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THE ECO-ENGAGED RUNNER'S EDGE: HOW GREEN CONSUMER VALUES DRIVE OPPORTUNITY SPOTTING AND EFFORTLESS PRODUCT DISPOSAL

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ABSTRACT

Purpose: Investigate the impact of green consumer values and eco-conscious consumption on the decision-making process for buying and disposing of running shoes, emphasizing the moderation role of the runner's profile.

Design/Methodology/Approach: Utilizes a quantitative survey methodology, analyzing the data with Structural Equation Modelling (SEM). The runner's profile—encompassing running frequency, duration, and its integration into lifestyle—serves as a moderator in the model.

Findings: Reveals a complex interplay between environmental values and consumer habits, moderated by individual running profiles, affecting the purchase and disposal decisions of running shoes.

Practical Implications: Insights can assist companies in tailoring sustainable practices and products to different segments of runners, enhancing environmental stewardship in sports consumerism.

Originality/Value: Adds to the body of knowledge by uniquely combining consumer environmental values, habits, and individual athletic profiles in the context of sports equipment purchase and disposal decisions.

Keywords: Green Consumer Values; Eco-Conscious Consumption; Athletic Footwear Sustainability; Consumer Decision-Making; Lifestyle Moderation Effects

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Introduction

Conserving the planet for future generations has become an indispensable component of sustainability and development, which is the term most frequently cited when referring to definitions of sustainable development (Shiel, Paço, and Alves 2019; Mónus 2021; Channa et al. 2022). Sustainable development is 'meeting the needs of the present without compromising the ability of future generations to meet their needs' (Brundtland 1987).

Since the publication of the United Nations report 'Our Common Future' in 1987, sustainable development has become a subject of study for researchers, civil society, and governments. Moreover, it has seen further developments, such as the 'Millennium Goals' of 2000 (Sachs and McArthur 2005) and, more recently, the seventeen 'Sustainable Development Goals - SDGs' of 2012 (Sachs 2012; Pradhan et al. 2017), expanding its scope and objectives (Lima & Ribeiro, 2023).

Among the seventeen SDGs, goal 12, described as 'ensuring sustainable production and consumption patterns', allows for significant collaboration between public authorities, companies, and society (Silva & Janes, 2023). It establishes goals for achieving sustainable production and consumption at the microeconomic level, where consumer behaviour plays a crucial role (Gasper et al. 2019; Palakshappa and Dodds 2020; Voola et al. 2022).

While the study of the relationship between consumer behaviour and sustainability is not new (Mainieri et al. 1997; Minton and Rose 1997; Roberts and Bacon 1997; Tanner and Wölfing Kast 2003; Meneses and Palacio 2005), recent research has focused on understanding the factors that lead consumers to prioritize sustainability in their purchasing decisions and the need for a deeper understanding of sustainable consumption (Paswan et al. 2017; White et al. 2019; Tamar et al. 2021; Kautish et al. 2020).

Moreover, changes in the business environment have prompted researchers to pay special attention to sustainability as an intriguing research topic. Although significant progress has been made in the study of sustainability (McDonald and Oates 2006; Jones et al. 2008; Lim 2016), there are still research opportunities in the dynamic field of consumer behaviour that require ongoing investigation by both academics and practitioners (Huang and Rust 2011; Buerke et al. 2017; Carrington et al. 2021; Alzubaidi et al. 2021; Bolton 2022; Kemper and Ballantine 2019).

For instance, Davies et al. (2018) analysed the motivations of amateur athletes participating in marathons in urban and rural environments. As a result, they confirmed previous findings regarding the relationship between an individual's outdoor activities and increased environmental awareness. Similarly, Triantafyllidis and Kaplanidou (2021) identified that amateur athletes exhibit a more significant concern for the quality of the environment in which they train, connecting this concern with health benefits.

In many countries, efforts to encourage active living and well-being through the promotion of outdoor recreation while sustaining the natural environment have become increasingly contentious (Gurholt and Broch 2017) and have led several people to a sense of tension and unrest by being aware of the influences of mass production on the actualization of sustainable consumption practices (Longo, Shankar, and Nuttall 2019).

However, recent studies on the behaviour of amateur athletes and their relationship with sustainability have not addressed the purchasing and disposal practices of participants in sporting events (Aicher et al. 2018; Malchrowicz-Mośko et al. 2020; León-Guereño et al. 2021),

revealing a research gap, particularly in understanding the influence of environmental beliefs and values on the decision-making process related to purchasing and disposing of products.

