

ECO-GUILT AS A PSYCHOLOGICAL PREDICTOR OF SUSTAINABLE CONSUMER BEHAVIOR: EVIDENCE FROM GENERATION Z

Julian Amriwijaya*¹

Universitas Padjadjaran, Indonesia

Email: julian@unpad.ac.id

Sunggoro Trirahardjo

Universitas Padjadjaran, Indonesia

Email: sunggoro@unpad.ac.id

Abstract

The increasing urgency of environmental degradation has intensified scholarly attention toward psychological factors that influence sustainable consumer behavior, particularly among Generation Z. This generation is widely recognized for its heightened environmental awareness, digital literacy, and sensitivity to social and ecological issues. One psychological construct that has gained prominence in this context is eco-guilt, defined as a feeling of moral discomfort arising from environmentally harmful consumption practices. This study aims to examine eco-guilt as a psychological predictor of sustainable consumer behavior among Generation Z through a systematic literature review. Using a qualitative literature review approach, this research synthesizes findings from peer-reviewed journal articles, books, and reputable conference proceedings published over the last decade. The analysis focuses on conceptual frameworks, empirical evidence, and theoretical models that explain the relationship between eco-guilt and pro-environmental consumption behaviors, such as green purchasing, waste reduction, and responsible product usage. The results of the review indicate that eco-guilt plays a significant role in motivating sustainable consumption by enhancing moral awareness, perceived personal responsibility, and behavioral intentions. Furthermore, the literature suggests that eco-guilt often interacts with other psychological variables, including environmental concern, social norms, and environmental identity, in shaping consumer decisions. This study contributes to the existing literature by providing a comprehensive synthesis of eco-guilt as an emotional driver of sustainability-oriented behavior among Generation Z and offers theoretical and practical implications for policymakers, educators, and marketers seeking to promote sustainable consumption patterns.

¹ Correspondence author

Keywords: Eco-guilt, sustainable consumer behavior, Generation Z, pro-environmental behavior

INTRODUCTION

Climate change, environmental degradation, and the escalating global ecological crisis have become major issues affecting nearly every aspect of human life, including consumption patterns. Unsustainable consumption practices, such as the use of disposable products, overconsumption, and low awareness of the environmental impact of consumption choices, have been identified as major contributors to environmental damage. In this context, a shift toward sustainable consumption behavior is an urgent need, dependent not only on policies and technological innovation, but also on the psychological factors of individuals as the decision-makers. Understanding the psychological determinants that drive individuals to act more environmentally friendly is crucial for designing effective and sustainable behavior change strategies.

One approach that is gaining increasing attention in the study of sustainable consumer behavior is the role of moral emotions, specifically eco-guilt (Unger-Plasek et al., 2024a). Eco-guilt refers to feelings of guilt that arise when individuals realize that their actions or consumption choices have a negative impact on the environment. This emotion is not only affective but also has strong cognitive and normative dimensions, as it is related to moral awareness, environmental values, and personal responsibility for ecosystem sustainability. In environmental psychology literature, eco-guilt is viewed as an internal mechanism that can motivate individuals to correct environmentally harmful behaviors and encourage the adoption of more sustainable ones, such as choosing eco-friendly products, reducing waste, and supporting ethical consumption practices (Ágoston et al., 2024).

Although various studies have examined the factors influencing sustainable consumer behavior, most studies still focus on external variables such as price, availability of green products, government regulations, and social influences. Meanwhile, in-depth exploration of internal psychological factors, particularly moral emotions like eco-guilt, remains relatively limited and yields mixed results. Some studies find that ecological guilt can increase sustainable consumption intentions and behaviors, but others suggest that the effects of eco-guilt can be temporary or even lead to resistance if not accompanied by self-efficacy and structural support. These inconsistencies in findings highlight the need to examine eco-guilt more contextually, particularly by considering different generational characteristics and social dynamics.

