Pertanika J. Soc. Sci. & Hum. 32 (3): 1141 - 1164 (2024)

PERTANIKA JOURNALS

SOCIAL SCIENCES & HUMANITIES

Journal homepage: http://www.pertanika.upm.edu.my/

Green Consumption: Behavior of Young Indonesian Consumers — Role of Environmental Knowledge, Responsibility, and Attitudes

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ABSTRACT

Younger consumers are important in addressing environmental problems caused by consumption activities. It is mediated through green behavior, which is influenced by Internal factors. Thus, this study examines how young Indonesian consumers' environmental attitudes, knowledge, and responsibility relate to their green consumption habits. Using the voluntary sampling approach, 328 respondents were chosen, and data were examined using SEM and descriptive analysis. The findings demonstrated that views about the environment and green consumer behavior were significantly influenced by environmental knowledge. A person's attitude greatly influences their green consumption habits. These findings support the cognitive-affective-behavioral (CAB) hypothesis, which can be applied to similar study subjects or topics. An important factor influencing perceptions is environmental responsibility. It follows the Norm Activation Theory (NAM). In contrast to green consumption behavior, the effect of environmental responsibility was not significant. It is not in line with the NAM, so it is recommended that the theory be modified or other theories be used to examine similar variables. Environmental responsibility is significantly impacted by environmental knowledge. While attitudes were in the high category, knowledge, responsibility, and green consumption behavior were in the medium category. The study suggests marketers offer and promote eco-friendly products to provide more choices to consumers. These results also provide good insights for policymakers to achieve sustainable consumption targets by considering knowledge enhancement through environmental campaigns on social media.

Keywords: Environmental attitudes, knowledge, responsibility, green consumption behavior

ARTICLE INFO

Article history:
Received: 01 September 2023
Accepted: 25 March 2024
Published: 27 September 2024

DOI: https://doi.org/10.47836/pjssh.32.3.16

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ISSN: 0128-7702
e-ISSN: 2231-8534

INTRODUCTION

Unsustainable consumption is detrimental to the environment in different ways. The primary driver of these negative consequences is consumption volume, which significantly contributes to greenhouse gas emissions (Bengtsson et al., 2018). Furthermore, this excessive consumption is linked to other environmental issues, such as ozone layer depletion, soil and water pollution, and ecosystem damage (Ekasari, 2017). Humans, as consumers, generate waste through daily activities, leading to pollution of air, water, and soil (Sunarsih, 2014). In Indonesia, 39.63% of waste comes from household waste. Based on the type, the majority of national waste generation is food and plastic, with a proportion of 40.64% and 18.08% (Ministry of Environmental and Forestry, 2022). Moreover, the increased use of chemical-based products has amplified hazardous waste generation (Utami, 2020).

A previous study stated that people's behavior strongly influenced the success of programs to address issues in selecting and consuming environmentally friendly products (Utami, 2020). Individual green behavior can largely be explained by internal factors like knowledge (Kostadinova, 2016). Prior studies by Chekima et al. (2015), Paul et al. (2016), Peattie (2010), and Shamsi and Siddiqui (2017) examined the influence of a person's demographics on their consumption patterns of green products. Environmentally conscious consumers have a greater desire to adopt friendly consumption habits (Peattie, 2010). Meanwhile, awareness and responsibility positively affect attitudes toward environmentally friendly products, and consumers concerned about the environment will likely pay more for renewable energy. Individuals with socially responsible attitudes toward issues tended to purchase friendly products (Oyewole, 2001). Attitudes are a key prerequisite of green consumption intentions and behaviors (Wang et al., 2021). Other research in sustainable tourism suggests that there is an attitude-behavior gap. The cause is the cognitive dissonance that occurs in the context of environmental sustainability (Juvan & Dolnicar, 2014).

Consumers play an important role in degradation (Berglund & Matti, 2014). Hence, good conduct must be adopted to address the issues. It can be achieved by actively engaging in eco-friendly practices and promoting green consumption (Zuraidah et al., 2012). Young consumers are concerned with the present situation and pay attention to future consequences (Hume, 2010). In Indonesia, the young consumer is primarily populated by millennials and Z generations. There were 75.49 million members of Generation Z (born 1997–2012), or 27.94% of the population. Meanwhile, the second most prevalent population was the millennial generation (born in 1981–1996), with 69.38 million people or 25.87% (Central Bureau of Statistics, 2020).

According to recent research, Generation Z—the generation living in the age of digital transformation—is more conscious of the environment, values diversity in ethics, and feels that equality and justice are important. They also value sustainability

in all forms (Gomes et al., 2023). At the moment, youthful customers who have been designated as a distinct market category and form influential consumer spending groups are the ones who buy friendly items (Yadav & Pathak, 2016). Since they have been exposed to the advancements in information technology since they were small children, even young customers now comprise a market segment that demands everything quickly (Hendrawan & Zorigoo, 2019). Sustainable consumption is an important, essential approach to addressing global environmental issues. Effective digital communication strategies, such as the AISAS model, can raise awareness and influence people's consumption behavior, especially among teenagers, to shift to more sustainable practices (Yuliati & Simanjuntak, 2024). Previous research on green behavior at the generational level has been conducted by Fabiola and Mayangsari (2020), Marmaya et al. (2019), Natakoesoemah and Adiarsi (2020), and Rizkalla and Erhan (2020). However, most previous studies are limited to the purchasing perspective of green consumption, excluding use and disposal. The consumption of young consumers of green products is interesting to analyze in describing the predominant consumer behavior. Meanwhile, the lack of interest in purchasing products can increase environmental damage.