Previous studies (Dickson 2000; Pickett-Baker and Ozaki 2008; Kheiry and Nakahei 2012) have explored the influence of consumers' environmental beliefs and values on attitudinal purchase intention, but they have not explicitly examined a segment of consumers presumed to be more environmentally conscious (Davies et al. 2018; Triantafyllidis and Kaplanidou 2021), whose purchase decision process, up to the point of disposal, is positively associated with sustainability (Tondolo, Otero, Garcia, Brambilla & Lunardi, 2023).

Amateur runners were chosen as the subjects of this research because running does not require specific physical spaces, can be practiced individually, has a low investment requirement, and contributes to maintaining the practitioner's health (Albuquerque et al. 2018; Besomi et al. 2017; Nikolaidis et al. 2019).

One of the main advantages of running is that the space required for its realization is created with the practice itself, giving it great freedom, flexibility, and adaptability and providing social benefits such as interaction with other people, aesthetic pleasure, and enhanced self-esteem (Rojo Starepravo and Silva 2017; Capsi and Llopis-Goig 2021).

Running shoes were selected as the product of interest to examine the consumer's decision-making process since acquiring material attributes related to the activity plays a role in comfort, appearance, and performance (Lassalle, Recours, and Griffet 2018). Running shoes are essential for running, and manufacturers recommend replacing them every four to six months for those who run more than 32 kilometers per week (Malisoux et al. 2015). This implies that amateur runners who train and participate in at least one marathon yearly require two or three pairs of shoes.

Completing a marathon involves covering a distance of 42 kilometres, so training for and participating in at least one marathon per year would require two or three pairs of shoes for an amateur athlete. Therefore, running shoes are a product that involves significant commitment and decision-making (Gill et al. 2018), brand familiarity and loyalty (Matsumura and Harada 2016), as studied by Schamp et al. (2019) concerning the ethical attributes of a brand or Sung et al. (2021) on the alignment of consumer and brand causes.

Previous studies, such as Ferreira et al. (2018), have examined the perceived value of running shoes among street runners but have not assessed the influence of sustainability on the product evaluation process. On the other hand, Ghalandari et al. (2016) studied the intentions of consumers of sports shoes from the perspective of values, involvement, perceived quality, and overall satisfaction without considering the dimensions of sustainability.

Therefore, this study aims to evaluate the influence of consumer values and beliefs related to ecologically conscious consumption on recognizing needs and opportunities in purchasing new running shoes, as well as the subsequent guilt experienced when discarding used running shoes by answering the following research question: **What is the influence of green consumer values and ecologically conscious consumption on the recognition of needs and opportunities during the purchase decision process, and their subsequent impact on the disposal of running shoes among amateur runners?**

In light of the research question stated above, this study sought to accomplish the following objectives:

(1) To examine the influence of green consumer values on recognizing needs and opportunities during the purchase decision process among amateur runners.

(2) To investigate the impact of ecologically conscious consumption on recognizing needs and opportunities during the purchase decision process among amateur runners.
(3) To explore the relationship between the recognition of needs and opportunities during the purchase decision process and the subsequent disposal of running shoes among amateur runners.
(4) To assess the combined effect of green consumer values and ecologically conscious consumption on recognizing needs and opportunities during the purchase decision process and their subsequent impact on the disposal of running shoes among amateur runners.

Literature review and hypothesis development

Green consumer values and ecologically conscious consumption shape sustainable consumer behavior and decision-making processes. Green consumer values reflect individuals' inclination to prioritize environmental protection and sustainability in purchasing decisions and consumption behaviors (Tandon et al. 2020; Khan et al. 2020; Sharma 2021). Simultaneously, ecologically conscious consumption involves making informed choices to reduce environmental impact and promote sustainability.

In the purchasing decision process context, recognizing needs and opportunities is a critical stage where consumers perceive a discrepancy between their current and desired state, influencing their subsequent actions (Mason, Pauluzzo, and Uamr 2002; Vicente, Marques, and Reis 2021). This includes the evaluation of alternatives, brand preferences, and, ultimately, the decision to purchase a particular product.

Furthermore, the final disposal of the product, particularly in the case of running shoes, holds importance for sustainable consumption (Shi, Huang, and Sarigöllü 2022). Disposal practices, whether they involve responsible disposal or contribute to waste and environmental degradation, affect consumer behavior's environmental impact (Ülkü and Hsuan 2017).

