

Environmental self accountability mediates the influence of eco anxiety and purchase guilt on sustainable packaging preferences

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Citation: S, S., P, S., K V, S., & A S, R. (2026). Environmental self accountability mediates the influence of eco anxiety and purchase guilt on sustainable packaging preferences. *European Journal of Sustainable Development Research*, 10(4), em0434. <https://doi.org/10.29333/ejosdr/19258>

ARTICLE INFO

Received: 18 Mar. 2026

Accepted: 19 Jun. 2026

ABSTRACT

This study examines how eco-anxiety and purchase guilt influence consumer preference for sustainable packaging, with environmental self-accountability as a mediating mechanism. While prior research has largely focused on cognitive determinants of sustainable consumption, limited attention has been given to how emotional factors translate into behavioural outcomes, particularly in the FMCG packaging context. Data were collected from consumers in Karnataka, India, using a cross-sectional survey and analysed through Structural Equation Modeling (SEM). The findings indicate that eco-anxiety and purchase guilt significantly influence sustainable packaging preferences both directly and indirectly through environmental self-accountability. Consumers experiencing emotional discomfort related to environmental harm are more likely to internalize personal responsibility, which in turn shapes their consumption choices. The study contributes to the literature by providing a focused explanation of how emotional responses are transformed into behaviour through self-accountability in an emerging market context. Practically, the findings suggest that policymakers and marketers should promote sustainable behaviour through ethically grounded strategies that enhance consumer awareness and responsibility without relying on manipulative emotional appeals.

Keywords: eco-anxiety, purchase guilt, sustainable packaging, environmental self-accountability

INTRODUCTION

In the past few years, climate change has not only created visible environmental damage but has ignited an intense psychological response in consumers. As awareness of the environmental effects of human activity grows, an increasing emotional burden has emerged, typically in the form of anxiety and guilt. As these emotional states become developing necessities for understanding contemporary consumer behaviour, especially when individuals do feel responsible for harming the environment, the antithesis of concern and action raises some interesting dissonance when choices do not adhere to the larger context of sustaining the environment. With that said, most of these emotion states are motivated by muddled cognitive ambiguity, a lack of robustness in green credentials, and also by the daunting nature of environmentalism itself.

Packaging is a definitive area of contention where consumers can feel most emotionally conflicted. With packaging lurking in the background of daily consumption experiences, it is arguably the most visible aspect of fast-moving consumer goods (FMCG), consumers must negotiate and frequently face emotional quandaries due to the often

binary options associated with it. Many consumers 'prefer' sustainable packaging options, however when confronted with the complexity of situational contexts, their real choices become complicated by situational, self-emotional and cognitive factors. We identify eco-anxiety and purchase guilt as significant emotional constructs influencing likelihood of behaviours. Eco-anxiety refers to the emotional tension generated by the anticipated environmental impact of one's behaviours. Purchase guilt occurs when consumers experience regret or discomfort following purchase decisions based on choices they deemed to be harmful to the environment.

These emotions are not independent. To minimize their psychological costs, consumers often have internal mechanisms to justify decisions that are relatively consistent with their values. One of these internal mechanisms is environmental self-accountability, where individuals exert personal responsibility for their consumption decisions in a self-regulatory process; when their personal self-accountability is activated, it may exert crucial leverage at the stage of putting environmental intentions into actions. With respect to environmental packaging consumption decisions, it may prompt consumers to choose recyclable, biodegradable and/or environmentally sustainable products. And it may do so despite cost and convenience considerations.

The relationship between emotional responses and sustainable consumer behaviour is a relevant but under-researched topic. Much of the existing literature has predominantly focused on the cognitive factors surrounding sustainable behaviours (mainly attitudes and intentions), neglecting the emotional and underlying psychological mechanisms that lead to behaviour. While potential emotions like guilt and anxiety are studied in terms of wider environmental or ethical considerations, little research exists to understand how these are triggered or influence sustainable packaging preferences in the FMCG sector specifically.