Multiple parties have considered the concern about environmental damage caused by unsustainable consumption behavior. The attempt was to build on previous results by examining the effect of individual factors such as knowledge, responsibility, and attitudes as mediating variables on green consumption behavior in young Indonesian consumers, specifically, the millennial generation and Generation Z. This study defines consumption as green purchasing, usage, and recycling behavior. It is important to see the consistency of the behavior by looking at green consumption behavior from pre-, during, and post-consumption.

The Cognitive-Affective-Behavior (CAB) theory was adopted to explain the connection between cognitive (i.e., knowledge), emotional (i.e., attitudes), and behavior (Anuar et al., 2017). The cognitive component is knowledge or beliefs about an object, while the emotional component is the reaction or feeling associated with an attribute. Finally, behavior, often referred to as conative, is related to the intention or motivation to take action (Ojiaku et al., 2018). The fundamental theory in this study is the Norm Activation Model (NAM). According to the NAM model, an individual's pro-environmental behavior is determined by their responsibility, which is reflected in personal norms. Additionally, this study used the concepts of sustainable consumption and theories to describe green consumption behavior.

Ensuring sustainable consumption and production patterns is the 12th goal of the Sustainable Development Goals (SDGs). SDG 12 aims to reduce food waste in half worldwide, both at the retail and consumer levels. Development plans at the national and regional levels have also included

these objectives. For instance, the National Medium-Term Development Plan for 2020–2024 is governed by the Presidential Regulation of the Republic of Indonesia Number 18 of 2020.

The practical description of green consumption habits is expected to be an input for government policies in achieving SDG 12, namely responsible consumption and production. Additionally, this supports the national medium-term development plan as a form of government commitment to implementing the SDG. The extent of the role and dominance of internal factors is also reported in influencing green consumption behavior. This study proves whether consumers' decisions to behave in consuming green products follow the standard order of the learning hierarchy under the CAB theory. Finally, the results analyze the influence of the responsibility variable in NAM on green consumption behavior.

LITERATURE REVIEW

Cognitive-Affective-Behavior Theory (CAB)

The CAB model is based on the idea that consumer decisions are hierarchical, starting with cognition (personal beliefs, thoughts, perceptions, meanings, or attitudes) related to a particular issue or object. The cognitive and affective aspects are included in behavior as an intention to act or an actual action. The cognitive model is the individual's perception of the outcome of knowledge, while the affective model is an emotional assessment with preferences. The behavioral component is the actions dedicated to the desire of individuals to consume a product (Chou et al., 2020). This CAB model is acceptable for all attitudes (Gigerenzer, 2020) but should be used to develop perceptual attitudes recognizing consumer decision-making (Gursoy et al., 2018).

Other studies have analyzed internal factors such as knowledge and attitudes based on the hierarchical order in the CAB theory model. The findings validate the CAB theory, which holds that attitudes are influenced by knowledge and consequently affect green consumer behavior (Anuar et al., 2017).

Norm Activation Model Theory (NAM)

NAM is a theoretical model widely used in several previous studies to determine the factors resulting in individual behavior (Onwezen et al., 2013). This theory was first proposed in 1977 by Schwartz and NAM to analyze the problem of pro-environmental behavior (Fang et al., 2019). The theory states that individuals show pro-environmental behavior due to the possession of personal values, understanding the consequences, and responsibility. Individuals are more committed to conservation through a connection with the negative consequences of their actions (Fang et al., 2019; Van der Werff et al., 2013).

Sustainable Consumption

A pattern of obtaining products and services to meet fundamental human requirements without having a detrimental effect on the environment is known as sustainable

consumption. Sustainable consumption results from a decision-making process by consumers as a responsibility to the environment in accordance with their needs. The process involves employing goods and services to provide necessities and promote a greater quality of life while minimizing the use of chemicals, natural resources, and the disposal of waste and pollutants to prevent harmful future generations (Seyfang & Smith, 2007). Some fundamental principles are understanding what products are consumed, knowing the impact of consumption, and recognizing the danger to communities, the national economy, and local industry (Sari, 2017). Thus, optimizing consumption's effects on the environment, society, and economy while also taking into account the demands of present and future generations is what is meant by sustainable consumption (Brix-Asala et al., 2016).

Green Consumption Behavior

Green consumption is a personal choice driven by environmental awareness. This behavior is shown by the individual who seeks, purchases, uses, evaluates, and discards products (Siringi, 2012). Consuming environmentally friendly products will be influenced by how someone acts (Andrew & Slamet, 2013). Meanwhile, awareness of issues is a multi-faceted construction that includes cognitive, emotional, and behavioral components (Tantawi & Shaughnessy, 2009). Consumer environmental behavior can be complicated for a variety of reasons, including cost (the scarcity of reasonably priced eco-friendly products), convenience (separating rubbish for recycling and keeping it at home instead of taking it to a collection point), and time (losing time) (Widayat et al., 2022).

Environmental Knowledge and Attitudes

Environmental knowledge should be possessed by promoting behavior commitments to purchase friendly products (Lee, 2011). Environmental knowledge also plays an important role in shaping environmental attitudes and encouraging more sustainable consumption behavior (Simanjuntak et al., 2023). Additional research has revealed that knowledge positively impacts opinions towards green items (Barber et al., 2010; Haryanto, 2018). This variable influences environmental care behavior through attitudes and motivation (Vicente-Molina et al., 2013).