Green consumer values

The role of individual values in consumer behaviour and their decision-making process is recurrent and permanently studied in the works of Vinson et al. (1977), Beatty et al. (1985), and Kahle et al. (1986), who, among other critical theoretical contributions, enabled the measurement of consumer values.

The impact of sustainability on the global stage has incorporated the dimensions of green consumption into studies on individual values, with implications for human geography (Head et al. 2019), as well as the biological, utilitarian, and social dimensions of sustainable consumption values (Smyczek 2020), its impact on the real estate market (Giantari and Sukaatmadja 2021), on the tourism industry (Verma et al. 2019; Rahman and Reynolds 2019; Ayad et al. 2021) and on all other economic segments worldwide (Punyatoya 2014; Kumar et al. 2019).

In this context, Haws et al. (2014) defined green consumer values as the tendency to express the value of environmental protection through purchases and consumption behaviors, which was replicated in later studies (Maniati 2016; Amin and Tarun 2021), leading to the formulation of the following hypothesis:

H_1 = The values of green consumers have a direct and positive effect on the process at the needs and opportunities recognition stage during the purchase decision process.

Ecologically conscious consumption

Eco-conscious consumption is a growing trend among consumers concerned about the environmental impact (Malaguti & Avrichir, 2023) of their purchasing decisions (Adrita and Mohiuddin 2020). It involves making informed choices about the products and services that are purchased, intending to reduce environmental damage and promote sustainability (Saleem, Eagle, and Low 2021).

Regarding the apparel industry, which running shoes fit into, consumers are not only concerned about sustainability issues but also more knowledgeable about these issues than the average (Park et al. 2017) since sustainable activities have a positive effect on brand image, trust, and satisfaction (Jung et al. 2020), while Mishra et al. (2023) found that environmentally conscious people tend to have a strong sense of environmental concern, which in turn is favorably associated with both intention and green consumption behavior.

Environmentally conscious individuals may have firmer personal beliefs than individuals who are indifferent to environmental issues because of their higher levels of environmental awareness, concern, and responsibility attributions (Onel 2017), which may result in drivers of environmental concern. Buying behaviour, including the reorientation of decisions (Dhir et al. 2021), allows the formulation of the hypothesis:

H_2 = The beliefs of ecologically aware consumers have a direct and negative influence on the process of recognizing needs and opportunities during the purchase decision process.

Recognition of needs and opportunities in the purchasing decision process

In integrative models of consumer behaviour, the stage of recognizing needs and opportunities, here understood as the perception of a difference between the actual/current state and the ideal/desired state (Solomon 2020), is always the antecedent of any subsequent action, be it the search for information, the evaluation of alternatives, the choice and finally the decision (Lopes and Silva 2011).

In the study by Witek and Kuźniar (2020), consumers with better knowledge of environmental problems and methods of eradicating them showed a stronger inclination to purchase green products. Even in different consumer segments, Lee and Haley (2022) identified similar patterns of recognition of green consumers' needs and opportunities, while Phulwani et al. (2021) identified responsible disposal behaviour as that related to disposal carried out to reduce the destructive effect caused by such disposal on the environment. However, disposal may be considered undesirable if the objects still have the potential to perform their primary function. The formulated hypothesis is as follows:

H_3 = Recognition of the needs and opportunities of green consumers has a direct and positive effect on their final disposal of the product (disposal)

Moderating effect: Profile of the runner

Based on previous findings by Davies et al. (2018) and Triantafyllidis and Kaplanidou (2021), the time that the amateur athlete practices running, the number of times a week he runs, and the congruence of the practice with his lifestyle can moderate the relationship between the indirect effects of values of the green consumer and ecologically conscious consumption in the purchasing decision-making process and the direct effect of the decision-

making process on the final disposition of the product, leading to the formulation of the following hypothesis:

H_{4a} = The runner's profile moderates the direct relationship between the decision-making process and the product's final disposal.

The final research model is shown in Figure 1.

