International Journal of Innovative Research and Scientific Studies, 8(4) 2025, pages: 729-741

IJIRSS
International Journal of Innovative Research & Scientific Studies

ISSN: 2617-6548

URL: www.ijirss.com

Examining the mediating role of green purchase intention in influencing youth's green purchasing behaviour in emerging economies

Amit Kumar[1*], Ashish Ranjan Sinha[2]

[1,2]*National Institute of Technology Patna, India.*

Corresponding author: Amit Kumar (*Email: amitk.phd22.hs@nitp.ac.in*)

Abstract

Global climate change is a significant problem. We need to take steps to protect the environment. Buying green products helps the environment. This study investigates the mediating role of green purchasing intention (GPI) in the relationship between environmental knowledge (EK), environmental attitude (EA), environmental concern (EC), subjective norms (SN), perceived behavioral control (PBC), and green purchasing behavior (GPB) in emerging economies. Four hundred twenty-seven reliable data points were gathered using an online survey to collect from participants in emerging economies using emails, WhatsApp, and Facebook. Partial least squares structural equation modeling (PLS-SEM) was used to analyze the relationships between key constructs. The findings of this research contribute to theoretical discussions on GPB considerations in emerging economies and provide actionable pathways to encourage sustainable consumer choices through knowledge-based perspectives. This study also yields that practical implications from the research can offer benefits for policymakers, businesses, and organizations seeking to promote sustainable lifestyles and nurture green consumption. Importantly, and to the best of our knowledge, this is the inaugural study to construct and validate the conceptual model in a developing country setting—India. Thus, the findings of this paper could be said to have exclusively contributed to the existing literature on sustainability.

Keywords: Emerging economy, green purchase behavior, PLS-SEM, young consumer.

DOI: 10.53894/ijirss.v8i4.7936
Funding: This study received no specific financial support.
History: Received: 28 April 2025 / **Revised:** 30 May 2025 / **Accepted:** 3 June 2025 / **Published:** 20 June 2025

Competing Interests: The authors declare that they have no competing interests.
Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.
Transparency: The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.
Acknowledgements: The authors are grateful to all youth participants of Patna, India for supporting to conduct the case study. We also thank UGC (University Grants Commission), Ministry of education under Government of India for assisting PhD scholars with research fellowship to aid in successful completion of the research endeavours.
Publisher: Innovative Research Publishing

1. Introduction

Environmental pollution poses major human health risks [1, 2]. It has been 30 years since the UN Framework Convention on Climate Change, with human activities driving global warming necessitating human responsibility and mitigation efforts [3, 4]. Human behaviors govern the ecological exchange of matter, energy, and information with nature, and sustainable production and consumption practices are crucial to sustaining current and future livelihoods in an environmentally conscious era [5, 6]. While early research concentrated on developed countries [7]. India has emerged as a major hub for studying "green consumers" [8, 9]. In nations with significant populations and swift economic progress, such as India, there is a vital role in fostering green and sustainable development practices [10]. As a developing country, India is grappling with numerous environmental challenges due to impulsive buying habits and unsustainable practices [11-13]. Green behavior (GB) refers to a set of positive actions that include environmental awareness and a caring attitude towards nature [14, 15]. GP generally refer to environmentally friendly products with minimal environmental impact [16]. Studies have revealed that consumers are increasingly opting for products that are more eco-friendly and sustainable, driven by a heightened awareness of the significance of environmental conservation [17, 18]. Educational institutions, including colleges, universities, and training centers, are instrumental in fostering pro-environmental behavior, as young individuals are more receptive to behavioral changes [19-21]. Studies about the relationship of GPI were still quite limited, and there do not exist study which combined all variables of EK, attitudes, EC, intention, and GPB [22]. The primary goal of the study was to examine the mediating role of green purchase intention between the antecedents of green purchase intention and consumers' green purchasing behavior in Patna, India. This paper focuses on green purchasing behavior, particularly with reference to the largest democratic country, India.

1.1. Theoretical Background and Formulation of Hypotheses

The intention towards green purchasing determines the behavior of green purchasing, which refers to the tendency of consumers to give priority to green products, as well as consumers being willing to make an effort to purchase green products [23]. The theory of planned behavior (TPB) provides a basic model for understanding residents' intentions and behavior [24, 25] and is an effective model to explain consumers' purchasing intentions and behavior from a psychological perspective. Since the TPB model was proposed by Ajzen in 1985, it has been widely applied worldwide and has become one of the most important theories in social psychology used to elaborate on the determinants of individual decision making [25]. The TPB has also been shown to be effective in explaining consumers' green purchase intentions or behaviors. Therefore, the TPB can be used to explore the green purchasing intentions of Patna's residents. The model examines attitudes, perceived behavioral control, subjective norms, and intentions. Additionally, the effects of the determinant factors on intention are tested by establishing a structural equation model [26]. Green purchase behavior is a complex causality chain, which is not only affected by attitude, perceived behavioral control, and subjective norms, but is also influenced by other elements such as environmental concern and environmental knowledge [27, 28].

1.2. Green Purchase Behavior (GPB)

GPB involves choosing products that are environmentally friendly or sustainable, such as environmentally friendly shopping bags, recycled paper products, herbal items, energy-efficient light bulbs, appliances, and vehicles, as well as various household goods that are recyclable and advantageous to the environment [29] while deliberately steering clear of items that could negatively impact both the environment and society [30, 31]. The major factors influencing GPB are EA, EC, PBC, and SN [32-34] and are assessed by examining consumers' intentions to buy eco-friendly products. This conscious behavior eventually influences their decision to purchase such items, contributing to environmental sustainability [31].

1.3. Green Purchase Intention (GPI)

GPI describes the eagerness of consumers to opt for eco-friendly products, motivated by their desire to support environmental well-being [35]. This inclination signifies their selection of products that protect the environment [36]. This intention to purchase green products has a significant effect on GPB [10]. This led to GPI being translated successfully into GPB [37]. Studies conducted on the basic relationship between GPI and GPB in local contexts, including India, have been investigated [38-41].

1.4. Environmental Knowledge (EK)

EK involves understanding facts, concepts, and the relationship between the natural environment and the surrounding ecosystems, which reflects the extent of consumer awareness of environmental issues [42, 43]. It can be improved by the customer's understanding of green awareness, which means that a student's knowledge will improve, which provides a universal structure to assess GPB across countries/regions [44]. It provides important environmental concepts, issues and strategies for managing environmental problems [45]. Several studies suggest a positive relationship between EK and GPB [46, 47]. Enhancing environmental education can encourage students to actively engage in sustainable practices [48]. Based on the above research review, the more positive an individual's environmental knowledge towards green purchasing, the stronger the behavioral intention. Therefore, we put forward the following hypothesis.

$H_{1:}$ EK is positively impact on GPB.

$H_{2:}$ GPI mediates the relationship of EK to GPB.

1.5. Environmental Attitude (EA)

The attitude component of behavioral intention refers to 'the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question [24]. Attitude has been studied extensively in social psychology, and their interplay has important implications for understanding GPI and GPB [49]. The influence of such favorable attitudes on environmentally friendly purchasing behavior has been exceptionally well documented. Studies in the literature have validated the strength of the attitude-behavior link in predicting green purchase behavior [50]. Consumers know about, care about, and have a favorable attitude toward the environment [51], yet they may still not purchase green products. Further investigation is needed to ascertain the actual relationships between these factors [52].

$H_{3:}$ EA has a positive impact on GPB.

$H_{4:}$ GPI mediates the relationship of EA to GPB.