Consumer attitudes are influenced by knowledge about the environment, which also promotes amiable conduct (Taufique et al., 2016). It inspires care for the environment and perceived validity to some extent. According to Lin and Niu (2018), environmental knowledge plays a crucial role in shaping environmental attitudes. The following is the theory that this study is founded on:

H1: Environmental knowledge has a significant effect on attitudes.

Environmental Knowledge and Responsibility

Environmental issues are associated with human subjective knowledge, behavior,

and attitudes (Slavoljub et al., 2015). Furthermore, sustainability can be achieved through knowledge, social behavior, and altered individual and group attitudes (Schutte & Bhullar, 2017). According to earlier studies, this variable has been linked to environmentally conscious actions. Habibi (2020) stated that more responsible behavior correlates with a higher awareness level. Thus, the hypothesis proposed in this study is:

H2: Environmental knowledge has a significant effect on responsibility.

Environmental Knowledge and Green Consumption Behavior

Knowledge influences consumer purchasing behavior (Yuliati & Simanjuntak, 2024). Knowledge of the natural world is often considered one of the primary reasons for environmentally friendly consumption. Consumers with better knowledge of environmental issues tend to be more aware of the impact of their product choices and are more likely to choose environmentally friendly products (Simanjuntak et al., 2023). Meanwhile, awareness directly affects behavior (Zareie & Navimipour, 2016), which is influenced by knowledge concerning the existence and degradation of quality, management issues, and the effectiveness of prevention methods. Awareness of degradation leads to individual and collective concerns (Hamiyati et al., 2020). A study conducted by Law et al. (2017) found that thorough environmental knowledge enables an individual to determine positive environmental behaviors. Environmental knowledge is also strongly correlated with the intention to purchase green products. The following is the hypothesis in this study based on earlier research:

H3: Environmental knowledge has a significant effect on green consumption behavior.

Environmental Responsibility and Attitudes

Environmental responsibility is often considered a personal obligation that makes people feel guilty after failing (Middlemiss, 2010). However, studies have shown that consumers with environmentally conscious attitudes tend to purchase friendly products (Joshi & Rahman, 2015). This variable is associated with attitudes (Lee, 2008). Thus, the hypothesis proposed is:

H4: Environmental responsibility has a significant effect on attitudes.

Environmental Responsibility and Green Consumption Behavior

People with a positive understanding can positively affect the environment, have individual responsibility, and participate in sustainable development (Fryxell & Lo, 2003). A different study found that green consumption behaviors and products had moderate environmental responsibility. (Al-Haziazi & Muthuraman, 2019). For instance, awareness of consumers can affect the desire to purchase environmentally friendly products at a higher price. Similarly, an individual who takes environmental responsibility seriously will increase their

commitment to actualize the purchases of products (Junaedi & Fatmawati, 2016). Thus, the hypothesis proposed in this study is:

H5: Environmental responsibility has a significant effect on green consumption behavior.

Environmental Attitudes and Green Consumption Behavior

An individual dedicated to protecting the environment should understand the value as an example of complete action. This behavior is expected to endure for an extended duration, thereby prompting all individuals in attendance to engage in identical actions (Septian et al., 2016). Many studies showed that consumer attitudes directly influence the intention to consume environmentally friendly products or behavior (Chen et al., 2012; Fielding et al., 2008; Paul et al., 2016). A global study on sustainability also showed a positive correlation between people's environmental awareness, green attitudes, and green consumption (Law et al., 2017). Thus, the hypothesis proposed in this study is:

H6: Environmental attitudes have a significant effect on green consumption behavior.

METHODOLOGY

This study applied quantitative and qualitative methods. Quantitative procedures were conducted using online surveys to investigate the effects of environmental knowledge, environmental responsibility, environmental attitude, and green consumption behavior. Google Forms was used to gather data, and WhatsApp, Instagram, Twitter, and Telegram were used to share information. The questionnaire was completed independently by the respondents. Three sections made up of structured questions were included in the questionnaire: screening, profile, and research variable questions. Screening was conducted to ensure the respondents' criteria met the research needs. In the meantime, profiling was done to find out the respondents' gender, age, location of residence, level of education, occupation of work, and income.

The sample included 328 people, 160 of whom were millennials and 168 of whom were members of Generation Z. These participants were chosen voluntarily. They included Indonesian citizens between 17 and 41 who had purchased or used environmentally friendly products.

In the qualitative analysis, in-depth interviews conducted via Zoom Meeting involved six respondents (i.e., two millennials and four Generation Z) selected by purposive sampling. Physical retail observations were conducted by visiting modern retailers such as supermarkets in Jakarta. Digital observations were made by visiting online shop websites such as Zero Waste Indonesia, Demi Bumi, and Tokyo Fashionku. The previously discussed theory examines the important relationship between knowledge and attitudes, responsibility, and green consumer behavior (see Figure 1).