This research study attempts to fill this research gap by exploring how eco-anxiety and purchase guilt impact consumer preferences for sustainable packaging. More importantly, this research study investigates whether environmental self-accountability mediates the relationships between eco-anxiety or purchase guilt and consumer preferences for sustainable packaging, thus offering a psychological perspective of how consumers' internal emotional responses are transformed into their choices to purchase sustainable packaging. In examining consumers' emotional and cognitive influences on their consumption, this research not only advances an understanding of sustainable consumer behaviour but also provides overall considerations that can help inform better ways to promote sustainable and environmentally responsible choices.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The growing degradation of the environment and climate-related threats has increased consumer awareness of eco-anxiety, defined as a persistent fear of environmental ruin (Clayton & Karazsia, 2020). While eco-anxiety is a psychological struggle, it categorically shapes behavioural patterns and specifically signifies a shift toward sustainable consumption. A number of research studies have suggested that those who are eco-anxious engage in pro-environmental behaviour as a coping mechanism (Gao et al., 2021). For example, Marlon et al. (2019) concluded that greater climate concern was associated with a preference for green products. It is worth noting then that eco-anxiety consumers have a greater preference for sustainable packaging. Recent studies further reinforce this relationship by demonstrating that eco-anxiety acts as a motivational emotional response that translates environmental concern into sustainable consumption behaviour (Demir & Oluk, 2026; Gkargkavouzi et al., 2025). These studies highlight that eco-anxiety not only reflects distress but also functions as a behavioural catalyst, particularly when individuals perceive personal relevance of environmental threats.

Consumers' preference towards green products is not separate from the Appraisal Theory of Emotion (Lazarus, 1991), which refers to the human processing of actions taken in response to environmental stimuli and how the stimuli are seen in connection to others or goals, which a consumer has values toward. As a consequence, when faced with clothing purchases with non-eco-friendly packaging and design, eco-anxious consumers will experience some form of negative

emotion such as eco-anxiety. Eco-anxiety and the results of this experience are not irrational perceptions but emotional responses generated from recognizing one's contribution to environmental harm, leading to behavioural change (Lazarus, 1991). Recent evidence supports this appraisal-based mechanism, showing that environmental anxiety influences pro-environmental behaviour through self-evaluative processes such as self-discrepancy and perceived responsibility (Demir & Oluk, 2026).

In addition to eco-anxiety, purchase guilt has emerged as a relevant emotional driver shaping consumer behaviour. Purchase guilt describes the negative affect experienced after unsustainable or otherwise unethical consumption decisions (Antonetti & Maklan, 2014). It is a moral emotion that produces reparative behaviours such as choosing pro-environmental alternatives in future purchases (Bagozzi et al., 1999). In this instance, guilt does not only disincentivize unwanted consumption behaviours - it incentivizes pro-environmental choices. Research has shown that advertising appeals to guilt effectively promote green product selection (Chang, 2011). More recent research highlights that anticipated guilt plays a stronger role than experienced guilt in shaping sustainable consumption intentions, particularly in contexts such as eco-innovation adoption and responsible consumption choices (Ansab & Kumar, 2024). Additionally, eco-guilt has been identified as a significant driver of sustainable behaviours such as reducing waste and adopting environmentally responsible consumption practices (Unger-Plasek et al., 2025).

Eco-anxiety may also promote environmental self-accountability, internalized responsibility one feels for their environmental footprint. Environmental self-accountability is rooted in Self-Discrepancy Theory where perceiving a discrepancy between one's actual behaviour and one's ideal behaviours creates psychological discomfort, which motivates a correction of that behaviour (Higgins, 1987). Individuals reporting eco-anxiety often self-report higher levels of personal environmental responsibility (Pasca, 2022), and thus, eco-anxiety may promote more self-accountability when making environmental decisions. Recent findings further confirm that eco-anxiety strengthens personal norms and perceived responsibility, which in turn act as mediators in sustainable consumption behaviour (Čapienė et al., 2022), reinforcing the role of self-accountability as a psychological bridge between emotions and action.

Purchase guilt, like environmental self-accountability, may reinforce environmental self-accountability. Guilt is derived from self-conscious emotions because guilt is indicative of realizing detrimental actions, while disregarding one's internalized ethical or environmental rules (Julle-Danière et al., 2020). In sustainability, the emotional discomfort can serve as a facilitator of sustainable behaviours. It has been demonstrated that guilt-inducing messages led to the increased sense of moral responsibility which then reinforced ethical consumption behaviours (Chatzidakis, 2015; Romani et al., 2013).

Environmental self-accountability has been shown to have a significant influence on consumer choice of sustainable packaging. Individuals who hold a strong environmental self-accountability are more likely to follow consumption

behaviour consistent with their ecological values to have a consistent orientation towards sustainable products (Nguyen et al., 2019; Thøgersen, 2006). As Ajzen (1991) points out in the Theory of Planned Behaviour, there is a degree of moral obligation and perceived behavioural control associated with responsible consumption. Studies have shown that consumers who express personal responsibility related to the environment are more likely to choose products with sustainable packaging when compared to individuals who do not express concern for the environment (Chang et al., 2021; Gleim et al., 2013).