1.6. Environmental Concern (EC)

Environmental Concern (EC) is the level to which a person is worried or sensitive to environmental-related problems. A strong relationship exists between increased EC and GPB [53, 54]. It is the community's attitudes towards environmental issues and how important they deem them, including fears about human-caused climate change. It ranges from knowledge about the conservation of energy to a consciousness of clean energy sources and alternative clean energy, sensitivity to climate change issues, participation in eco-friendly activities, and activism in environmental issues [55]. There is a general positive correlation between the level of concern for one's community and environmentally conscious consumption. People living in environmentally conscious communities have more knowledge of sustainability issues and relate more personally to the moral implications associated with environmental protection, which translates to a higher predisposition for purchasing GP [56]. It supports sustainable measures such as eco-products, low-carbon lifestyle adjustments, and sustainable consumption. It suggests the community's point of view towards environmental matters with explicit factors like energy saving, clean-up, green energy, and care towards alternative energy sources, spreading awareness of matters regarding climate change, participation in eco-friendly focusing behaviors, and environmental enforcement [55, 57]. Insufficient environmental awareness was identified as a major obstacle to implementing both GPI and GPB Akehurst et al. [58] found that EC has a positive impact on GBP higher than GPI. EC exerts both direct and indirect effects in shaping behavior, such as choosing eco-friendly products, living low-carbon lifestyles, and making sustainable purchasing choices.

$H_{5:}$ EC has a positive impact on GPB.

$H_{6:}$ GPI mediates the relationship of EC to GPB.

1.7. Perceived Behavioral Control

Perceived behavioral control, as a key variable, usually has a positive influence on intention, regarding behavioral intention, which refers to 'the perceived ease or difficulty of performing the behavior, and it is assumed to reflect experience as well as anticipated impediments and obstacles [24]. It consists of a sense of control and self-efficacy. The former mainly refers to consumers' evaluation of whether they can complete the purchasing task or not and it comprises internal control factors [59, 60]. When consumers prepare to purchase a green product, they could consider the accessibility, convenience, and categories of the product [61]. Based on the above studies, perceived behavioral control affects the intention to purchase green products. The stronger the perceived behavioral control, the stronger the behavioral intention. Therefore, the following hypothesis will be put forward:

$H_{7:}$ PBC is positively impact on GPB.

$H_{8:}$ GPI mediates the relationship of PBC to GPB.

1.8. Subjective Norms

The concept of subjective norms regarding behavioral intention refers to 'the perceived social pressure to perform or not to perform the behavior [24]. An individual will behave in a specific way based on perceived social pressure to perform or not to perform the behavior. Social pressure could stem from laws, regulations, and incentive policies, which could also influence the individual's behavioral intention. Based on the TPB model, subjective norms are effective predictor variables of behavioral intention. Several researchers have proven the positive influence of subjective norms on green purchase behavior [62, 63]. Additionally, many studies have proven that the relationship is positive between subjective norms and behavioral intention. According to the above literature, we find that the higher the subjective norm, the stronger the behavioral intention. Subjective norms, as the main variables, can explain and predict residents' intentions to purchase green products [64, 65].

$H_{9:}$ SN is positively impact on GPB.

$H_{10:}$ GPI mediates the relationship of PBC to GPB.

Through ten research hypotheses, the authors propose the research model presented in Figure1 which demonstrates the mediating role of GPI between GPI antecedents and GPB.

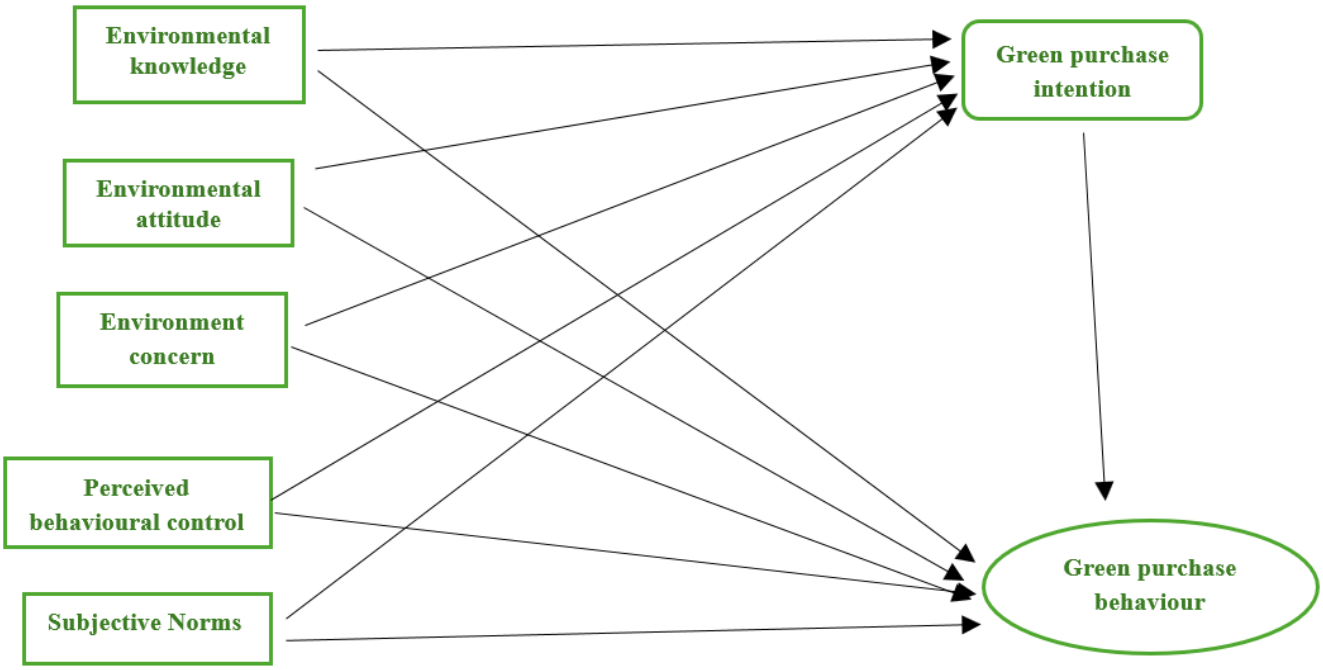

Figure 1.
Research model.

2. Materials and Methods

2.1. Sample

According to the approach outlined by Joskow and Yamane [66] when the size of the population is not known, Equation 1 can be used to determine the sample size (n) :

$$n = \frac{Z^2}{e^2}[p \times (1-p)] \quad (1)$$

where:

Z represents the critical value derived from the Z-distribution table, commonly set at 1.96 to correspond with a 95% confidence level.

The variable p the estimated success rate and is often set at 0.5 to maximize the expression $p\times$ (1- p), ensuring a cautious approach to estimate sample size.

The margin of error (e), typically shown as a percentage, is often chosen as ±0.01 (1%), ±0.05 (5%), or ±0.1 (10%)

Thus, the necessary sample size $= \frac{1.96^2}{0.05^2}[0.5(1-0.5)] = 384.16$

India's developing economy is reportedly marked by rapid urbanization, economic growth, and significant environmental challenges. Patna emerges as an ideal case study because the links have emerged among these factors, and in the context of Patna, the links between EK, EA, EC, PBC, SN, and GPB can be explored with the addition of GPI as mediators. This unique context has given researchers a rare opportunity to investigate the interplay between environmental stewardship behavior in the context of an evolving urban region. This study based in Patna is both extensive and indicative. The research has employed a convenience sampling technique for youth participants in urban Patna.

Survey locations were strategically selected to encompass key educational areas, varied socioeconomic backgrounds, major commercial centers, and densely populated residential zones. A three-pronged approach was adopted to maintain data integrity. The survey was first pilot tested on 35 students to authenticate its clarity and relevance. Questionnaires were then reviewed to assess completeness, with those containing missing or contradictory responses excluded from further analysis. Therefore, the data were collected from 460 respondents, but only 427 valid responses of them were for analysis, establishing a strong foundation for the research. Finally, a double-entry verification system was used to reduce data entry errors and increase precision. In this study, seven constructs were employed, with each construct being evaluated through three to six items. This methodology enables a deeper comprehension of participants' thoughts and behaviors in relation to their surroundings, while also offering a clearer understanding of the broader context. To test the scales' measurement, the study adapted and validated the measurements of the scales used in previous studies, using a 5-point Likert scale.