Knowledge of issues, environmental conditions, and solutions to protect the

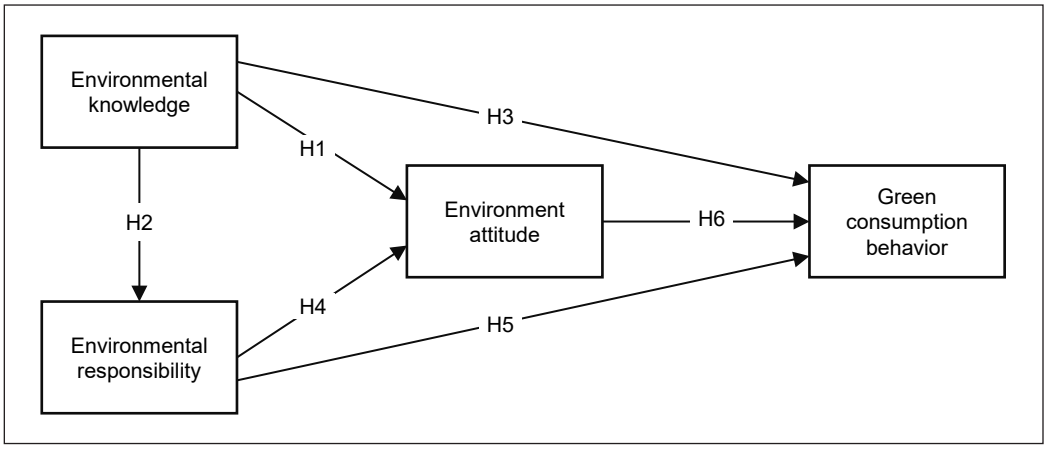

Figure 1. Study model
Source: Authors' work

environment was assessed using five different indicators (Safari et al., 2018). Furthermore, responsibility is a mindset or behavior that involves improving the environment. Responsible consumption was assessed by six modified versions of the ECO-SCALE (Environmentally Responsible Consumers Scale) (Stone et al., 1995). Attitudes are the feelings, judgments, and actions contributing to problems, measured by four different versions of inventory (Milfont & Duckitt, 2010). Additionally, green consumption is a behavior that includes the conservation of the environment, measured by ten indicators developed by some researchers (Barr et al., 2001; Straughan & Roberts, 1999; Quoquab et al., 2019). In the in-depth interview process, the questions were derived from Barr et al. (2001), Milfont and Duckitt (2010), Safari et al. (2018), Stone et al. (1995), Straughan and Roberts (1999) and Quoquab et al. (2019), to obtain more incisive information.

The variables were assessed using a five-point Likert scale with a weighted value of 1-5. The Likert scale assesses environmental knowledge: very aware, aware, somewhat aware, unaware, and ignorant. Furthermore, the scale for evaluating responsibility and attitudes is firmly in agreement, agree, entirely agree, disagree, and strongly disagree. For instance, the green consumption behavior variable comprises five scales: always, often, sometimes, rarely, and never.

Using SPSS 25.0, a descriptive analysis was carried out, and in the conclusion, the indicators are provided to help with the quantitative investigation. Descriptive statistics were used to identify each research variable. An index (i.e., 0–100 scale) was created by adding the average scores of all the indicators in a single variable. The goal is to compare every variable in the same way. The index is divided into three categories: low (i.e., index < 60.00), moderate (i.e., index 60.01–79.99), and high (i.e., index ≥ 80.00) to decide its classification. The following formula was used to determine the index:

$$\text{Index} = \frac{\text{Gained Score} - \text{Minimum Score}}{\text{Maximum Score} - \text{Minimum Score}} \times 100$$

Lastly, Lisrel 8.80 was utilized with Structural Equation Modeling (SEM) to investigate direct and indirect effects between variables. Covariance-based SEM (CB-SEM) analysis was selected to test the causal relationship between constructs or latent variables and confirm the two theories used as the basis of the study.

RESULTS

Respondents Profile

This study was primarily dominated by females (67.4%), and males only comprised only a third of the total respondents (32.6%), with millennials lower than Generation Z. Respondents from every province of Indonesia, with the most significant percentage (29.9%) were from the DKI Jakarta area. Most respondents had a high school diploma (47%) and were enrolled in college (41.5%). Furthermore, one-third had a monthly income of less than IDR 1 million (34.1%) and a monthly expenditure of less than IDR 1 million (38.1%).

Purchasing Behavior

Household goods are the most commonly used (63%) and purchased (57%) by respondents. Most purchases of environmentally friendly products are 1–2 pieces (48.5%), but the intensity of purchasing products in the last six months is twice (34.8%). The most environmentally friendly products are purchased through online platforms such as Tokopedia, Bukalapak, or Shopee (63.5%).

Green products are readily available online and in traditional retail outlets. Eco-friendly products are sold at almost all offline retailers, including supermarkets, such as tote bags, eco-friendly tissue, paper straws, Tumblr, and paper bags. Several online stores, including Demi Bumi, Zero Waste Indonesia, and Tokofashionku, sell environmentally friendly products. Online stores promote the zero-waste theme and sell products from brands. This store takes notice of packaging materials, and the merchandise at the Demi Bumi store includes accessories and equipment. Tokofashionku.com sells clothing made from bamboo fiber and organic cotton.

Description of Variable Indicators

Environmental knowledge is a person's knowledge about current environmental conditions and problems. Environmental knowledge was classified as moderate (42.4%), but there were also quite a lot of respondents in the high category (41.8%). In the distribution of respondents' answers based on the fifth indicator in the environmental knowledge variable, more than 80% of respondents know that consuming environmentally unfriendly products can cause environmental problems. It can be concluded that respondents already have a fairly good knowledge related to the environment.

The environmental responsibility in this study is moderate, at 56.1%, with an average index of 74.5%. Environmental responsibility is an individual's duty to the environment, making them feel guilty if the duty is not fulfilled. These data suggest that respondents are quite responsible for the environment. The attitude towards the environment is high, at 81.7%, with an average index of 89.3%. Respondents have high feelings, judgments and actions towards environmental issues. Furthermore, green consumption behavior in this study is moderate, at 54%, with an average index of 89.3%. It can be concluded that half of the respondents prove their concern for the environment by demonstrating green consumption behavior. The results of the descriptive statistics are presented below (Table 1).