Furthermore, environmental self-accountability may also serve as a mediator, allowing eco-anxiety to be translated into sustainable behaviours. Appraisal Theory offers insights into this process of mediation, whereby individuals are cognitively appraising a value (their ecological emotions, or eco-anxiety) when converting them into action that is internally consistent with their environmental values. Research has shown that feelings of guilt and anxiety do lead to sustainable action, but only while the consumer feels personally responsible for taking action (Harth et al., 2013).

In a similar vein, it is likely that the effect of purchase guilt on sustainable behaviour could go through self-accountability as well. When consumers carry feelings about past unsustainable actions, they may experience cognitive dissonance (Festinger, 1957), which compels them to re-align their future behaviours and adherence to internalized sustainability goals, such as selecting sustainable packaging, to relieve the cognitive dissonance state. Onwezen et al. (2014) found guilt not only increases a sense of personal environmental responsibility but it also will infuse purchasing decisions with the same eco-conscious characteristic.

These psychological mechanisms are best understood related to Self-Determination Theory (Deci & Ryan, 1985) because of its recognition of the value of intrinsic motivation in behaviour. Sustainable consumer behaviour, in this case selecting more sustainable packaging, is most often driven by a very well-respected and developed value and identity. Environmental self-accountability, as an example, is an intrinsic motivator because it compels behaviours that are comports with established ecological principles. When consumers sense eco-anxiety or guilt, these emotional triggers, coupled with a high level of sense of responsibility, shift into intended behaviours of meaningful and valued consumption.

Therefore, together the constructs of Appraisal Theory and Self-Determination Theory provide a holistic model to explain how valenced cognition can motivate intrinsic behaviours, which ultimately include consumer behavioural agreement with sustainable packaging.

From the above literature review, we developed the following hypotheses:

- H1:** Purchase guilt significantly shapes environmental self-accountability.
- H2:** Eco-anxiety positively impacts environmental self-accountability.

- H3:** Purchase guilt positively influences consumer preference for sustainable packaging.
- H4:** Eco-anxiety significantly influences consumer preference for sustainable packaging.
- H5:** Environmental self-accountability significantly enhances consumer preference for sustainable packaging.
- H6:** Environmental self-accountability mediates the relationship between eco-anxiety & consumer preference for sustainable packaging.
- H7:** Environmental self-accountability mediates the relationship between purchase guilt & consumer preference for sustainable packaging.

METHODOLOGY

Research Design

This study aimed to investigate the relationships between eco-anxiety and purchase guilt on consumer preference for sustainable packaging, and to analyze the mediating effects of the environmentally self-accountability relationship in the previous relationships. The research adopted a cross-sectional design and was quantitative. Data were collected at a point in time using a structured self-administered survey; this enabled the collection of many relevant responses during one single survey completion. Structural equation modelling was employed to examine the direct and mediated relationships for the study variables through the data obtained from the customers.

Sample Description

The demographic profile indicates that a large proportion of respondents in the study were young, belonging to the 18-24 years of age group (77%), mostly male (83.8%), and single (86.3%). The younger generation is usually more inclined to change and willing to accept new norms, making it a relevant group for the study of sustainable consumption habits. In terms of education, most of them (69.4%) were undergraduates, and 80.6% identified themselves as students, suggesting it is a population still at the beginning of their life development, but more willing to change to environmentally friendly values. Similarly, most (30.9%) of respondents identified making under ₹15,000¹ per month, which indicates limited financial resources that would impact any purchasing decisions. Location showed that 44.6% of respondents reported that they resided in semi-urban areas, combining urban exposure with more traditional constructs of consumption. Information about family structure showed that 70.9% of respondents were part of a nuclear family; therefore, decision-makers primarily operate in small family units. For FMCG purchasing behaviour, 56.1% of participants reported that parents purchased packaged goods usually, while 46% reported purchasing FMCG products weekly, which indicates that they are regularly engaging with consumer goods despite being financially dependent on their parents (See [Table 1](#)).

¹ At the time of this study, 1 USD was 84.70 Indian rupees (₹).