3. Result

The analysis was divided into two parts: criteria-related construct validity, which included the evaluation of reliability, convergent validity, and discriminant validity. Subsequently, a structural model was built to verify the hypothesized relationships. R and SmartPLS software were used due to their nonparametric capabilities in evaluating latent constructs within path models. The main statistical approach used in this study was PLS-SEM for data analysis to apply the approach effectively using the above-discussed software tools [67].

3.1. Demographics Details

427 out of 460 questionnaires were used for statistical analysis between March 1 and April 30, yielding a response rate of 92.8 percent. Table 1 shows the demographic profile of the respondents. The gender statistics shown indicate that 52.9% of the participants are male, while 47.1% are female. Similarly, 19.2 percent were between the ages of 16 and 20, 25 percent were between the ages of 21 and 25, 33.4 percent were between the ages of 26 and 30, 15.2 percent were between the ages of 31 and 35, and 7 percent were between the ages of 36 and 40.

Table 1.
Demographic profile of respondents (n- 427).

Category	Profile	Frequency	Percentage %
	16 - 20	82	19.2
Age	21 - 25	107	25.04
	26 - 30	143	33.4
	31 - 35	65	15.2
	36 - 40	30	7.02
Gender	Male	226	52.9
	Female	201	47.1
	Matriculation (10^{th})	55	12.8
Education	Diploma/ (10+2)	95	22.24
	Graduate	137	32.08
	Postgraduate	100	23.4
	PhD	40	9.36
	≤30	20	4.7
Monthly Income (Thousand-rupees)	<30–45≤	53	12.4
	<45–60≤	147	34.4
	<60–75≤	161	37.7
	>75	46	10.8
Marital Status			
	Married	88	20.6
	Unmarried	296	69.3
	Others	43	10.1

3.2. The Measurement Model

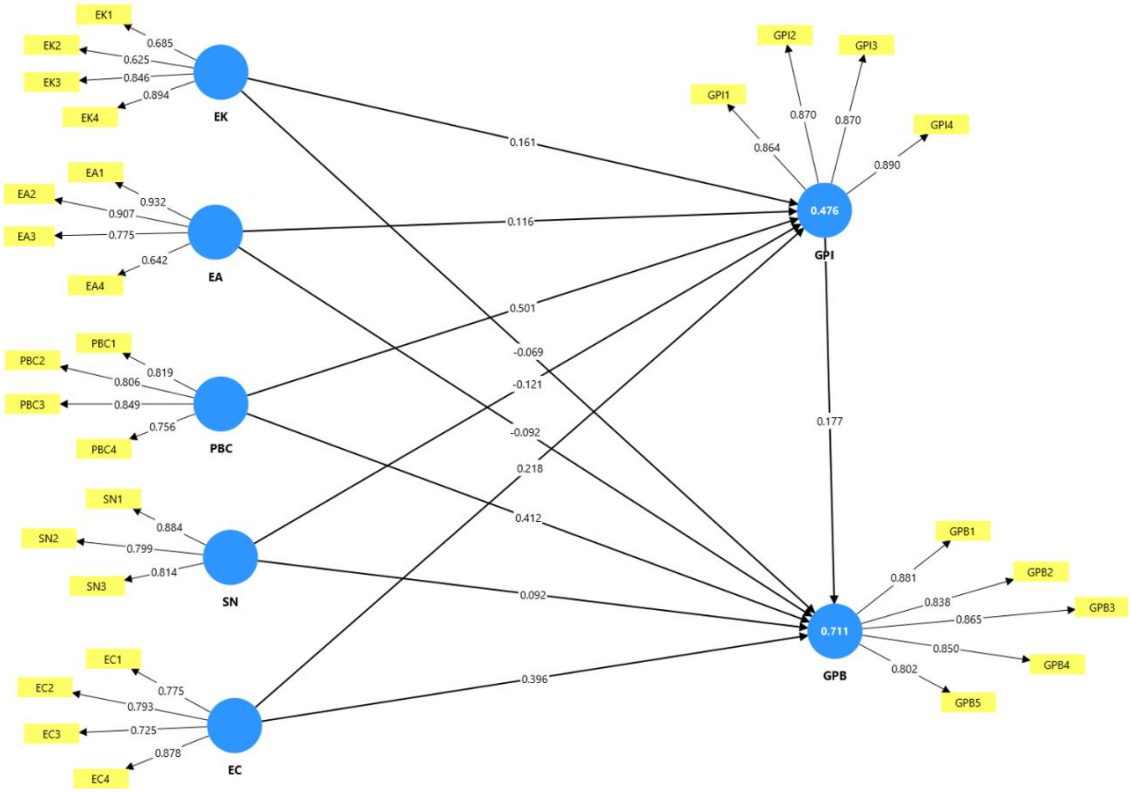

Figure 2.
Factor loading, path coefficient and r-square result (pls-algorithm).

3.3. Convergent Validity

Construct validity is how a particular scale measures a construct. Aiken [68] involves convergent Campbell and Fiske [69] and discriminant validities [70]. The measuring model's internal consistency, reliability, and convergent validity were examined. CR, OL and CA were assessed and calculated for measuring internal consistencies as shown in Table 2 [71, 72]. Cronbach's alpha was applied to ensure scale reliability and internal consistency [72]. An adequate Cronbach's alpha value is at least .70 [71]. CA and CR values fell in the recommended values' brackets [73]. The reliability indices for variables included in the model demonstrate each factor's internal consistency and construct validity, which indicates that all the items have good internal consistency among the constructs. Moreover, the results are supported by the CR values greater than 0.80. Furthermore, factor loading was calculated for convergent validity utilizing average variance extracted (AVE), where each AVE result is greater than 0.5 [74-76], which are a good signal for the model and can be used for further data analysis and deployment.

Table 2.
Construct reliability and validity.

	Items	Outer loadings	Outer weights	CA	CR (rho_a)	CR (rho_c)	Average variance extracted (AVE)	Reference (source)
	EA1	0.932	0.469					McCarty and Shrum [77]
	EA2	0.907	0.384	0.856	0.955	0.9	0.676	
EA	EA3	0.775	0.18					
	EA4	0.642	0.116					
	EC1	0.775	0.327					Koenig-Lewis, et al. [78] and Trivedi, et al. [79]
	EC2	0.793	0.288	0.806	0.837	0.872	0.631	
EC	EC3	0.725	0.233					
	EC4	0.878	0.398					
	EK1	0.685	0.193					Choi and Johnson [80]
EK	EK2	0.625	0.029					
	EK3	0.874	0.382	0.818	0.954	0.852	0.6	
	EK4	0.894	0.589					
	GPB1	0.88	0.251					
	GPB2	0.836	0.234					Ogiemwonyi, et al. [33] and Zhang, et al. [54]
GPB	GPB3	0.865	0.242	0.902	0.904	0.927	0.719	
	GPB4	0.851	0.229					
	GPB5	0.805	0.223					
	GPI1	0.861	0.278					Dahhan and Arenkov [81]; Zhang et al. [82] and Zhang et al. [83]
GPI	GPI2	0.873	0.25	0.897	0.903	0.928	0.763	
	GPI3	0.872	0.318					
	GPI4	0.888	0.299					
	PBC1	0.819	0.313					Ajzen [24] and Wang, et al. [60]
PBC	PBC2	0.806	0.302	0.822	0.824	0.882	0.653	
	PBC3	0.849	0.326					
	PBC4	0.756	0.295					
	SN1	0.884	0.482					Paul, et al. [61]; Kamalanon, et al. [84] and Zhuang, et al. [85]
SN	SN2	0.8	0.331	0.782	0.812	0.872	0.694	
	SN3	0.814	0.38					

Source: FL factor loadings, CA Cronbach's alpha, CR composite reliability, AVE average variance extracted.

3.4. Discriminant Validity

Discriminant validity examines the constructs' variances and uniqueness [86, 87]. Researchers employ various methodologies to evaluate and compute discriminant validity, with a preference often given to the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio [88, 89]. These methods are considered foundational standards for assessing discriminant validity. According to this criterion, the intercorrelation values between constructs should be lower than the square root of the AVE [88]. The square roots of the construct values exceed their corresponding intercorrelation values, thereby confirming adherence to the recommended standards. Consequently, the measurement model is deemed suitable for further analysis. The HTMT values are below the 0.90 criterion [90]. The upper triangular matrix represents Fornell-Larcker criteria, whereas the lower triangular matrix represents the HTMT ratio.