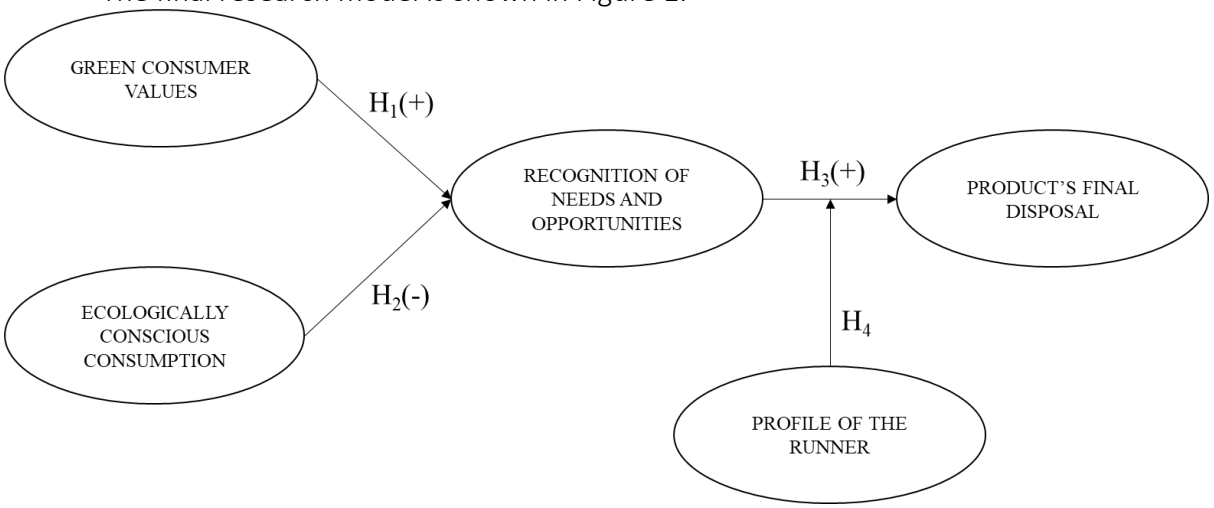

Figure 1. *Research Model*

Method

Study design and data collection

This research employed a quantitative study design conducted through a survey methodology. Data were collected using a structured questionnaire comprising assertions presented in a Likert-type scale format to assess the constructs, and a sociodemographic inventory was used to characterize the sample.

Analytical strategy

Partial least squares structural equation modelling (PLS-SEM) was chosen as the analytical strategy for this study due to its suitability for exploratory research and the complex nature of the proposed theoretical model.

PLS-SEM is particularly advantageous when dealing with smaller sample sizes, nonnormal data distributions, and complex models with latent variables and multiple relationships (Hair Jr. et al. 2019). As this study aimed to explore the relationships among green consumer values, ecologically conscious consumption, needs recognition, opportunities, and product disposal, PLS-SEM offered a flexible and robust approach to analyse the data.

Inclusion and exclusion criteria

To participate in the research, respondents had to meet the inclusion criterion of being an amateur runner. This requirement was verified with a filter question at the beginning of the questionnaire. Respondents who did not meet this requirement were excluded from the survey.

Participants

A total of 227 respondents initially participated in the study. However, 19 participants who did not meet the criteria of being amateur street runners were excluded from the analysis. The final sample consisted of 208 participants. The mean age of the participants was 33.1 years (SD=9.07 years, Med = 31 years), with 54.1% male and 45.9% female. In terms of marital status, 42.9% declared themselves single, 32.7% were married, 7.7% were in a stable relationship, 16.3% were divorced, and 0.5% were widowed. Regarding education, 2% completed elementary school, 21.7% completed secondary education, 53% completed higher education, and 23.2% completed postgraduate studies. In terms of income, 2.4% reported earning less than three minimum wages, 25.9% earned between 3 and 5 minimum wages, 41.5% earned between 5 and 10 minimum wages, and 4.9% earned above 15 minimum wages.

Sampling procedures

A snowball sampling strategy was utilized to recruit participants. Initially, a group of participants who met the inclusion criterion was selected based on their affiliation with amateur running. These participants were then asked to refer other individuals with similar characteristics, habits, and lifestyles to participate in the study. This nonprobabilistic convenience sampling approach was chosen for practical reasons and to ensure the inclusion of participants who shared similar profiles.

Sample size, power, and accuracy

The final sample size of 208 respondents was determined based on the statistical power analysis. With an alpha value of 0.05 and an expected effect size of 0.15, the sample achieved a statistical power of 0.99. These parameters were chosen following the guidelines suggested by Cohen (1992) for adequate power in social science research.

Data collection procedure

The survey instrument was distributed electronically using a 'snowball' sampling strategy. Each participant who completed the survey was encouraged to refer another individual who met the inclusion criteria. This approach helped to ensure the recruitment of participants with similar characteristics, habits, and lifestyles (Ekitan and Bala 2017).

Measures and covariates

To measure the constructs, existing scales were adapted and translated into Portuguese following recommended procedures outlined in the literature (Pasquali 2003; Hair Jr. et al. 2019; Behling and Law 2000).