Table 1. Demographic profile

Age	18–24 years	25–34 years	35–44 years	45–54 years	55 years and above	
	77%	14.7%	3.6%	2.5%	2.2%	
Gender	Male	Female				
	83.8%	16.2%				
Marital status	Single	Married	Divorced/Widowed			
	86.3%	9.4%	4.3%			
Highest qualification	High School or Below	PUC	Undergraduate Degree	Postgraduate Degree	Other	
	1.8%	14.7%	69.4%	11.2%	2.9%	
Occupation	Student	Salaried Employee	Self-Employed	Homemaker	Retired	Other
	80.6%	10.1%	6.5%	1.1%	0.4%	1.4%
Monthly household income	Below ₹15,000	₹15,001 – ₹30,000	₹30,001 – ₹50,000	₹50,001 – ₹100,000	Above ₹100,001	
	30.9%	20.1%	18%	16.9%	14%	
Region	Urban	Semi-Urban	Rural			
	35.3%	44.6%	20.1%			
Family type	Nuclear	Joint				
	70.9%	29.1%				
Purchaser	Self	Spouse	Parent	Shared Responsibility	Domestic Help (Housemaid / Domestic Worker)	Other
	20.1%	6.5%	56.1%	14.7%	1.1%	1.4%
Frequency of FMCG purchases	Daily	Weekly	Monthly	Occasionally		
	11.2%	46%	26.3%	16.5%		

Source: Primary Survey

Research Instrument

As part of the study's aim to investigate the psychological factors driving preferences for sustainable packaging choices, a well-structured questionnaire was designed as the main research instrument. The instrument was comprised of two sections: demographic information and items about the specific constructs, which were aimed at gathering customers' experiences and opinions. The first construct, eco-anxiety (seven items), was assessed among customers using the scales from Clayton and Karazsia (2020) and Hogg et al. (2021) and modified to the study's context. Secondly, purchase guilt consisting of sub-constructs such as Anticipated Guilt (three items), Experienced Guilt (three items), and Responsibility Attribution (two items) was measured considering the work of Antonetti and Maklan (2014). Thirdly, self-accountability for the environment (six items) was gauged by designing the items from the work of Xia et al. (2022). Lastly, consumer preference for sustainable packaging (six items) was measured considering the items generated from Boz et al. (2020). All items were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Method

The present study utilized a systematic as well as scientific approach to gather data from target respondents. The purpose of the study was to explore the effects of eco-anxiety and purchase guilt on consumer preferences for sustainable packaging and to explore the mediating role of environmental self-accountability. The target population consisted of consumers 18 years and older who had previously purchased packaged products and understood basic environmental sustainability issues. Firstly, a stratified sampling procedure was approached to ensure geographical representation across major regions of Karnataka, India, such as Bangalore, Belgaum, Mysore, Tumkur, Gulbarga, Bellary, Bijapur, Dakshina Kannada, and Davanagere. Respondents were

recruited by using a snowball sampling approach. In the first stage, consumers were found by visiting retail outlets, organic stores, eco-friendly shops, and firms selling sustainable packaging and environmentally friendly products in those regions. Individuals who either bought from these stores or people showing interest in sustainable products were asked to participate and encouraged to share the survey with others who met the study criteria. This recruitment strategy allowed for the growth of the participant sample using networks of environmentally conscious consumers through the share system of the participant. The structured questionnaire was dispersed electronically using channels including WhatsApp, email, and Telegram. A total of 278 usable responses were collected, and when the data collection was finished, the survey responses were downloaded, converted to numerical codes, and imported into SPSS for preliminary data cleaning and descriptive analysis. Subsequently, the hypothesized direct and mediated relationships among eco-anxiety, purchase guilt, environmental self-accountability, and sustainable packaging preference were examined using Structural Equation Modeling (SEM) in AMOS. All participants provided informed consent, received confidentiality and anonymity, and were notified of their option to withdraw at any point without any consequences, and were also instructed that the data collected from participants will be used for purely academic and research purposes. Further, the study also received Ethical approval from the Scientific Review Board (SRB) of YEN-REFINED, Yenepoya Research Centre for Finance and Entrepreneurship Development, Yenepoya (Deemed to be University).

Reliability and Validity

Several tests were undertaken to substantiate the measurement model's reliability as well as validity for the current study. All of the factor loadings were greater than .60, which demonstrates both the strength/appropriateness of the items being represented within their respective constructs.