Table 3.
HTMT RATIO & Fornell Larcker criteria.

	EA	EC	EK	GPB	GPI	PBC	SN
EA	**0.822**	**0.213**	**0.031**	**0.271**	**0.052**	**0.222**	**0.040**
EC	0.233	**0.794**	**0.067**	**0.710**	**0.479**	**0.534**	**0.060**
EK	0.102	0.133	**0.771**	**0.056**	**0.253**	**0.142**	**0.080**
GPB	0.264	0.812	0.086	**0.848**	**0.595**	**0.736**	**0.003**
GPI	0.101	0.537	0.216	0.654	**0.874**	**0.626**	**0.191**
PBC	0.249	0.634	0.143	0.854	0.723	**0.808**	**0.096**
SN	0.152	0.159	0.105	0.074	0.223	0.152	**0.833**

3.5. Assessment of the Structural Model

A bootstrapping procedure of 5000 sub-samples was applied to test the hypotheses with percentile bootstrap two-tailed tests at a 5% level of significance using SmartPLS 4 software [74]. Tables 5 and 6 present the results related to our hypothesis. Based on the values and their specified range, all values fall within the acceptance range, leading to the acceptance of all hypotheses.

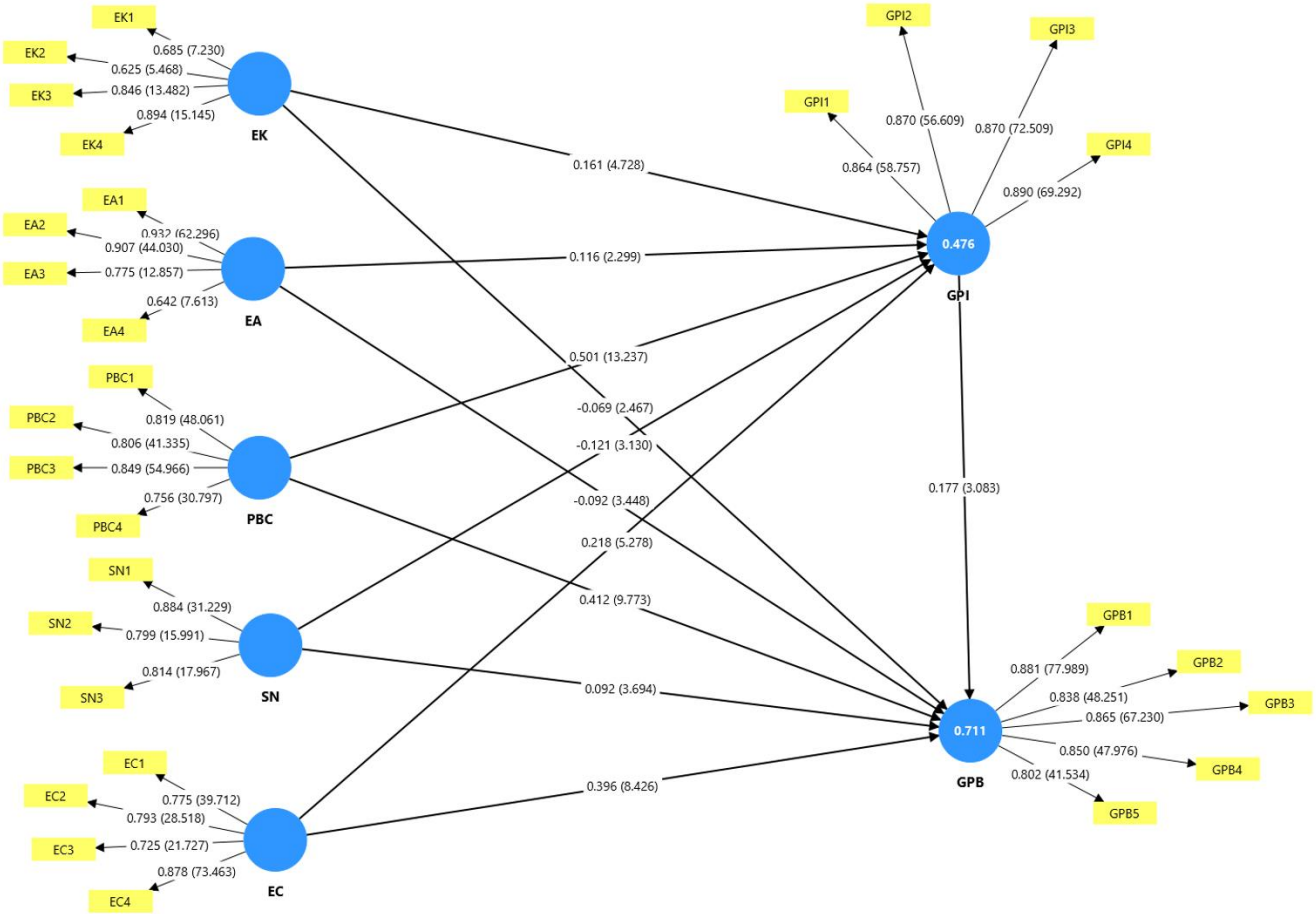

Figure 3.
Path diagram.

3.6. Path Coefficient

Table 4.
Path coefficient.

	Beta	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
EA -> GPB	0.092	0.027	3.448	0.000
EA -> GPI	0.116	0.050	2.299	0.011
EC -> GPB	0.396	0.047	8.426	0.000
EC -> GPI	0.218	0.041	5.278	0.000
EK -> GPB	0.069	0.028	2.467	0.007
EK -> GPI	0.161	0.034	4.728	0.000
GPI -> GPB	0.177	0.058	3.083	0.001
PBC -> GPB	0.412	0.042	9.773	0.000
PBC -> GPI	0.501	0.038	13.237	0.000
SN -> GPB	0.092	0.025	3.694	0.000
SN -> GPI	0.121	0.039	3.130	0.001

3.7. Direct Effects

Direct effects refer to the relationship between two variables without the influence of other variables. Results shown in Table 5 indicate that EK, EA, EC, PBC, and SN had direct effects on GPB.

Table 5.
Direct effects.

Hypotheses	Relationship	Beta	T statistics (|O/STDEV|)	P values	Decision
H1	EK -> GPB	0.029	2.226	0.013	Supported
H3	EA -> GPB	0.021	2.269	0.012	Supported
H5	EC -> GPB	0.039	3.207	0.001	Supported
H7	PBC -> GPB	0.089	2.739	0.003	Supported
H9	SN -> GPB	0.022	2.647	0.004	Supported

3.8. Indirect Effect (Mediation Analysis)

According to the proposed model, we also need to evaluate the potential mediating effects. Based on the established guidelines of Zhao et al. [91], we evaluate the five possible mediating effects in our proposed model. The p-value serves as an indicator of the presence of an effect; thus, it is crucial to assess the significance of the structural model relationship presented in Table 6.

Table 6.
Indirect effects.

Hypotheses	Relationship	Beta value	T statistics (|O/STDEV|)	P values	Decision
H2	EK -> GPI -> GPB	0.029	2.226	0.013	Supported
H4	EA -> GPI -> GPB	0.021	2.269	0.012	Supported
H6	EC -> GPI -> GPB	0.039	3.207	0.001	Supported
H8	PBC -> GPI -> GPB	0.089	2.739	0.003	Supported
H10	SN -> GPI -> GPB	0.022	2.647	0.004	Supported

3.9. Total Effect

Table 7.
Total effect.