The adaptation process involved several steps, including (a) translation of the original scales into Portuguese by a bilingual individual, (b) retranslation of the Portuguese version back into English by a separate bilingual individual with no access to the original scales, (c) comparison of the translated scale with the back-translated version to identify any inconsistencies, (d) content validation by expert judges in the field, and (e) semantic validation with participants from the target population.

The measurement of ecologically conscious consumer behaviour was operationalized using four assertions adapted from the work of Park et al. (2017). The values of green consumers were measured using six assertions from the study by Haws, Winterich, and Naylor (2014).

The construct of need/opportunity recognition and difficulty of choices was adapted from Mariadoss et al. (2010). Finally, the measurement of the postconsumption disposal dimension, representing the final stage of the purchase process, was adapted from the scale developed by Trudel et al. (2016) on responsible involvement in disposal. Detailed information on all scales used is available upon request.

To identify the runner's profile, we collected the following information: (a) self-declared level as a runner on a scale ranging from primary (1 to 6 months) to very experienced (more than five years), (b) congruence of running activities with lifestyle on a 5-point Likert-type scale anchored from 1 (totally disagree) to 5 (totally agree), and (c) the number of times per week of practice on an ordinal scale ranging from 1 (1 day a week) to 7 (7 days a week). These measures were chosen based on their relevance to understanding the runner's engagement and commitment to running activities (Qiu et al. 2021; Valentin, Pham, and Macrae 2022).

Additionally, the following covariates were collected: (a) having children, with 40.6% of participants indicating they had children, (b) the number of children among those who reported having children, with a mean of 1.8 children (SD=0.9 children), (c) owning or not owning a specific pair of running shoes, with 98.1% of participants reporting ownership, and (d) the number of pairs of specific running shoes among those who claimed ownership, with an average of two pairs (SD=1.31 pairs).

Data analysis

The collected data were analysed using SmartPLS 4 software. The data analysis process began with the assessment of the measurement model. This involved examining the reliability and validity of the measurement scales used to operationalize the constructs. Reliability was evaluated through the examination of composite reliability (CR) and Cronbach's alpha values, with values above 0.7 indicating satisfactory reliability (Hair Jr. et al. 2019).

Convergent validity was assessed by examining the average variance extracted (AVE), with values above 0.5 indicating adequate convergent validity (Hair Jr. et al. 2019). Discriminant validity was evaluated by comparing the AVE values with the square of the correlations between constructs, with AVE values greater than the squared correlations indicating acceptable discriminant validity (Hair Jr. et al. 2019).

After confirming the measurement model's reliability and validity, the structural model was assessed to examine the relationships among the constructs and test the proposed hypotheses. The analysis involved evaluating path coefficients and their significance through bootstrapping with 5,000 resamples. The significance of the path coefficients was determined by examining the bootstrap t values, with values greater than 1.96 indicating statistical significance at a 5% level (Hair Jr. et al. 2019).

Collinearity assessment was conducted to examine the presence of multicollinearity among the predictor variables in the structural model. Variance inflation factor (VIF) values were calculated, with values exceeding 5 indicating probable (i.e., critical) collinearity issues, values between 3 and 5 indicating possible collinearity issues, and ideally, values below 3 indicating no significant collinearity (Hair Jr. et al. 2019).

Furthermore, the coefficient of determination (R^2) values were examined to assess the explanatory power of the structural model. R^2 values of 0.75, 0.50, and 0.25 are generally considered substantial, moderate, and weak, respectively, indicating the proportion of variance in the dependent variable explained by the independent variables. R^2 values of 0.90 and higher may suggest overfitting, where the model is overly complex and may not generalize well to new data (Hair Jr. et al. 2019).

Additionally, the cross-validated redundancy (Q^2) was computed to assess the model's predictive relevance. Q^2 values above zero indicate that the model has predictive relevance beyond mere chance (Hair Jr. et al. 2019).

Results

Data analysis

The collected data were analysed using SmartPLS 4 software (Ringle, Wende, and Becker 2022).

The data analysis process began with the assessment of the measurement model. This involved examining the reliability and validity of the measurement scales used to operationalize the constructs. Reliability was evaluated through the examination of composite reliability (CR) and Cronbach's alpha values. Convergent validity was assessed by examining the average variance extracted (AVE).

Discriminant validity was evaluated by using the Fornell-Larcker criterion (1981) and the heterotrait-monotrait ratio (HTMT), as proposed by Henseler (2021).