Table 2. Factor loadings, reliability and convergent validity results

Items	Measurement Model	Mean	S.D.	CR	AVE	EA	PG	ESA	CPSP
EA1	0.683	4.036	1.008	0.882	0.518	0.720			
EA2	0.742	3.989	.944						
EA3	0.737	4.007	.976						
EA4	0.742	3.938	1.026						
EA5	0.668	4.093	1.008						
EA6	0.791	4.050	.941						
EA7	0.666	4.050	.937						
PG1	0.678	4.179	.944	0.890	0.503	0.618	0.709		
PG2	0.697	4.082	.921						
PG3	0.724	4.071	.931						
PG4	0.712	4.104	.946						
PG5	0.751	4.039	.931						
PG6	0.737	3.892	.920						
PG7	0.728	4.093	.873						
PG8	0.642	3.960	.912	0.865	0.518	0.711	0.761	0.720	
ESA1	0.77	4.104	.841						
ESA2	0.733	3.928	.900						
ESA3	0.692	3.985	.964						
ESA4	0.723	3.935	.955						
ESA5	0.734	3.989	.985						
ESA6	0.66	3.938	.972						
CPSP1	0.696	4.075	.967	0.872	0.532	0.512	0.459	0.691	0.730
CPSP2	0.766	3.895	.895						
CPSP3	0.765	4.007	.911						
CPSP4	0.766	3.935	.888						
CPSP5	0.704	3.946	.871						
CPSP6	0.675	3.996	.876						

Source: Computed using SPSS AMOS

The model fit showed acceptable indices as recommended by Hair et al. (1998), Hu and Bentler (1999), and Byrne (2001, 2013); SRMR = 0.058, GFI = 0.915, AGFI = 0.895, CFI = 0.937, NFI = 0.921, RMSEA = 0.045. These values are all below recommended cut-offs and suggest a good overall model fit. All constructs' internal consistency reliability was confirmed using Composite Reliability (CR) coefficients that were all above the required threshold value of 0.70. Convergent validity can be established if Average Variance Extracted (AVE) values are greater than 0.50 for all constructs. AVE values for all constructs were higher than 0.50. An additional reason to support the discriminant validity of the measurement model was through the Fornell and Larcker (1981) criterion, which states that the square root of the AVE for a construct must be higher than its correlations with other constructs and inter-construct correlations. The findings in this study provide sufficient evidence that the measurement model has satisfactory levels of reliability, convergent validity, as well as discriminant validity (See **Table 2**).

RESULTS

Structural Model Assessment

Structural Equation Modeling (SEM) was used to examine the hypothesized connections among eco-anxiety, purchase guilt, environmental self-accountability, and consumer preference for sustainable packaging. SEM was selected as a method of analysis because it permits the simultaneous examination of relationships among multiple variables that

are complex. The results focused on evaluating the structural model by examining the direct and mediating effects through standardized path coefficients. The mediation effects involving environmental self-accountability were evaluated using bootstrapping. The following sections provide an overview of the findings from testing the hypotheses.

As per the results (See **Table 3**), Purchase Guilt among the customers significantly influences the customers' Environmental Self-Accountability ($\beta = 0.369$, $t = 8.607$, $p = 0.000$) as Purchase guilt demonstrates a psychological experience of internal discomfort and unresolved psychological tension about making environmentally harmful purchases. In the face of such discomfort, people feel a heightened sense of personal responsibility to ensure that their future behaviors align with their environmental values, strengthening their environmental self-accountability (H1 is accepted). Moreover, Eco-Anxiety among customers remarkably impacts the Environmental Self-Accountability ($\beta = 0.596$, $t = 13.244$, $p = 0.000$), indicating that individuals who have or recognize feelings of eco-anxiety are more likely to consider their actions together with their perceived notion of their accountability that contributes towards positive environmental protection (H2 is accepted). Additionally, Purchase Guilt also shapes the Consumer Preference for Sustainable Packaging ($\beta = 0.154$, $t = 4.079$, $p = 0.000$), depicting that feelings of shopping guilt have a small effect on consumers' preference for sustainable packaging, because alleviating bad feelings may induce, to a lesser extent, the alignment of pro-environmental values. (H3 is accepted). Besides that, Eco-Anxiety also significantly contributes to the Consumer Preference for Sustainable Packaging ($\beta = 0.281$, $t =$

Table 3. Direct effects

Hypothesis	Relationship	β	S. E	t Value	p-value	Label
H1	PG→ESA	0.369	0.045	8.607	***	HS
H2	EA→ESA	0.596	0.045	13.244	***	HS
H3	PG→CPSP	0.154	0.036	4.079	***	HS
H4	EA→CPSP	0.281	0.038	6.409	***	HS
H5	ESA→CPSP	0.572	0.043	12.150	***	HS

Source: Output computed using AMOS

Note: PG= Purchase Guilt; ESA= Environmental Self-Accountability; EA= Eco-Anxiety; CPSP= Consumer Preference for Sustainable Packaging; HS: Highly Supported

