E., Bilgin, M.H., Danis, H., D’Ascenzo, F. (2023). *Eurasian Business and Economics Perspectives*. Springer.
- Fabrigar, L.R., Wegener, D.T., MacCallum, R.C., Strahan, E.J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, 4(3), 272–299. DOI: 10.1037/1082-989X.4.3.272.
- Farjam, M., Nikolaychuk, O., Bravo, G. (2019). Experimental evidence of an environmental attitude-behavior gap in high-cost situations. *Ecological Economics*, 166, 106434. DOI: 10.1016/j.ecolecon.2019.106434.
- Fontes, E., Moreira, A.C., Carlos, V. (2021). The influence of ecological concern on green purchase behavior. *Management & Marketing*, 16(3).
- Garg, A. (2015). Green marketing for sustainable development: an industry perspective. *Sustainable Development*, 23(5), 301–316. DOI: 10.1002/sd.1592.
- Gogtay, N.J., Thatte, U.M. (2017). Principles of correlation analysis. *Journal of the Association of Physicians of India*, 65(3), 78–81.
- Gordon, R., Carrigan, M., Hastings, G. (2011). A frame work for sustainable marketing. *Marketing Theory*, 157. DOI: 10.1177/147059311140321.
- Hassan, A., Noordin, T.A., Sulaiman, S. (2010). The status on the level of environmental awareness in the concept of sustainable development amongst secondary school students. *Procedia-Social and Behavioral Sciences*, 2(2), 1276–1280. DOI: 10.1016/j.sbspro.2010.03.187.
- Hazaea, S.A., Al-Matari, E.M., Zedan, K., Khatib, S.F., Zhu, J., Al Amosh, H. (2022). Green purchasing: Past, present and future. *Sustainability*, 14(9), 5008. DOI: 10.3390/su14095008.
- Hirsh, J.B. (2010). Personality and environmental concern. *Journal of Environmental Psychology*, 30(2), 245–248. DOI: 10.1016/j.jenvp.2010.01.004.
- Indriani, I.A.D., Rahayu, M., Hadiwidjojo, D. (2019). The influence of environmental knowledge on green purchase intention the role of attitude as mediating variable. *International Journal of Multicultural and Multireligious Understanding*, 6(2), 627–635. DOI: 10.18415/ijmmu.v6i2.706.
- Joshi, Y., Rahman, Z. (2015). Factors affecting green purchase behaviour and future research directions. *International Strategic Management Review*, 3(1–2), 128–143. DOI: 10.1016/j.ism.2015.04.001.

- Kim, Y., Choi, S.R. (2005). Antecedents of green purchase behaviour: An examination of collectivism, environmental concern and PCE. *Advances in Consumer Research*, 32(1), 592–599.
- Korkmaz, H., Atay, L. (2017). Evaluation of green marketing and environmental certificates in hotels. *Journal of Aksaray University Faculty of Economics and Administrative Sciences*, 9(4), 113–136.
- Kumar, R., Saha, R., PC, S., Dahiya, R. (2019). Examining the role of external factors in influencing green behaviour among young Indian consumers. *Young Consumers*, 20(4), 380–398. DOI: 10.1108/YC-12-2018-0921.
- Kuzniar, W., Surmacz, T., Wierzbinski, B. (2021). The impact of ecological knowledge on young consumers' attitudes and behaviours towards the food market. *Sustainability*, 13(4), 1984. DOI: 10.3390/su13041984.
- Lee, K. (2008). Opportunities for green marketing: young consumers. *Marketing Intelligence & Planning*, 26(6), 573–586. DOI: 10.1108/02634500810902839.
- Lee, K. (2010). The green purchase behavior of Hong Kong young consumers: The role of peer influence, local environmental involvement, and concrete environmental knowledge. *Journal of International Consumer Marketing*, 23(1), 21–44. DOI: 10.1080/08961530.2011.524575.
- Malhotra, G., Srivastava, H. (2024). Green purchase intention in omnichannel retailing: role of environmental knowledge and price sensitivity. *Journal of Strategic Marketing*, 32(4), 467–490. DOI: 10.1080/0965254X.2023.2241464.
- Mainieri, T., Barnett, J., Oskamp, S. (1997) Green buying: the influence of environmental concern on consumer behavior. *Journal of Social Psychology*, 137, 189–204. DOI: 10.1080/00224549709595430.
- Min, H., Galle, W.P. (2001). Green purchasing practices of US firms. *International Journal of Operations & Production Management*, 21(9), 1222–1238. DOI: 10.1108/EUM00000000005923.
- Mohr, L.A., Eroğlu, D., Ellen, P.S. (1998). The development and testing of a measure of skepticism toward environmental claims in marketers' communications. *Journal of Consumer Affairs*, 32(1), 30–55. DOI: 10.1111/j.1745-6606.1998.tb00399.x.
- Mostafa, M.M. (2007). Gender differences in Egyptian consumers' green purchase behaviour: the effects of environmental knowledge, concern and attitude. *International Journal of Consumer Studies*, 31(3), 220–229. DOI: 10.1111/j.1470-6431.2006.00523.x.
- Mostafa, M.M. (2006). Antecedents of Egyptian consumers green purchase intentions: a hierarchical multivariate regression model. *Journal of International Consumer Marketing*, 19(2), 97–126. DOI: 10.1300/J046v19n02_06.