After confirming the measurement model's reliability and validity, the structural model was assessed to examine the relationships among the constructs and test the proposed hypotheses.

The analysis involves evaluating path coefficients and their significance through bootstrapping with 5,000 resamples, a collinearity assessment to examine the presence of multicollinearity among the predictor variables in the structural model, the evaluation of explanatory power of the structural model using the coefficient of determination (R^2), and finally the cross-validated redundancy (Q^2) to assess the model's predictive relevance.

Measurement model assessment

To assess the convergent validity, the average variance extracted (AVE) was calculated. Reliability is assessed using Cronbach's alpha as the lower bound and composite reliability as the upper bound. The reference values are (a) 0.50 or above for the AVE, (b) 0.60 or above for Cronbach's alpha in exploratory research (Malhotra 2007), and (c) from 0.80 to 0.95 for composite reliability but not above 0.95. After the assessment of the measurement model, the latent variable 'Product's Final Disposal' became a single-item measure. The results are presented in Table 1.

Table 1. Reliability and convergent validity of latent variables.

Latent Variable	Cronbach's alpha	Composite Reliability	AVE
Recognition of Needs and Opportunities	0.842	0.850	0.761
Ecologically Conscious Consumption	0.830	0.880	0.747
Green Consumer Values	0.886	0.930	0.681
Profile of the Runner	0.675	0.796	0.608

Discriminant validity was assessed using the Fornell-Larcker criterion, which compares the AVE values with the square of the correlations between constructs, with AVE values greater than the squared correlations indicating acceptable discriminant validity (Hair Jr. et al. 2019), as shown in Table 2.

Table 2. Discriminant validity of latent variables (Fornell-Larcker criterion).

Latent Variable	1	2	3	4	5
1. Recognition of Needs and Opportunities	0.872				
2. Product's Final Disposal	-0.596	1.000			
3. Ecologically Conscious Consumption	0.359	-0.317	0.864		
4. Green Consumer Values	0.559	-0.509	0.812	0.825	
5. Profile of the Runner	-0.495	0.188	-0.127	-0.256	0.780

The heterotrait-monotrait ratio (HTMT ratio), adapted from the 'disattenuated correlation' (Nunnally and Bernstein 1994), is another measure of discriminant validity, with values below 1.0 indicating good discrimination between the latent variables (Henseler 2021), as depicted in Table 3.

Table 3. Discriminant validity of latent variables (HTMT ratio).

Latent Variable	1	2	3	4	5
1. Recognition of Needs and Opportunities					
2. Product's Final Disposal	0.650				
3. Ecologically Conscious Consumption	0.414	0.336			
4. Green Consumer Values	0.598	0.508	0.976		
5. Profile of the Runner	0.648	0.215	0.168	0.287	

Structural model assessment

To assess the hypothetical relationship between the latent variables, the size and significance of each path coefficient was calculated. The significance of the path coefficients was determined by examining the bootstrap t values, with values greater than 1.96 indicating statistical significance at a 5% level (Hair Jr. et al. 2019), as shown in Table 4.

Table 4. Path coefficients and significance level of hypothetical relationship between latent variables.

Hypothesis	Γ	*t value*	*p value*	Result
Green Consumer Values → Recognition of Needs and Opportunities (H_1)	0.783	9.588	0.000	Supported
Ecologically Conscious Consumption → Recognition of Needs and Opportunities (H_2)	-0.276	3.527	0.001	Supported
Recognition of Needs and Opportunities → Product's Final Disposal (H_3)	-0.754	7.536	0.000	Supported

Note. Γ = path coefficient

To assess collinearity between the latent variables, the variance inflation factor (VIF) values were calculated. Values exceeding 5 indicate probable (i.e., critical) collinearity issues, values between 3 and 5 indicate possible collinearity issues, and ideally, values below 3 indicate no significant collinearity (Hair Jr. et al. 2019). The results are presented in Table 5.

Table 5. Variance inflation factor values between latent variables.

Path	VIF
Green Consumer Values → Recognition of Needs and Opportunities (H_1)	2.929
Ecologically Conscious Consumption → Recognition of Needs and Opportunities (H_2)	2.929
Recognition of Needs and Opportunities → Product's Final Disposal (H_3)	1.637

Note. VIF = Variance Inflation Factor

The explanatory power of the structural model was assessed by examining the coefficient of determination (R^2). Cohen (1992) proposed that R^2 values of 0.75, 0.50, and 0.25 are generally considered substantial, moderate, and weak, respectively, indicating the proportion of variance in the dependent variable explained by the independent variables. The results are presented in Table 6.