Evaluation of Model Fit Level

The overall results of the model fit test for the Normed Fit Index (NFI), Comparative Fit Index (CFI), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Incremental Fit Index (IFI), Goodness of Fit Index (GFI), and Root Mean Square Error of Approximation (RMSEA) are in Table 2.

Table 1
Descriptive statistics

Variables	Low (Index ≤ 60.00	Moderate (Index 60.01–79.99)	High (Index ≥ 80.00)	Range of Index	Mean ± SD
Environmental Knowledge (EK)	15.9	42.4	41.8	40.00–100.00	74.7 ± 11.6
Environmental Responsibility (ER)	7.6	56.1	36.3	25.00–100.00	74.5 ± 11.3
Environmental Attitude (EA)	8.8	9.5	81.7	40.00–120.00	89.3 ± 16.8
Green Consumption Behavior (GCB)	34.8	54.0	11.3	25.00–100.00	89.3 ± 11.4

Source: Author's work

Table 2
The overall model fit test

Goodness-of-fit	Cut-off-Value	Result	Description
Root Mean Square Error of Approximation (RMSEA)	RMSEA ≤ 0.08	0.037	Good fit
Root Mean Square Residual (RMR)	RMR ≤ 0.1	0.022	Good fit
Goodness of Fit Index (GFI)	0.80 ≤ GFI < 0.90	0.97	Good fit
Adjusted Goodness of Fit Index (AGFI)	0 < AGFI < 1; AGFI ≥ 0.9	0.95	Good fit
Incremental Fit Index (IFI)	0 < IFI < 1; IFI ≥ 0.9	0.99	Good fit
Normed Fit Index (NFI)	0 < NFI < 1; NFI ≥ 0.9	0.96	Good fit
Comparative Fit Index (CFI)	0 < CFI < 1; CFI ≥ 0.9	0.99	Good fit

Source: Author's work

The re-specification results demonstrate that the model's overall fit test is satisfactory and has a good fit. The root means square error of approximation is one of the absolute fit indices. The Chi-Square test can be offset in large samples using the RMSEA index. The model's RMSEA value needs to be less than or equal to 0.08 to be acceptable. The computed RMSEA score of 0.037 shows that the model is adequate and fits the required requirements. The model satisfies the good fit criteria, as evidenced by the RMR of 0.022, the GFI of 0.97, the AGFI of 0.95, the IFI of 0.99, the NFI of 0.96, and the CFI of 0.99.

The structural model's fit test was carried out following the general model's appropriateness assessment—the indicator variables' dependability on the latent variable forms the basis of the model's fit criterion. A valid indicator has a loading factor above 0.5 on a standard basis. Indicators EK3, EK5, ER1, ER2, ER3, ER5, ER6, EA1, GCB2, GCB5, GCB6, GCB7, GCB9, and GCB10 are excluded because their standardized loading factor is considerably less than 0.5, indicating that not all indicators are valid (Figure 2).

Construct reliability (CR) and variance extracted (VE) measures for each construct were carried out to guarantee the validity and reliability of this model and result. Generally, a variance extracted (VE) value of ≥ 0.5 and an adequate construct reliability (CR) value of ≥ 0.7 are required. The study's findings indicated that every variable had CR values of at least 0.7, meeting the criterion for dependability. The variable extracted (VE) value of environmental responsibility is 0.98, which meets the requirements with VE ≥ 0.5. The variance extracted (VE) value of the other three variables is less than 0.5, namely 0.4. This value is still acceptable since convergent validity is still valid, VE is less than 0.5, and CR is greater than 0.6.

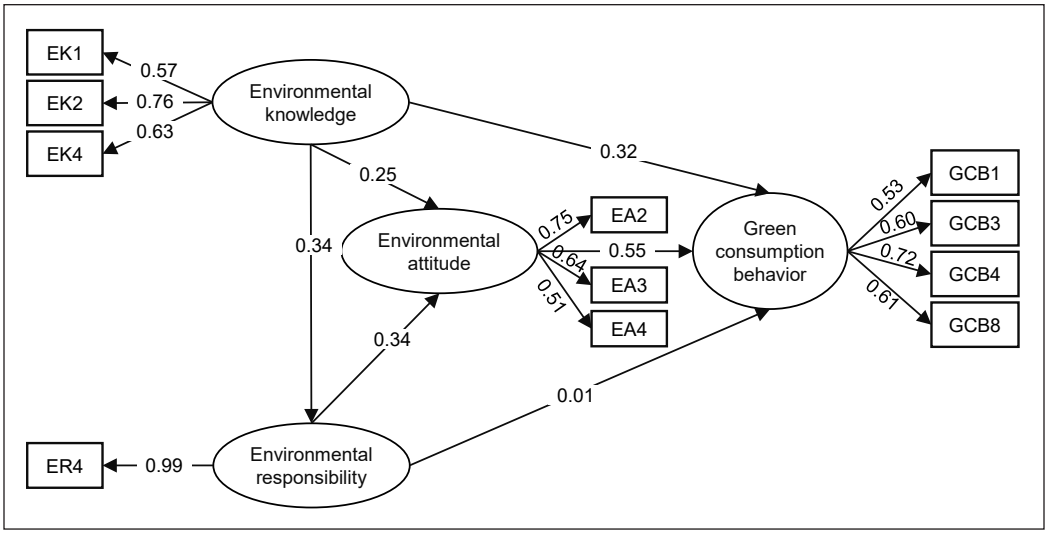

Figure 2. The result of the Structural Equation Modeling (SEM)
Source: Author's work

According to these findings, every indicator variable can assess its latent construct with a correct conclusion. Consequently, the measurement model evaluation findings indicate that the overall model fits the data (Table 3).