Relationship	Beta	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
EA -> GPB	-0.071	0.029	2.496	0.006
EA -> GPI	0.116	0.050	2.299	0.011
EC -> GPB	0.434	0.046	9.443	0.000
EC -> GPI	0.218	0.041	5.278	0.000
EK -> GPB	-0.041	0.026	1.557	0.047
EK -> GPI	0.161	0.034	4.728	0.000
GPI -> GPB	0.177	0.058	3.083	0.001
PBC -> GPB	0.501	0.039	12.968	0.000
PBC -> GPI	0.501	0.038	13.237	0.000
SN -> GPB	0.070	0.025	2.848	0.002
SN -> GPI	-0.121	0.039	3.130	0.001

4. Discussion

Based on the theory of planned behavior, this research constructs a conceptual model of influencing factors and mechanisms of green purchase behavior. This research aims to study the factors affecting the GPB of young consumers in Patna, India. In the proposed model, the impact of environmental, psychological, and social factors on GPB is indirectly assessed through GPI as a mediator using PLS-SEM (R, SmartPLS software). However, not many studies have carefully examined these additional factors on GPB toward GP through the mediation of GPI [10, 31]. Ten (10) main hypotheses with theoretical and empirical support were empirically tested using data collected from Patna, India. The study discusses the research findings and how they relate to previous literature in the sections that follow. The results of H1 supported the research, which means that EK positively influences GPB. To put it more explicitly, as EK increases, youth lead to GPB. This result is supported by many studies Zhang et al. [54]. The results of H2, supported by this research suggest that EK positively impacts GPB through the mediating role of GPI. In other words, EK can lead to GPB through its impact on GPI. According to the findings of the present study, EK and awareness have an impact on green behavior, which is similar to previous studies [42]. The research shows that EK has a beneficial effect on an individual's GPI, as increased awareness drives people to purchase GP, thereby contributing to environmental protection [92]. Attitude was a determining factor of Green Purchase Behavior (GPB). Attitude refers to the perceived benefits of consuming environmentally friendly goods. Evidence from this study shows that GPB in Indian society can be improved through positive attitudes. Previous studies have shown similar results [93]. EC (H5, H6) positively influences GPB, and it also verify the impact of EC on GPB through the mediating role of GPI. Previous studies also found the same result [94]. PBC (H7, H8) directly and indirectly influences GPB, which is similar to previous studies [95]. Subjective norms (H9, H10), which refer to the opinions of others that impact an individual's decision-making process, have been shown to encourage environmentally friendly consumption behaviors in India. The results of this study align with those of Zheng et al. [96] and Bong Ko and Jin [97], who empirically prove that subjective norms can significantly increase consumers' green purchase behavior in an emerging economy.

4.1. Policy Implications

This research recognizes critical attitude determinants affecting green purchasing behavior (GPB) in the context of both product and non-product indicators. Consumer awareness is a key factor that enhances the adoption of green products (GP). Thus, governments, organizations, and marketing agencies should promote public awareness to raise interest in sustainable consumption. The results provide useful information for policymakers and organizations in developing effective approaches to stimulate green purchasing and eco-friendly behavior. Moreover, the results can help attract and retain customers by advocating for environmental values, which would strengthen green businesses and improve their competitiveness. The study finds a strong correlation between environmental factors and consumers' GPB. When policymaking principles are rooted in green purchasing, eco-products can be encouraged as the path to economic and commercial benefits at large. This can help with branding and shows that you care about the planet. Consumers typically are aware of their environmental responsibilities and commitment to sustainability. Consequently, marketing strategies must focus on valuing the environment by encouraging sustainable acts and green consumption to generate sales. This complicates their analysis and the impact they can have. Those strategies must not only promote sustainability within the companies but also institutionalize various green activities to enhance green purchasing initiatives (GPI) and (EC) via eco-friendly activities (recycling, reducing non-essential consumption, or environmentally friendly consumption), and they aim to strengthen environmental awareness and accountability.

4.2. Conclusion

The disparity between stated intent regarding environmentalism and purchasing decisions is an important consideration in messaging responsible consumption to all stakeholders. Our study calls on policymakers and influencers to increase awareness to approach consumers but identify environmental responsibility as an essential duty. Confirming that EK, EA, EC, PBC, and SN are determinants of GPB mediated by GPI. This research adds to the body of literature. The results offer guidance for managers who want to shape strategies to support sustainable behaviors. Moreover, the study reiterates that sustainability should be embedded in the mindset, identity, and beliefs of society. The findings highlight the need for people to consider environmental protection measures and take more responsibility when buying GP. Consumer attitudes towards responsible consumption can be affected significantly by raising environmental awareness and accountability. And if consumers adopt sustainable practices out of impulse, it will send them on an endless loop toward responsibility. The findings of this research afford new insights into potential avenues for strengthening positive GPB, thereby promoting sustainable consumption and contributing to a better environment. These results also offer actionable insights for policymakers to promote green behavior in a circular economy like India.

4.3. Limitations and Future Research Directions

A few limitations of this study should be noted to inform future investigations. Firstly, this study used purposive sampling because it focused on the younger generation, mainly the educated youth of the Patna district. This approach may restrict the generalizability of the results to other areas. However, due to similar living conditions in many developing nations, the results are likely to be relevant to wider populations, including other parts of India. Also, like any cross-sectional, survey-based study, this research is susceptible to common method bias. Despite taking necessary precautions and using statistical tests to mitigate this concern, bias inherent in cross-sectional studies cannot be completely removed. Thus, the results need to be interpreted with consideration of this limitation. The study relies on a small number of variables, and probably some of the variables affecting the GPB are not included. Future studies should investigate further moderators and mediators, like culture,

personality, and product type, to develop a more holistic picture. Finally, researchers should also factor in the respondents' cultural, geographical, and socio-economic background as these are variables that could have a major impact on GPB and sustainability consumption trends.

References

[1] X. Zhao, L. Fan, and Y. Xu, "An investigation of determinants of green consumption behavior: an extended theory of planned behavior," *Innovation and Green Development*, vol. 4, no. 1, p. 100198, 2025. https://doi.org/10.1016/j.igd.2024.100198

[2] S. U. Rahman and B. Nguyen-Viet, "Towards sustainable development: Coupling green marketing strategies and consumer perceptions in addressing greenwashing," *Business Strategy and the Environment*, vol. 32, no. 4, pp. 2420-2433, 2023. https://doi.org/10.1002/bse.3256

[3] J. E. Hansen *et al.*, "Global warming has accelerated: Are the united nations and the public well-informed?," *Environment: Science and Policy for Sustainable Development*, vol. 67, no. 1, pp. 6-44, 2025. https://doi.org/10.1080/00139157.2025.2434494

[4] S. V. Feigin *et al.*, "Proposed solutions to anthropogenic climate change: a systematic literature review and a new way forward," *Heliyon*, vol. 9, no. 10, 2023. https://doi.org/10.1016/j.heliyon.2023.e20544

[5] R. K. Meet, N. Kundu, and I. S. Ahluwalia, "Does socio demographic, green washing, and marketing mix factors influence Gen Z purchase intention towards environmentally friendly packaged drinks? Evidence from emerging economy," *Journal of Cleaner Production*, vol. 434, p. 140357, 2024. https://doi.org/10.1016/j.jclepro.2023.140357

[6] A. Iqbal, E. Saraswati, and M. Tojibussabirin, "Green consumption behaviour in Indonesia: exploring the role of government support," *Cogent Social Sciences*, vol. 10, no. 1, p. 2439546, 2024. https://doi.org/10.1080/23311886.2024.2439546

[7] A. Bravo, D. Vieira, and T. A. Rebello, "The origins, evolution, current state, and future of green products and consumer research: A bibliometric analysis," *Sustainability*, vol. 14, no. 17, p. 11022, 2022. https://doi.org/10.3390/su141711022

[8] Q. L. Tan, S. B. Hashim, and Z. Zheng, "Mapping global trends in green consumption (2014–2024): A bibliometric analysis of emerging insights and directions," *Sustainable Futures*, p. 100667, 2025. https://doi.org/10.1016/j.sftr.2025.100667

[9] Megha, "Determinants of green consumption: a systematic literature review using the TCCM approach," *Frontiers in Sustainability*, vol. 5, p. 1428764, 2024.