Table 6. Coefficient of determination of endogenous latent variables.

Endogenous Latent Variable	R^2	R^2_{adj}
Recognition of Needs and Opportunities	0.338	0.332
Product's Final Disposal	0.395	0.386

Additionally, the cross-validated redundancy (Q^2) was computed to assess the model's predictive relevance. Q^2 values above zero indicate that the model has predictive relevance beyond mere chance (Hair Jr. et al. 2019), as shown in Table 7.

Table 7. Cross-validated redundancy of endogenous latent variables.

Endogenous Latent Variable	Q^2
Recognition of Needs and Opportunities	0.323
Product's Final Disposal	0.227

Analysis of moderation effect

To evaluate the moderating effect of the Profile of the Runner on the relationship between Recognition of Needs and Opportunities and Product's Final Disposal, we tested the interaction of both latent variables: Recognition of Needs and Opportunities and Profile of the Runner as antecedents of Product's Final Disposal. The results of the moderation analysis, including the size and significance of the path coefficient, are presented in Table 8.

Table 8. Size and significance of interaction in the moderation effect.

Interaction Effect	Γ	*t* value	*p* value	Result
Recognition of Needs and Opportunities **x** Profile of the Runner→ Product's Final Disposal (H_4)	-0.154	2.368	0.020	Supported

Note. Γ = path coefficient.

The graphical representation of the moderating effect of the Profile of the Runner on the relationship between Recognition of Needs and Opportunities and Product's Final Disposal at different levels (-1 standard deviation, mean, and +1 standard deviation) is depicted in Figure 2.