Table 4. Mediating effect of Environmental Self-Accountability

Hypothesis	Path	Total Effect	Direct Effect	Path	Indirect Effect	P value	Remarks
H6	EA→CPSP	0.622	0.281	EA→ESA→CPSP	.341	0.000	Supported
H7	PG→CPSP	0.365	0.154	PG→ESA→CPSP	.211	0.000	Supported

Source: Output computed using AMOS

Note: PG= Purchase Guilt; ESA= Environmental Self-Accountability; EA= Eco-Anxiety; CPSP= Consumer Preference for Sustainable Packaging

6.409, $p = 0.000$), demonstrating that heightened eco-anxiety encourages consumers to choose sustainable packaging options as a way to cope and lessen their feelings of purchase guilt while being more active in the conservation of the environment (H4 is accepted). Further, Environmental Self-Accountability notably impacts the Consumer Preference for Sustainable Packaging ($\beta = 0.572$, $t = 12.150$, $p = 0.000$), because individuals with high levels of environmental self-accountability feel they are personally accountable for sustainable consumption behaviours, as they see their consuming sustainably packaged products as a direct expression of their environmental ethics and obligations (H5 is proved to be true).

Table 4 and **Figure 1** depict the mediation role of Environmental Self-Accountability in the relationship between Eco-Anxiety & Consumer Preference for Sustainable Packaging as well as Purchase Guilt & Consumer Preference for Sustainable Packaging. The total effect of Eco-Anxiety on Consumer Preference for Sustainable Packaging indicates a positive effect with the value of 0.622, demonstrating the direct effect of Eco-Anxiety on Consumer Preference for Sustainable Packaging is 0.281, with an indirect effect of Eco-Anxiety through Environmental Self-Accountability towards Consumer Preference for Sustainable Packaging is 0.341 and $p = 0.000$, implying that people with eco-anxiety have an increased sense of environmental personal accountability, which, ultimately, drives them toward a preference for sustainable packaging to take concrete action toward their environmentally-friendly priorities and alleviate their eco-anxieties (H6 is accepted).

Similarly, the total effect of Purchase Guilt on Consumer Preference for Sustainable Packaging indicates a positive effect with the value of 0.365, demonstrating the direct effect of Purchase Guilt on Consumer Preference for Sustainable Packaging is 0.154, with an indirect effect of Purchase Guilt through Environmental Self-Accountability towards Consumer Preference for Sustainable Packaging is 0.211 and $p = 0.000$, suggesting that feelings of purchase guilt heighten individuals' sense of accountability for their environmental footprint, which has led them to prefer sustainable packaging as a corrective behavior to restore their moral self-image. Thus, H7 is accepted.

DISCUSSION

This study explored the psychological roots of consumers' preferences for sustainable packaging by examining the roles of eco-anxiety, purchase guilt, and environmental self-accountability. All seven hypotheses were supported, indicating significant relationships among the variables. First, eco-anxiety and purchase guilt significantly and independently influenced consumer preference for sustainable packaging. Not only did these emotional responses directly influence preferences, but both also increased environmental self-accountability, which in turn significantly influenced consumer choices. Moreover, environmental self-accountability mediated the relationships between eco-anxiety, purchase guilt, and consumer preference for sustainable packaging. Importantly, these findings gain added significance within the Indian consumer context, where rapid urbanization, increasing environmental degradation, and visible waste management challenges (particularly plastic pollution) make packaging a highly salient issue in everyday consumption. Unlike developed markets where sustainability may be value-driven, Indian consumers often experience sustainability as a lived and visible problem, thereby intensifying emotional responses such as anxiety and guilt during consumption decisions.

The results are consistent with previous research indicating that when consumers experience heightened emotional awareness of environmental issues, they are more likely to engage in sustainable behaviour. The constructive role of eco-anxiety in driving corrective behaviour aligns with findings from Clayton and Karazsia (2020), where eco-anxiety, although distressing, often precipitates pro-environmental action. Gao et al. (2021) and Marlon et al. (2019) similarly demonstrate that climate-related concern is associated with sustainable consumption intentions. In the Indian context, this relationship may be further amplified by frequent exposure to environmental crises such as flooding, heatwaves, and pollution, which make climate risks more immediate and emotionally impactful compared to abstract global narratives. The findings regarding purchase guilt are also consistent with literature on moral emotions and consumption. Antonetti and Maklan (2014) suggest that guilt arising from environmentally