[10] D. Jaiswal and R. Kant, "Green purchasing behaviour: A conceptual framework and empirical investigation of Indian consumers," *Journal of retailing and consumer services*, vol. 41, pp. 60-69, 2018. https://doi.org/10.1016/j.jretconser.2017.11.008

[11] R. Yadav and G. S. Pathak, "Determinants of consumers' green purchase behavior in a developing nation: Applying and extending the theory of planned behavior," *Ecological economics*, vol. 134, pp. 114-122, 2017. https://doi.org/10.1016/j.ecolecon.2016.12.019

[12] S. B. Butar, N. Ambarita, and R. Haniva, "Green awareness and green product: A direction for sustainable consumption," *Applied Environmental Science*, vol. 1, no. 2, 2024. https://doi.org/10.61511/aes.v1i2.2024.342

[13] K. Hua and X. Pang, "Investigation into the factors affecting the green consumption behavior of China rural residents in the context of dual carbon," *Sustainability*, vol. 16, no. 13, p. 5797, 2024. https://doi.org/10.3390/su16135797

[14] S. Nurhidayati, E. Susantini, F. Rachmadiarti, and A. Sukri, "Revealing students' environment care attitudes viewed by different gender and departments," presented at the In 3rd International Conference on Education and Technology (ICETECH 2022) (pp. 132-140). Atlantis Press, 2023.

[15] N. T. Q. Huong and N. Q. Vinh, "A SEM-ANN analysis to examine the green consumption behavior of tourists in Vietnam," *International Journal of Innovative Research and Scientific Studies*, vol. 8, no. 1, pp. 1589–1601, 2025. https://doi.org/10.53894/ijirss.v8i1.4705

[16] K. H. Nguyen and M. D. Tran, "How minimalism drives green purchase intention in collectivist cultures," *Sustainability (Switzerland)*, vol. 17, no. 1, 2025. https://doi.org/10.3390/su17010332

[17] A. P. Sharma, "Consumers' purchase behaviour and green marketing: A synthesis, review and agenda," *International Journal of Consumer Studies*, vol. 45, no. 6, pp. 1217-1238, 2021. https://doi.org/10.1111/ijcs.12722

[18] D. N. Akude, J. K. Akuma, E. A. Kwaning, and K. A. Asiama, "Green marketing practices and sustainability performance of manufacturing firms: Evidence from emerging markets," *Nature Environment and Pollution Technology*, vol. 24, no. 1, pp. 1-16, 2025. https://doi.org/10.46488/NEPT.2025.v24i01.D1673

[19] S. Nurhidayati and A. Sukri, "Validation of students' green behavior instrument based on local potential using structural equation modeling with smart partial least squares," *European Journal of Educational Research*, vol. 14, no. 1, 2025. https://doi.org/10.12973/eu-jer.14.1.215

[20] H. Kurokawa *et al.*, "Improvement impact of nudges incorporated in environmental education on students' environmental knowledge, attitudes, and behaviors," *Journal of environmental management*, vol. 325, p. 116612, 2023. https://doi.org/10.1016/j.jenvman.2022.116612

[21] V. Blok, R. Wesselink, O. Studynka, and R. Kemp, "Encouraging sustainability in the workplace: A survey on the pro-environmental behaviour of university employees," *Journal of cleaner production*, vol. 106, pp. 55-67, 2015. https://doi.org/10.1016/j.jclepro.2014.07.063

[22] B. Zareie and N. J. Navimipour, "The impact of electronic environmental knowledge on the environmental behaviors of people," *Computers in Human Behavior*, vol. 59, pp. 1-8, 2016. https://doi.org/10.1016/j.chb.2016.01.025

[23] S. Tawde, R. Kamath, and R. ShabbirHusain, "'Mind will not mind'–Decoding consumers' green intention-green purchase behavior gap via moderated mediation effects of implementation intentions and self-efficacy," *Journal of Cleaner Production*, vol. 383, p. 135506, 2023. https://doi.org/10.1016/j.jclepro.2022.135506

[24] I. Ajzen, "The theory of planned behavior," *Organizational Behavior and Human Decision Processes*, vol. 50, no. 2, pp. 179-211, 1991. https://doi.org/10.1016/0749-5978(91)90020-T

[25] H. Si, J.-g. Shi, D. Tang, S. Wen, W. Miao, and K. Duan, "Application of the theory of planned behavior in environmental science: a comprehensive bibliometric analysis," *International journal of environmental research and public health*, vol. 16, no. 15, p. 2788, 2019. https://doi.org/10.3390/ijerph16152788

[26] A. Parveen and R. Chaudhary, "Investigating the purchase intention determinants of energy efficient products using structural equation modelling analysis," *Vision*, p. 09722629221101160, 2022. https://doi.org/10.1177/09722629221101160