The structural equation model fit test is evaluated at a particular significance level. The t-value of each latent variable must be greater than 1.96 for the model to be considered fit; this is necessary because the hypothesis needs to be accepted at a significance level of 0.05 (95% confidence level). Five variables have t-values greater than 1.96. With a t-value of less than 1.96, H5 is regarded as an insignificant hypothesis (Figure 3).

Table 3
Construct Reliability (CR) and Variance Extracted (VE)

Latent variables	CR	VE
Environmental Knowledge (EK)	0.70	0.40
Environmental Responsibility (ER)	0.98	0.98
Environmental Attitude (EA)	0.70	0.40
Green Consumption Behavior (GCB)	0.70	0.40

Source: Author's work

Hypothesis Testing

Hypothesis testing examines the path coefficient and t-value of the structural equation model. The influence between variables is considered significant when the value is> 0.05 with a t-value value > 1.96. Conversely, the result is considered insignificant when the value is < 0.05 with a t-value of < 1.96. The estimated results of the SEM model based on the direct effect are shown below (Table 4).

The findings indicate that environmental attitude is positively and significantly influenced by environmental knowledge (β = 0.25; |t-value| = 3.20) and environmental responsibility (β = 0.34; |t-value| = 4.90). Environmental knowledge positively and significantly influences environmental

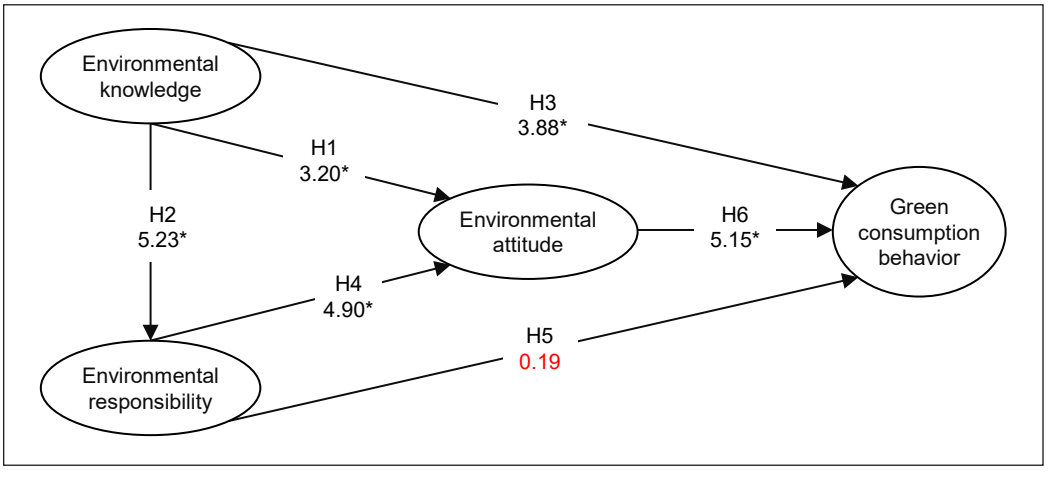

Figure 3. Results of the structural model fit test
Source: Author's work

Table 4
Hypothesis testing

Path			Path Coefficient	|*t-value*|	Results	
Environmental Knowledge (EK)	→	Environmental Attitudes (EA)	0.25	3.20	Significant	H1: Supported
Environmental Knowledge (EK)	→	Environmental Responsibility (ER)	0.34	5.23	Significant	H2: Supported
Environmental Knowledge (EK)	→	Green Consumption Behavior (GCB)	0.32	3.88	Significant	H3: Supported
Environmental Responsibility (ER)	→	Environmental Attitudes (EA)	0.34	4.90	Significant	H4: Supported
Environmental Responsibility (ER)	→	Green Consumption Behavior (GCB)	0.01	0.19	Insignificant	H5: Not Supported
Environmental Attitudes (EA)	→	Green Consumption Behavior (GCB)	0.55	5.15	Significant	H6: Supported

Source: Author's work

responsibility (β = 0.34; |t-value| = 5.23). The findings additionally indicate that green consumption behavior is positively and significantly influenced by environmental attitude (β = 0.55; |t-value| = 5.15) and environmental knowledge (β = 0.32; |t-value| = 3.88). Therefore, H5 is not supported by the fact that environmental responsibility (β = 0.01; |t-value| = 0.19) has a negligible impact on green consumption behavior. Finally, with the exception of H5, the directed hypotheses (H1, H2, H3, H4, and H6) that have been suggested have empirical evidence.

The results of the indirect effect test. The findings demonstrate that environmental responsibility (β = 0.12; |t-value| = 3.73) significantly mediates the connection between environmental knowledge and environmental attitude. Conversely, the connection between environmental knowledge and green consumption behavior is considerably mediated by environmental attitude (β = 0.20; |t-value| = 3.82) (Table 5).