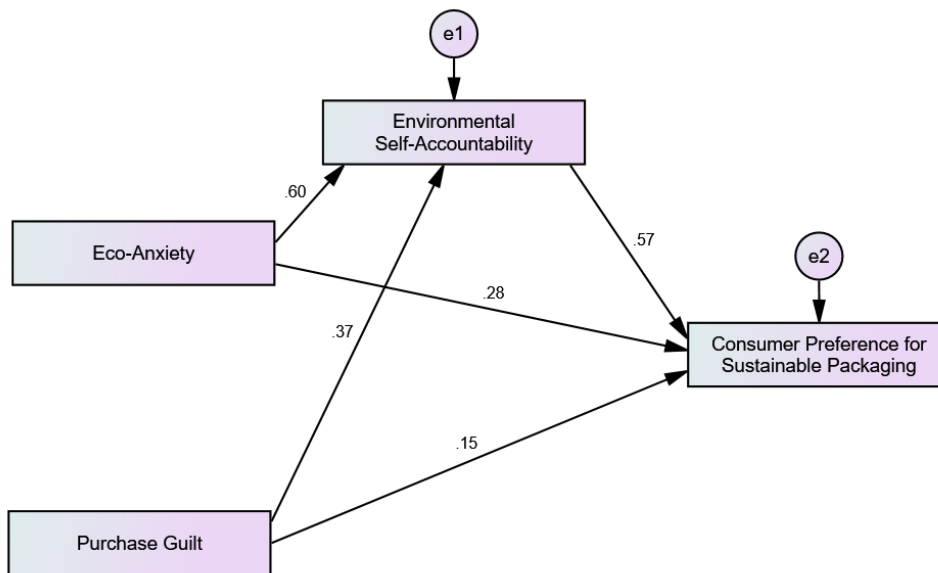


Figure 1. Mediating effect of environmental self-accountability (Source: Authors' own elaboration)

harmful behaviour motivates reparative actions, such as choosing sustainable alternatives. Similarly, Chang (2011) highlights the effectiveness of guilt-based appeals in promoting green consumption.

In India, where cultural norms emphasize moral responsibility, frugality, and avoidance of waste, purchase guilt may be particularly influential. Consumers are often socialized to associate wasteful consumption with ethical failure, which strengthens the role of guilt as a driver of corrective consumption behaviour. Another important contribution of this study is the mediating role of environmental self-accountability. While prior research has acknowledged self-accountability, this study empirically demonstrates its role as a psychological mechanism linking emotional triggers to behavioural outcomes. The findings suggest that eco-anxiety and guilt increase individuals' sense of personal responsibility, which in turn drives sustainable packaging choices.

This mechanism is especially relevant in emerging economies like India, where institutional enforcement of sustainability practices may be inconsistent, making individual-level accountability a critical driver of behavioural change. The findings align with Self-Discrepancy Theory (Higgins, 1987), indicating that emotional discomfort arising from a gap between actual and ideal "sustainable self" motivates corrective behaviour.

This study also draws on Appraisal Theory and Self-Determination Theory to explain the observed relationships. Rather than proposing a full theoretical integration, the study adopts a complementary perspective, where Appraisal Theory explains how eco-anxiety and guilt arise from cognitive evaluations of environmental impact, while Self-Determination Theory explains how these emotions are internalized into intrinsic motivation through environmental self-accountability. Specifically, environmental self-accountability reflects internalization processes central to Self-Determination Theory, where individuals align their

behaviour with personal values of sustainability, thereby fostering more stable and self-driven consumption choices.

Instead of claiming a comprehensive integrative framework, this study provides a focused explanation of how two key environmental emotions—eco-anxiety and purchase guilt—operate through a mediating mechanism of self-accountability. This more cautious positioning acknowledges that while emotional mediation is established in prior research, the study contributes by contextualizing this mechanism within sustainable packaging decisions in the FMCG sector and within an emerging market setting.

From a practical standpoint, the findings offer important implications for marketers, policymakers, and sustainability advocates. However, consistent with ethical considerations, the study does not advocate the deliberate induction of anxiety or guilt. Instead, communication strategies should focus on raising awareness while enhancing consumer self-efficacy and empowerment. For instance, providing clear, actionable guidance (e.g., recyclable packaging labels, disposal instructions) can help consumers translate concern into behaviour without inducing psychological distress. In the Indian context, where awareness levels and infrastructure vary widely, such practical and empowering interventions are likely to be more effective than purely emotion-driven appeals. Policymakers can also leverage these insights by designing behavioural interventions that combine emotional relevance with actionable solutions. Public awareness campaigns should focus on localized and relatable environmental messaging, highlighting how individual consumption contributes to broader environmental outcomes, while simultaneously offering feasible alternatives such as recycling initiatives and sustainable packaging incentives. Future research could extend this work by incorporating additional emotional constructs such as pride and hope, which may complement guilt and anxiety in promoting sustainable behaviour. Moreover, comparative studies across different regions within India (urban vs. rural) or across countries could further clarify how contextual factors shape emotional responses and