[27] N. Sreen, S. Purbey, and P. Sadarangani, "Impact of culture, behavior and gender on green purchase intention," *Journal of retailing and consumer services*, vol. 41, pp. 177-189, 2018. https://doi.org/10.1016/j.jretconser.2017.12.002
[28] O. Ogiemwonyi, "Determinants of green behavior (Revisited): A comparative study," *Resources, Conservation & Recycling Advances*, vol. 22, p. 200214, 2024. https://doi.org/10.1016/j.rcradv.2024.200214
[29] R. F. Kennedy, S. Susainathan, H. J. George, and S. Parayitam, "Green consumption and sustainable lifestyle: Evidence from India," *Administrative Sciences*, vol. 14, no. 10, p. 262, 2024. https://doi.org/10.3390/admsci
[30] M. M. Mostafa, "Gender differences in Egyptian consumers' green purchase behaviour: the effects of environmental knowledge, concern and attitude," *International journal of consumer studies*, vol. 31, no. 3, pp. 220-229, 2007. https://doi.org/10.1111/j.1470-6431.2006.00523.x
[31] Y. Joshi and Z. Rahman, "Consumers' sustainable purchase behaviour: Modeling the impact of psychological factors," *Ecological economics*, vol. 159, pp. 235-243, 2019. https://doi.org/10.1016/j.ecolecon.2019.01.025
[32] N. Dilotsotlhe, "Factors influencing the green purchase behaviour of millennials: An emerging country perspective," *Cogent Business & Management*, vol. 8, no. 1, p. 1908745, 2021. https://doi.org/10.1080/23311975.2021.1908745
[33] O. Ogiemwonyi, M. N. Alam, R. Alshareef, M. Alsolamy, N. A. Azizan, and N. Mat, "Environmental factors affecting green purchase behaviors of the consumers: Mediating role of environmental attitude," *Cleaner Environmental Systems*, vol. 10, p. 100130, 2023. https://doi.org/10.1016/j.cesys.2023.100130
[34] O. Ogiemwonyi and A. B. Harun, "Green product awareness has the potential to promote green consumer behaviour: Evidence from Kuala-Lumpur," *Israel Journal of Ecology and Evolution*, vol. 67, no. 1-2, pp. 39-50, 2020. https://doi.org/10.1163/22244662-bja10010
[35] M. S. Han, D. P. Hampson, Y. Wang, and H. Wang, "Consumer confidence and green purchase intention: An application of the stimulus-organism-response model," *Journal of Retailing and Consumer Services*, vol. 68, p. 103061, 2022. https://doi.org/10.1016/j.jretconser.2022.103061
[36] G. K. Dagher and O. Itani, "Factors influencing green purchasing behaviour: Empirical evidence from the Lebanese consumers," *Journal of consumer behaviour*, vol. 13, no. 3, pp. 188-195, 2014. https://doi.org/10.1002/cb.1482
[37] R. Chaudhary and S. Bisai, "Factors influencing green purchase behavior of millennials in India," *Management of Environmental Quality: An International Journal*, vol. 29, no. 5, pp. 798-812, 2018. https://doi.org/10.1108/MEQ-02-2018-0023
[38] Y. J. Kim, D. Njite, and M. Hancer, "Anticipated emotion in consumers' intentions to select eco-friendly restaurants: Augmenting the theory of planned behavior," *International journal of hospitality management*, vol. 34, pp. 255-262, 2013. https://doi.org/10.1016/j.ijhm.2013.04.004
[39] C. K. Lai and E. W. Cheng, "Green purchase behavior of undergraduate students in Hong Kong," *The Social Science Journal*, vol. 53, no. 1, pp. 67-76, 2016. https://doi.org/10.1016/j.soscij.2015.11.003
[40] B. Kumar, A. K. Manrai, and L. A. Manrai, "Purchasing behaviour for environmentally sustainable products: A conceptual framework and empirical study," *Journal of retailing and consumer services*, vol. 34, pp. 1-9, 2017. https://doi.org/10.1016/j.jretconser.2016.09.004
[41] R. Lavuri and G. Susandy, "Green products: Factors exploring the green purchasing behavior of south Indian shoppers," *Indonesian Journal of Sustainability Accounting and Management*, vol. 4, no. 2, pp. 191-174, 2020. https://doi.org/10.28992/ijsam.v4i2.229
[42] A. Safari, R. Salehzadeh, R. Panahi, and S. Abolghasemian, "Multiple pathways linking environmental knowledge and awareness to employees' green behavior," *Corporate Governance: The international journal of business in society*, vol. 18, no. 1, pp. 81-103, 2018. https://doi.org/10.1108/CG-08-2016-0168
[43] P. N. Van, L. T. B. Ngoc, L. T. Cuc, and P. M. Hung, "Green brand knowledge and green consumption intention: moderating role in food and beverage industry in Hanoi, Vietnam," *International Journal of Innovative Researchand Scientific Studies*, vol. 8, no. 2, pp. 2079-2090, 2025. https://doi.org/10.53894/ijirss.v8i2.5636
[44] G. Yener, A. Secer, and P. L. Ghazalian, "What factors influence consumers to buy green products? An analysis through the motivation–opportunity–ability framework and consumer awareness," *Sustainability*, vol. 15, no. 18, p. 13872, 2023. https://doi.org/10.3390/su151813872
[45] N. B. do Prado and G. H. S. M. d. Moraes, "Environmental awareness, consumption of organic products and gender," *Revista de Gestão*, vol. 27, no. 4, pp. 353-368, 2020. https://doi.org/10.1108/REGE-11-2019-0120
[46] R. Bala, S. Singh, and K. K. Sharma, "Relationship between environmental knowledge, environmental sensitivity, environmental attitude and environmental behavioural intention–a segmented mediation approach," *Management of Environmental Quality: An International Journal*, vol. 34, no. 1, pp. 119-136, 2023. https://doi.org/10.1108/MEQ-08-2021-0202
[47] M. Simanjuntak, N. L. Nafila, L. N. Yuliati, I. R. Johan, M. Najib, and M. F. Sabri, "Environmental care attitudes and intention to purchase green products: Impact of environmental knowledge, word of mouth, and green marketing," *Sustainability*, vol. 15, no. 6, p. 5445, 2023. https://doi.org/10.3390/su15065445
[48] T. D. H. Hooi and C. F. C. Cheng, "Measuring the marginal effect of pro-environmental behaviour: Guided learning and behavioural enhancement," *Journal of hospitality, leisure, sport & tourism education*, vol. 20, pp. 16-26, 2017. https://doi.org/10.1016/j.jhlste.2016.12.001
[49] R. Wijekoon and M. F. Sabri, "Determinants that influence green product purchase intention and behavior: A literature review and guiding framework," *Sustainability*, vol. 13, no. 11, p. 6219, 2021. https://doi.org/10.3390/su13116219
[50] S. F. Uddin and M. N. Khan, "Green purchasing behaviour of young Indian consumers: An exploratory study," *Global Business Review*, vol. 17, no. 6, pp. 1469-1479, 2016. https://doi.org/10.1177/0972150916660440
[51] T.-Y. Yu, T.-K. Yu, and C.-M. Chao, "Understanding Taiwanese undergraduate students' pro-environmental behavioral intention towards green products in the fight against climate change," *Journal of Cleaner Production*, vol. 161, pp. 390-402, 2017. https://doi.org/10.1016/j.jclepro.2017.05.115
[52] M. A. Vicente-Molina, A. Fernández-Sainz, and J. Izagirre-Olaizola, "Does gender make a difference in pro-environmental behavior? The case of the Basque Country University students," *Journal of Cleaner Production*, vol. 176, pp. 89-98, 2018. https://doi.org/10.1016/j.jclepro.2017.12.079
[53] M. D. Kirmani and M. N. Khan, "Decoding willingness of Indian consumers to pay a premium on green products," *South Asian Journal of Business Studies*, vol. 7, no. 1, pp. 73-90, 2018. https://doi.org/10.1108/SAJBS-11-2016-0091

[54] M. Zhang, R. Zhang, Y. Li, and Y. Zhou, "Knowing green, buying green: University students green knowledge and green purchase behavior," *Humanities and Social Sciences Communications*, vol. 11, no. 1, pp. 1-7, 2024. https://doi.org/10.1057/s41599-024-03243-7

[55] R. Yadav and G. S. Pathak, "Young consumers' intention towards buying green products in a developing nation: Extending the theory of planned behavior," *Journal of cleaner production*, vol. 135, pp. 732-739, 2016. https://doi.org/10.1016/j.jclepro.2016.06.120

[56] D. K. Maduku, "How environmental concerns influence consumers' anticipated emotions towards sustainable consumption: The moderating role of regulatory focus," *Journal of Retailing and Consumer Services*, vol. 76, p. 103593, 2024. https://doi.org/10.1016/j.jretconser.2023.103593

[57] M. Pandey and P. S. Yadav, "Understanding the role of individual concerns, attitude, and perceived value in green apparel purchase intention; the mediating effect of consumer involvement and moderating role of generation Z&Y," *Cleaner and Responsible Consumption*, vol. 9, p. 100120, 2023. https://doi.org/10.1016/j.clrc.2023.100120

[58] G. Akehurst, C. Afonso, and H. M. Gonçalves, "Re-examining green purchase behaviour and the green consumer profile: new evidences," *Management decision*, vol. 50, no. 5, pp. 972-988, 2012. https://doi.org/10.1108/00251741211227726

[59] A. Bandura, "Self-efficacy mechanism in human agency," *American psychologist*, vol. 37, no. 2, p. 122, 1982.

[60] B. Wang, J. Li, A. Sun, Y. Wang, and D. Wu, "Residents' green purchasing intentions in a developing-country context: Integrating PLS-SEM and MGA methods," *Sustainability*, vol. 12, no. 1, p. 30, 2019. https://doi.org/10.3390/SU12010030

[61] J. Paul, A. Modi, and J. Patel, "Predicting green product consumption using theory of planned behavior and reasoned action," *Journal of retailing and consumer services*, vol. 29, pp. 123-134, 2016. https://doi.org/10.1016/j.jretconser.2015.11.006

[62] Y. Xu *et al.*, "Effects of subjective norms and environmental mechanism on green purchase behavior: An extended model of theory of planned behavior," *Frontiers in Environmental Science*, vol. 10, p. 779629, 2022. https://doi.org/10.3389/fenvs.2022.779629

[63] R. Afroz, M. M. Masud, R. Akhtar, M. A. Islam, and J. B. Duasa, "Consumer purchase intention towards environmentally friendly vehicles: An empirical investigation in Kuala Lumpur, Malaysia," *Environmental Science and Pollution Research*, vol. 22, pp. 16153-16163, 2015. https://doi.org/10.1007/s11356-015-4841-8

[64] A. Khare, "Antecedents to green buying behaviour: a study on consumers in an emerging economy," *Marketing Intelligence & Planning*, vol. 33, no. 3, pp. 309-329, 2015. https://doi.org/10.1108/MIP-05-2014-0083

[65] A. K. Moser, "Thinking green, buying green? Drivers of pro-environmental purchasing behavior," *Journal of consumer marketing*, vol. 32, no. 3, pp. 167-175, 2015. https://doi.org/10.1108/JCM-10-2014-1179

[66] J. Joskow and T. Yamane, "Statistics, an introductory analysis," *J Am Stat Assoc*, vol. 60, no. 310, p. 678, 1965.