In-depth Interview Results

In this study, millennials and Generation Z mentioned environmental issues related

Table 5
The indirect effect on the SEM model

The indirect path					Path Coefficient	| *t-value* |	Result
Environmental Knowledge (EK)	→	Environmental Responsibility (ER)	→	Environmental Attitudes (EA)	0.12	3.73	Significant
Environmental Knowledge (EK)	→	Environmental Attitudes (EA)	→	Green Consumption Behavior (GCB)	0.20	3.82	Significant

Source: Author's work

to waste, pollution, and disasters such as floods. Both generations learn about environmental issues through social media. They feel concerned about the issue of environmental damage. They think they can do nothing but try to introspect and improve their behavior. In this study, Millennials and Generation Z have shown their concern for the environment by implementing green consumption behaviors such as saving energy, throwing garbage in its place, using energy-efficient products, reducing the use of plastic by bringing their shopping bags when shopping, and bringing their own drinking water bottles. However, they do not have good recycling or waste management behaviors. Both generations find it quite difficult to reduce the use of plastic because businesses still provide products with plastic packaging. Nevertheless, they agree to use and encourage the availability of green products.

DISCUSSION

Environmental knowledge significantly influences attitudes (H1 supported). Therefore, there will be a significant increase in the attitudes of young Indonesian consumers with increasing knowledge. This study supports (Flamm, 2009; Gram-Hanssen, 2010; Polonsky et al., 2012) that consumers with high knowledge act positively on issues, and this variable is a significant predictor of attitudes and behavior. Other studies also align with this result, while knowledge positively affects attitudes toward environmentally friendly products (Barber et al., 2010; Haryanto, 2018). Another study suggests that environmental knowledge negatively moderates the relationship between prosocial values and attitudes. Knowledge may affect the positive impact of prosocial values (Tamar et al., 2021). In this study, the relationship between environmental knowledge and attitude was significantly moderated by environmental responsibility.

Environmental knowledge influences behavior through attitudes and motivations (Vicente-Molina et al., 2013). This variable positively affects consumer attitudes and encourages environmentally friendly behavior (Taufique et al., 2016). This study found that environmental attitudes significantly mediate the relationship between environmental knowledge and green consumption behavior. The significant influence of knowledge on attitudes increases the CAB theory. As a result, individuals who understand the environment will attempt to have positive attitudes. Young consumers tend to develop more positive attitudes as their knowledge increases.

Environmental knowledge has a significant positive influence on responsibility (H2 supported). These results showed that this variable positively correlated with environmentally responsible behavior (Habibie, 2020). The product-moment and partial correlation show the association between knowledge and responsible behavior. According to the results, knowledge is the primary determinant of environmentally responsible behavior. The interpretation suggests that significantly increasing the variable enhances

environmentally responsible behavior (Habibie, 2020). High knowledge of the environment is directly proportional to its responsibility for the environment.

Knowledge of environmental science is associated with a change in green consumption behavior; hence, the third hypothesis (H3) is supported. Young Indonesians in this study will increase their green consumption significantly when the variable is improved. Previous studies showed that knowledge of a problem impacted decisions. Awareness is associated with behavior, and knowledge influences the variable. Consumers with a broad understanding of issues are motivated to purchase environmentally friendly products, adopt practices, and have a preference for purchasing behavior (Barber et al., 2010; D'Souza et al., 2006; Saleh et al., 2020). Therefore, knowledge tends to influence consumer behavior in a more environmentally friendly direction.

Environmental responsibility significantly affects caring attitudes (H4 supported). However, responsibility does not significantly influence green consumption behavior (H5 not supported). The insignificant influence is shown by a t-count value of 0.19, which falls below the threshold of 1.96. As a result, there is no discernible change in the green consumption behavior when the variable increases. The impact is shown by the route coefficient value, which is 0.01 and indicates that consumer behavior related to green consumption is 1% influenced by responsibility. Understanding that many elements and a complex relationship exist between environmental responsibility and green consumption practices is crucial. This relationship is not always straightforward.

Although some studies have established a positive correlation between the two, there are several reasons why this impact might not be significant. Individual factors, such as values, beliefs, and personal circumstances, can significantly influence people's attitudes and behaviors, potentially diluting the direct impact of environmental responsibility. Other factors, such as price, convenience, and product availability, can also significantly influence consumer choices. Research suggests that people may perceive environmental issues as being psychologically distant from their daily lives, which can reduce the influence of environmental responsibility on actual consumption behavior. People may support eco-friendly practices in theory but may not always translate these beliefs into concrete actions due to the perceived lack of immediate consequences. In some cases, environmentally responsible alternatives may not be as readily available or as convenient as conventional options, which can discourage consumers from making green choices. Convenience often plays a crucial role in consumer decision-making.

This study contradicts previous results, in which individuals with responsibility affect sustainable consumption (Fryxell & Lo, 2003). Other studies have also reported that awareness can affect the desire to purchase products at a higher price and increase consumer dedication to

being environmentally friendly. Consumer commitment can be increased by improved responsibility to actualize purchases of environmentally friendly products (Junaedi & Fatmawati, 2016). However, having a role in the environment does not necessarily lead to developing friendly consumption.

Finally, attitudes significantly affect green consumption behavior (H6 supported), and the significant effect is derived from CAB theory. This theoretical framework states that behavior is derived from knowledge and attitudes. Meanwhile, the results follow the theoretical framework, and consumer behavior in purchasing products starts with knowledge. In this context, knowledge influences consumer attitudes toward environmental issues. The findings corroborate earlier research showing that customers are more likely to consume environmentally responsibly with positive attitudes and behaviors (Kim et al., 2012). The notion of attitudes also explains individual behavior and numerous earlier studies have looked at the connection between these factors.

Several studies have discovered a favorable correlation between worry or attitudes and actions related to the environment (Fraj & Martinez, 2006; Mostafa, 2007). As a result, perceptions greatly impact how people consume green. Additionally, this effect has a greater impact on green consumption behavior than on awareness and accountability.