behavioural outcomes. Longitudinal and experimental designs would also help establish causal relationships and examine how these emotional influences evolve over time. In conclusion, this study reinforces the role of emotions in shaping sustainable consumption while highlighting the importance of internalized accountability. By situating these findings within the Indian context, the study demonstrates that emotional and motivational processes are not only psychologically driven but also contextually embedded. The results suggest that promoting sustainable packaging requires not only awareness of environmental issues but also the cultivation of personal responsibility in a manner that is ethically grounded and contextually relevant.

CONCLUSION

As environmental degradation quickens and consumer's purchasing practices are subject to growing ethical scrutiny, understanding the psychological factors that determine sustainable behaviours is increasingly important. Contemporary consumers increasingly face shelves full of ecological dilemmas: opportunities to do something responsible immediately versus taking an action which may feel responsible today but may have unintended environmental consequences in the future. Our research, then, aimed to contribute to a better understanding of the complex emotional and cognitive processes behind sustainable consumption, foregrounding the packaging design—an important but often neglected area of green consumerism.

The purpose of this study was to explore how eco-anxiety and purchase guilt, as emotional antecedents, led to consumer preference for sustainable packaging, with environmental self-accountability serving as a key mediating variable. All hypothesized paths were confirmed, including substantial and positive paths from eco-anxiety, purchase guilt, to sustainable packaging preferences directly or indirectly through increased environmental self-accountability.

Our findings indicate that eco-anxiety does not just freeze consumers; it can help inspire a sense of responsibility and lead to sustainable choices. Likewise, purchase guilt is not the antithesis of progress; rather, it is a helpful emotion that contributes to personal responsibility and ethical consumption. The study adds to the growing body of research in pro-environmental behaviour by substantiating emotional constructs—specifically eco-anxiety and guilt—as significant influences on the decision-making process. These findings provide evidence of support of Self-Determination Theory and Self-Discrepancy Theory by showing that when consumers feel their actions and values do not align, emotional dissonance may lead them to engage in compensatory behaviour in the form of sustainability.

However, there are individual differences that substantially shape these responses. Not all consumers experience or react similarly to eco-anxiety or guilt; environmental literacy, personal traits, and cultural affects could all impact how consumers experience or react. As marketers and educators, understanding these individual differences is important for designing marketing and

educational initiatives that could be more impactful on an individual level.

From a pragmatic view, brands and policy-makers can utilize the concepts established in this research to enhance their capabilities of marketing sustainability in packaging. By using messaging which reasonably stirs an emotional awareness (not paralysis), consumers can be called to internalize responsibilities, and their personal commitment can harmonize with some ecological value. Labels, ads, corporate or other responsibility statements should prime stakeholders to build trust through revealing the authenticity and transparency of environmental claims.

In the end, this research emphasizes that trust in oneself, institutions, and the sustainability of products is emotional glue that binds emotion and action. Consumers must feel their effort counts, and that their anxiety, guilt, inconvenience can be turned into meaningful action. We call on brands, educators, and policy-makers to push beyond shallow eco-appeals to enable environments for ethically mindful, emotional purchasing - to make emotion equal ecological action.

Author contributions: **SP:** conceptualization, methodology, supervision, writing – review & editing; **SS:** data curation, investigation, methodology, visualization, writing – original draft; **SKV:** formal analysis, validation, investigation, writing – review & editing; **RAS:** investigation, project administration, resources, writing – original draft. All authors agreed with the results and conclusions.

Funding: No funding source is reported for this study.

Ethical statement: The authors stated that the Scientific Review Board (SRB) of the YIASC, Yenepoya (Deemed to be University) evaluated the research protocol and granted ethical approval for the study (SRB No: [YIASC/SRB-06/COM/16/2025]). The study was conducted in accordance with the ethical standards and guidelines of the Yenepoya (Deemed to be University). Participation in the study was voluntary and anonymous. By completing the questionnaire, participants provided their informed consent to participate in the research and for the findings to be reported in aggregated form. No personal identifiers were collected.

AI statement: The authors stated that they used a generative artificial intelligence (AI) tool solely to improve the language, grammar, and readability of the manuscript

Declaration of interest: No conflict of interest is declared by the authors.

Data sharing statement: Data supporting the findings and conclusions are available upon request from corresponding author.

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