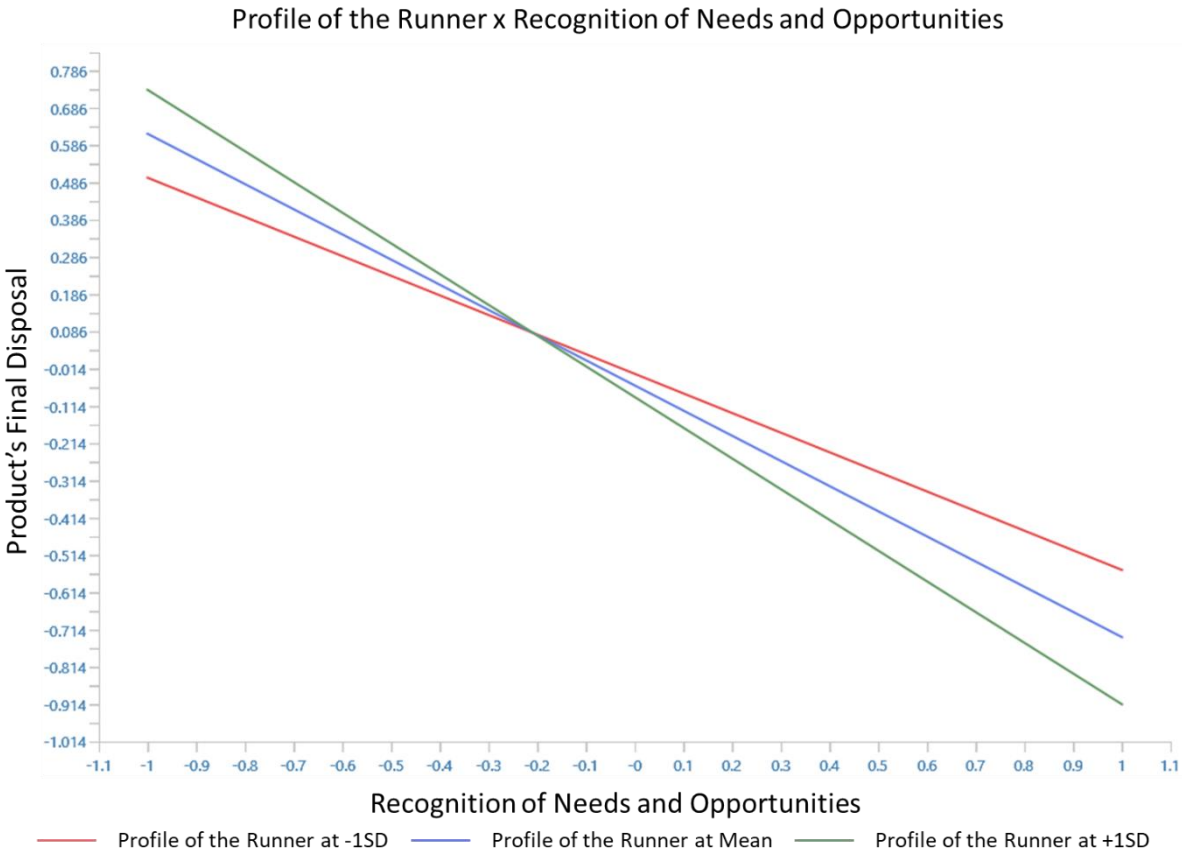

Figure 2. *Moderating effect of the Profile of the Runner.*

Discussion

The current study aimed to evaluate the influence of green consumer values and ecologically conscious consumption on the recognition of needs and opportunities during the purchase decision process, as well as their subsequent impact on the disposal of running shoes among amateur runners. The discussion will address the main findings of the study, provide a critical analysis of the results, discuss their implications, highlight the limitations of the study, and propose directions for future research.

First, the study found that green consumer values have a direct and positive effect on the recognition of needs and opportunities during the purchase decision process. This finding aligns with previous research (Haws et al. 2014; Maniatis 2016; Amin and Tarun 2021) and emphasizes the importance of individuals' inclination to prioritize environmental protection and sustainability in their purchasing decisions.

Green consumer values play a crucial role in shaping consumer behavior and decision-making processes, and their positive influence on recognizing needs and opportunities highlights the significance of environmental considerations in the purchasing context.

Second, the study revealed that ecologically conscious consumption has a direct and negative influence on the recognition of needs and opportunities during the purchase decision process. This finding suggests that consumers who are more ecologically aware tend to have a stronger sense of environmental concern and responsibility, which can lead to more cautious and deliberate purchase decisions.

These findings are consistent with previous research (Saleem, Eagle, and Low 2021, Van Tonder et al. 2023) and highlight the importance of informed choices to reduce environmental impacts and promote sustainability (Futtrup et al. 2021).

Furthermore, the study found that the recognition of needs and opportunities among green consumers has a direct and positive effect on their final disposal of the product. This finding emphasizes the link between environmentally conscious behavior during the purchase decision process and responsible disposal practices (Hosta and Zabkar 2021).

Consumers who prioritize sustainability and exhibit a heightened recognition of needs and opportunities are more likely to dispose of products in an environmentally conscious manner, contributing to sustainable consumption patterns, confirming the findings of Sharma (2021).

The results of the study also suggest that the runner's profile may moderate the relationship between the decision-making process and the product's final disposal. Previous studies have shown that factors such as the time spent running, the frequency of running, and the congruence of running with one's lifestyle can influence environmental awareness and concern (Davies et al. 2018; Triantafyllidis and Kaplanidou 2021).

Therefore, it is plausible that these factors may also moderate the relationship between the decision-making process and the disposal (Mansoor and Paul 2022) of running shoes. Further research is needed to explore this potential moderating effect in more detail.

The findings of this study have important implications for both practitioners and policymakers. Companies and marketers can use the insights gained from this study to develop targeted strategies to promote sustainable consumption among amateur runners.

Understanding the influence of green consumer values and ecologically conscious consumption on the decision-making process can help companies align their marketing efforts with consumers' environmental concerns and preferences.

Policymakers can also benefit from these findings by incorporating them into sustainability initiatives and regulations. By promoting green consumer values and ecologically conscious consumption, policymakers can encourage responsible purchasing and disposal practices among amateur runners, contributing to broader sustainability goals.

Despite the contributions of this study, it is important to acknowledge its limitations. First, the study relied on self-reported data, which may be subject to response biases and social desirability effects. Future research could employ objective measures or observational methods to mitigate these limitations.

Additionally, the study focused exclusively on amateur runners and their purchase and disposal practices of running shoes. Future research should explore other consumer segments and product categories to generalize the findings.

Moreover, the study employed a cross-sectional design, which limits the ability to establish causal relationships between the variables (Spector 2019). Longitudinal studies (Agarwal et al. 2023) or experimental designs (Kurz, Donaghue, and Walker 2005; Weissmann and Hock 2022) could provide more robust evidence of the causal effects of green consumer

values and ecologically conscious consumption on the decision-making process and product disposal.

Disclosure statement

The authors reported no potential competing interest.

Data availability statement

The data that support the findings of this study are openly available in Zenodo at https://zenodo.org/record/8001696

Declaration of generative AI and AI-assisted technologies in the writing process

While preparing this work, the author(s) used AJE Digital Edition to check grammar and spelling, as English is not their native language. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the publication's content.

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