[67] J. Leppink, *Statistical methods for experimental research in education and psychology*. Cham: Springer International Publishing, 2019.

[68] L. R. Aiken, "Content validity and reliability of single items or questionnaires," *Educational and psychological measurement*, vol. 40, no. 4, pp. 955-959, 1980. https://doi.org/10.1177/001316448004000419

[69] D. T. Campbell and D. W. Fiske, "Convergent and discriminant validation by the multitrait-multimethod matrix," *Psychological bulletin*, vol. 56, no. 2, p. 81, 1959.

[70] J. Hulland, "Use of partial least squares (PLS) in strategic management research: A review of four recent studies," *Strategic management journal*, vol. 20, no. 2, pp. 195-204, 1999.

[71] R. A. Peterson, "A meta-analysis of Cronbach's coefficient alpha," *Journal of consumer research*, pp. 381-391, 1994. https://doi.org/10.1086/209405

[72] L. J. Cronbach, "Coefficient alpha and the internal structure of tests," *psychometrika*, vol. 16, no. 3, pp. 297-334, 1951. https://doi.org/10.1007/BF02310555

[73] J. F. Hair Jr, M. C. Howard, and C. Nitzl, "Assessing measurement model quality in PLS-SEM using confirmatory composite analysis," *Journal of business research*, vol. 109, pp. 101-110, 2020. https://doi.org/10.1016/j.jbusres.2019.11.069

[74] J. Hair and A. Alamer, "Partial least squares structural equation modeling (PLS-SEM) in second language and education research: Guidelines using an applied example," *Research Methods in Applied Linguistics*, vol. 1, no. 3, p. 100027, 2022. https://doi.org/10.1016/j.rmal.2022.100027

[75] J. F. Hair Jr, "Next-generation prediction metrics for composite-based PLS-SEM," *Industrial Management & Data Systems*, vol. 121, no. 1, pp. 5-11, 2020. https://doi.org/10.1108/IMDS-08-2020-0505

[76] J. Henseler, C. M. Ringle, and M. Sarstedt, "A new criterion for assessing discriminant validity in variance-based structural equation modeling," *Journal of the academy of marketing science*, vol. 43, pp. 115-135, 2015. https://doi.org/10.1007/s11747-014-0403-8

[77] J. A. McCarty and L. Shrum, "The recycling of solid wastes: Personal values, value orientations, and attitudes about recycling as antecedents of recycling behavior," *Journal of business research*, vol. 30, no. 1, pp. 53-62, 1994. https://doi.org/10.1016/0148-2963(94)90068-X

[78] N. Koenig-Lewis, A. Palmer, J. Dermody, and A. Urbye, "Consumers' evaluations of ecological packaging–Rational and emotional approaches," *Journal of environmental psychology*, vol. 37, pp. 94-105, 2014. https://doi.org/10.1016/j.jenvp.2013.11.009

[79] R. H. Trivedi, J. D. Patel, and N. Acharya, "Causality analysis of media influence on environmental attitude, intention and behaviors leading to green purchasing," *Journal of cleaner production*, vol. 196, pp. 11-22, 2018. https://doi.org/10.1016/j.jclepro.2018.06.024

[80] D. Choi and K. K. Johnson, "Influences of environmental and hedonic motivations on intention to purchase green products: An extension of the theory of planned behavior," *Sustainable Production and Consumption*, vol. 18, pp. 145-155, 2019. https://doi.org/10.1016/j.spc.2019.02.001

[81] A. Dahhan and I. Arenkov, "The impact of green advertising on consumer purchase intention based on the theory of planned behavior," *Multidisciplinary Science Journal*, vol. 7, no. 9, pp. 2025427-2025427, 2025. https://doi.org/10.31893/multiscience.2025427

[82] Y. Zhang, J. Liu, and X. Li, "Value delivery in green consumption: the effect of advertisement value proposition on consumer perception and purchase intention," *Frontiers in Psychology*, vol. 15, p. 1339197, 2024. https://doi.org/10.3389/fpsyg.2024.1339197

[83] F. Zhang, Y. Zhang, S. Liao, X. Zhou, and X. Ma, "Research on the impact of matched effects between green advertising appeals and product type on consumer purchase intention," *Journal of Retailing and Consumer Services*, vol. 85, p. 104265, 2025. https://doi.org/10.1016/j.jretconser.2025.104265

[84] P. Kamalanon, J.-S. Chen, and T.-T.-Y. Le, "Why do we buy green products?" An extended theory of the planned behavior model for green product purchase behavior," *Sustainability*, vol. 14, no. 2, p. 689, 2022. https://doi.org/10.3390/su14020689

[85] W. Zhuang, X. Luo, and M. U. Riaz, "On the factors influencing green purchase intention: A meta-analysis approach," *Frontiers in psychology*, vol. 12, p. 644020, 2021. https://doi.org/10.3389/fpsyg.2021.644020

[86] J. F. Hair, W. C. Black, B. J. Babin, and R. E. Anderson, "Exploratory factor analysis," *Multivariate data analysis*, vol. 7, pp. 100-100, 2014.

[87] J. F. Hair and C. M. Hult, *Ringle, and Marko. Sarstedt, A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage, 2017.

[88] C. Fornell and D. F. Larcker, "Evaluating structural equation models with unobservable variables and measurement error," *Journal of Marketing Research*, vol. 18, no. 1, p. 39, 1981. https://doi.org/10.2307/3151312

[89] G. W. Cheung, H. D. Cooper-Thomas, R. S. Lau, and L. C. Wang, "Reporting reliability, convergent and discriminant validity with structural equation modeling: A review and best-practice recommendations," *Asia Pacific Journal of Management*, vol. 41, no. 2, pp. 745-783, 2024. https://doi.org/10.1007/s10490-023-09871-y

[90] J. C. Anderson and D. W. Gerbing, "Structural equation modeling in practice: A review and recommended two-step approach," *Psychological bulletin*, vol. 103, no. 3, p. 411, 1988.

[91] X. Zhao, J. G. Lynch Jr, and Q. Chen, "Reconsidering Baron and Kenny: Myths and truths about mediation analysis," *Journal of consumer research*, vol. 37, no. 2, pp. 197-206, 2010. https://doi.org/10.1086/651257

[92] M. Cui, Y. Li, and S. Wang, "Environmental knowledge and green purchase intention and behavior in china: The mediating role of moral obligation," *Sustainability (2071-1050)*, vol. 16, no. 14, 2024. https://doi.org/10.3390/su16146263

[93] M. N. Alam, O. Ogiemwonyi, I. E. Hago, N. A. Azizan, F. Hashim, and M. S. Hossain, "Understanding consumer environmental ethics and the willingness to use green products," *Sage Open*, vol. 13, no. 1, p. 21582440221149727, 2023. https://doi.org/10.1177/21582440221149727

[94] A. Mishal, R. Dubey, O. K. Gupta, and Z. Luo, "Dynamics of environmental consciousness and green purchase behaviour: an empirical study," *International Journal of Climate Change Strategies and Management*, vol. 9, no. 5, pp. 682-706, 2017. https://doi.org/10.1108/IJCCSM-11-2016-0168

[95] X. Li *et al.*, "Mechanism of attitude, subjective norms, and perceived behavioral control influence the green development behavior of construction enterprises," *Humanities and Social Sciences Communications*, vol. 10, no. 1, pp. 1-13, 2023. https://doi.org/10.1057/s41599-023-01724-9

[96] G.-W. Zheng, A. B. Siddik, M. Masukujjaman, S. S. Alam, and A. Akter, "Perceived environmental responsibilities and green buying behavior: The mediating effect of attitude," *Sustainability*, vol. 13, no. 1, p. 35, 2020. https://doi.org/10.3390/su13010035

[97] S. Bong Ko and B. Jin, "Predictors of purchase intention toward green apparel products: A cross-cultural investigation in the USA and China," *Journal of Fashion Marketing and Management: An International Journal*, vol. 21, no. 1, pp. 70-87, 2017. https://doi.org/10.1108/JFMM-07-2014-0057