This study provides reference and reinforces existing theories. First, the results show that knowledge significantly impacts attitudes and green consumption behavior. It supports the CAB theory, where behavior starts with knowledge and is followed by attitudes. The significant effect of responsibility on attitudes strengthens the NAM model, where responsibility promotes attitude formation. Finally, the negligible effect of the variable on green consumers' behavior can be incorporated into the model. Factors such as hopelessness can also prevent the activation of personal norms in action or behavior.

The results contribute to the concept of sustainable consumption, which is a pattern of goods and services without negative impact. They strengthen the concept of describing the respondents' environmental protection behavior. In addition, sustainable consumption is supported by good knowledge and the responsibility to develop positive attitudes. It motivates individuals to change their consumption behavior towards a more environmentally friendly direction.

In this study, Millennials and Generation Z can increase green consumption behavior by raising awareness of caring for and loving the environment. The process can be conducted by understanding issues and ways to protect the environment by adopting eco-friendly consumption habits. Furthermore, this green consumption habit includes three aspects. First, they can ensure their products are environmentally friendly by paying attention to the product's impact on the environment before purchasing. Second, the principle of thrift can also be followed when using goods or services. It means purchasing

only needed goods and services and being mindful of the impact.

Consumers can readily adapt to sorting waste by type and disposing it within their local communities. Furthermore, these individuals have the opportunity to harness their creativity to repurpose items suitable for independent recycling into new products. Another option is to use some items, such as cosmetic bottles, which are returned to the manufacturing companies for recycling. As a government, the Ministry of Commerce also motivated the supply of green products by promulgating regulations to encourage the development of industries that use goods or services of green raw materials. On the issue of waste management, the government needs to strengthen existing waste management regulations.

CONCLUSION

In conclusion, the green consumption behavior adopted by young Indonesian consumers in this study was energy-saving. It was practiced by disposing of garbage in its proper place, using energy-efficient products and shopping bags, reducing plastic consumption, and using drinking water bottles. Consumers also encountered challenges due to the prevalent availability of products packaged in plastic by numerous businesses. However, a promising trend was developed among younger consumers who showed a strong inclination toward adopting eco-friendly alternatives.

The findings demonstrated that knowledge has a strong positive impact on attitudes, behavior, and green consumption. It supported the CAB theory, which held that attitudes came after knowledge in shaping behavior. In the meantime, increasing knowledge improved attitudes, behaviors, and green purchasing. Socializing constructive campaigns on social media helped achieve this.

Environmental responsibility significantly positively affected attitudes but did not affect green consumption behavior. Attitudes had a significant positive effect on green consumption behavior, and this variable strengthened the NAM model, where responsibility encouraged the formation of attitudes. The young Indonesian consumers involved in this study have moderate environmental knowledge, responsibility, and green consumption behavior, while their attitudes are high. They improve their green consumption behavior by paying attention to 3 critical aspects: before buying products when using goods or services and waste management. The results also improved the concept of sustainable consumption, specifically in describing the respondents' behavior in preserving the environment.

Recommendations

In this study, millennials and Generation Z, who are young consumers, were expected to improve green consumption behavior by increasing their knowledge and responsibility for the environment. In this context, businesses motivated the growth of consumer green consumption

behavior by providing, campaigning, using environmentally friendly products, and reducing the use of plastics. The government also strengthened the regulations to encourage the growth of industries that provided and produced goods or services with environmentally friendly materials. It established stricter regulations and supervision of waste management.

This study was subjected to several limitations. First, the sample is unrepresentative of the general population. The purposive sampling was selected due to time and financial constraints. Second, during the in-depth interview phase, a number of potential sources meeting the specified criteria declined to participate in interview sessions, with a particular reluctance observed among millennial consumers. The following limitation was during field observation activities in DKI Jakarta. The future study was expected to include external factors such as the price of green products, the role of social media, government policies, or other factors contributing to the growth of green consumption behavior. Further studies could analyze eco-friendly products for comparison, such as modern and traditional retail levels, as well as urban and rural areas, to overcome the limitations.

ACKNOWLEDGEMENT

This journal article is funded by Bogor Agricultural University, Indonesia, through the Research and Community Service Grant Program.

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APPENDIX

Research Questionnaire

Symbol	Indicators
Environmental Knowledge	
EK1	Know the problem of environmental pollution
EK2	Know about environmental issues
EK3	Knowing that environmental conditions are deteriorating
EK4	Know how to protect the environment from pollution
EK5	Consuming environmentally unfriendly products causes environmental problems
Environmental Responsibility	
ER1	The amount of energy used has no significant effect on environmental
ER2	Engaging in environmental activities helps save the environment for future generations
ER3	Worrying about the environment is useless
ER4	Environmentally responsible person
ER5	Do not buy products that are known to be bad for the environment
ER6	Excessive packaging sources of pollution can be avoided if producers are environmentally conscious
Environmental Attitude	
EA1	Believe that humans are currently exploiting environmental
EA2	Save water
EA3	Save electricity
EA4	Convince others that the environment is important
Green Consumption Behavior	
GCB1	Reduce the purchase of plastic packaging products
GCB2	Reducing the use of redundant items
GCB3	Avoiding single-use products
GCB4	Minimizing over-consumption
GCB5	Recycling plastic bottles
GCB6	Buying products at the lowest price. Regardless of their impact on the environmental
GCB7	Using lights with less power
GCB8	Buying products that cause the least pollution
GCB9	Buying products that are less harmful to environmental
GCB10	Using environmentally friendly products