- Newton, J.D., Tsarenko, Y., Ferraro, C., Sands, S. (2015). Environmental concern and environmental purchase intentions: The mediating role of learning strategy. *Journal of Business Research*, 68(9), 1974–1981. DOI: 10.1016/j.jbusres.2015.01.007.
- Noor, M.N.M., Jumain, R.S.A., Yusof, A., Ahmat, M.A.H., Kamaruzaman, I.F. (2017). Determinants of generation Z green purchase decision: A SEM-PLS approach. *International Journal of Advanced and Applied Sciences*, 4(11), 143–147. DOI: 10.21833/ijjaas.2017.011.023.
- Noor, N.A.M., Muhammad, A., Kassim, A., Jamil, C.Z.M., Mat, N., Mat, N., Salleh, H.S. (2012). Creating green consumers: how environmental knowledge and environmental attitude lead to green purchase behaviour? *International Journal of Arts & Sciences*, 5(1), 55.
- Özmerdivanlı, H. (2022). *Indirect Impact of Consumer Suspicion on Green Advertising Attitudes and Green Buying Behaviour*. Eğitim Publishing.
- Peattie, K. (2010). Green consumption: behavior and norms. *Annual Review of Environment and Resources*, 35, 195–228. DOI: 10.1146/annurev-environ-032609-094328.
- Qureshi, M.A., Khaskheli, A., Qureshi, J.A., Raza, S.A., Khan, K.A. (2023). Factors influencing green purchase behavior among millennials: the moderating role of religious values. *Journal of Islamic Marketing*, 14(6), 1417–1437. DOI: 10.1108/JIMA-06-2020-0174.
- Rahmi, D.Y., Rozalia, Y., Chan, D.N., Anira, Q., Lita, R.P. (2017). Green brand image relation model, green awareness, green advertisement, and ecological knowledge as competitive advantage in improving green purchase intention and green purchase behavior on creative industry products. *Journal of Economics, Business, & Accountancy Ventura*, 20(2), 177–186. DOI: 10.14414/jebav.v20i2.1126.
- Rokicka, E. (2002). Attitudes toward natural environment: A study of local community dwellers. *International Journal of Sociology*, 32(3), 78–90, DOI: 10.1080/15579336.2002.11770256.
- Silintowe, Y.B.R., Sukresna, I.M. (2022). Green self-identity as a mediating variable of green knowledge and green purchase behavior. *Jurnal Organisasi dan Manajemen*, 18(1), 74–87. DOI: 10.33830/jom.v18i1.2564.2022.
- Taber, K.S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in science education*, 48, 1273–1296. DOI: 10.1007/s11165-016-9602-2.
- Ullman, J.B., Bentler, P.M. (2012). Structural equation modeling. *Handbook of Psychology, Second Edition*, 2.
- Ünüvar, P., Tagay, Ö. (2018). The relationship between young adults' perceived stress levels and irrational beliefs and self-esteem. *International Journal of Education Technology and Scientific Researches*, 3(7), 167–175.
- Wong, J.Y., Wong, H.S., Wong, W.P.M. (2020). Green products purchase intention: a study of sibu sarawak. *E-BANGI*, 17(1), 62–79.

- Yılmaz, Y., Üngüren, E., Kaçmaz, Y.Y. (2019). Determination of managers' attitudes towards eco-labeling applied in the context of sustainable tourism and evaluation of the effects of eco-labeling on accommodation enterprises. *Sustainability*, 11(18), 5069. DOI: 10.3390/su11185069.
- Zhang, G., Wang, L., Meng, H. (2024). Environmental knowledge level and consumer behavior regarding green fashion: a moderated mediation model. *Asia Pacific Journal of Marketing and Logistics*, 36(4), 977–992. DOI: 10.1108/APJML-07-2023-0637.

Citation

- Akandere, G., Gümrah, A. (2025). The Green Purchase Behavior of Young Consumers: The Role of Environmental Knowledge. *Folia Oeconomica Stetinensia*, 25(1), 1–21. DOI: 10.2478/fofi-2025-0001.