Within the generational context, Generation Z has emerged as a particularly relevant cohort for sustainable consumption behavior research. This generation, growing up amidst the rapid development of digital technology and increased exposure to global issues, is often viewed as more environmentally conscious, critical of unethical business practices, and highly concerned about sustainability. Generation Z is also known for having extensive access to information through social media, which not only shapes their consumption patterns but also influences the formation of moral emotions, including eco-guilt. Exposure to content about the climate crisis, environmental pollution, and the negative impacts of mass consumption has the potential to strengthen a sense of responsibility and ecological guilt in this generation (The Impacts of Knowledge and Psychological Consequences on Gen Z's Pro-Environmental Fashion Behavior and Intention - ProQuest, n.d.).

However, high environmental awareness among Generation Z does not always translate into consistent sustainable consumption behavior. The attitude-behavior gap is still frequently observed, where individuals express concern for the environment but continue to engage in unsustainable consumption practices. This situation raises important questions about the psychological mechanisms that bridge environmental awareness and actual behavior. In this regard, eco-guilt has the potential to act as a psychological predictor explaining how environmental awareness translates into concrete action. By understanding the role of eco-guilt, this research is expected to provide more comprehensive insights into the internal processes that encourage or hinder sustainable consumption behavior in Generation Z.

Furthermore, the study of eco-guilt among Generation Z is becoming increasingly relevant in the context of changing communication and marketing patterns that increasingly emphasize narratives of sustainability and social responsibility. Many brands and organizations use emotion-based messages to encourage green consumption, including by emphasizing the moral consequences of environmentally unfriendly consumption choices. Without a sufficient understanding of how eco-guilt works as a predictor of behavior, such communication strategies risk being ineffective or even counterproductive (Yao et al., 2025a). Therefore, literature-based research that systematically examines the relationship between eco-guilt and sustainable consumer behavior among Generation Z is crucial to provide a strong theoretical foundation for developing more ethical and sustainable intervention strategies.

Based on this description, it can be concluded that research on eco-guilt as a psychological predictor of sustainable consumer behavior among

Generation Z has high theoretical and practical urgency. Theoretically, this study contributes to the development of environmental psychology and consumer behavior literature by highlighting the role of moral emotions in the context of the younger generation. Practically, the findings of this study are expected to serve as a reference for policymakers, educators, and business practitioners in designing more effective approaches to encourage sustainable consumption behavior. Thus, this study is not only relevant in an academic context, but also has real implications for global efforts towards sustainable development.

RESEARCH METHOD

This study uses a systematic literature review to analyze the role of eco-guilt as a psychological predictor of sustainable consumption behavior among Generation Z. The literature review was conducted by searching for scientific articles, academic books, and conference proceedings relevant to the topics of eco-guilt, sustainable consumer behavior, and the psychological characteristics of Generation Z. Data sources were obtained from internationally reputable scientific databases such as Scopus, Web of Science, Google Scholar, and ScienceDirect, with publications spanning the last ten years to ensure the novelty and relevance of the studies. The literature selection process involved identification, screening, and feasibility assessment based on topic suitability, methodological quality, and theoretical contributions to the development of the concepts of eco-guilt and sustainable consumption behavior.

The collected data were analyzed using thematic analysis and narrative synthesis techniques to identify patterns, conceptual relationships, and key findings from various previous studies. The analysis focuses on how eco-guilt forms as an emotional response to environmental awareness, as well as its psychological mechanisms in influencing sustainable consumption intentions and behavior in Generation Z. In addition, this study also compares various theoretical frameworks used in previous studies, such as the theory of planned behavior, norm activation model, and value-belief-norm theory, to strengthen the conceptual foundation of the study. The results of the literature synthesis are expected to provide a comprehensive understanding of the position of eco-guilt in the context of sustainable consumer behavior while identifying research gaps that can be developed in further empirical studies.

RESULT AND DISCUSSION

Generation Z as Agents of Change in Global Sustainable Consumption

Generation Z has emerged as a demographic group playing a strategic role in shaping the direction of global consumption amidst the escalating environmental crisis, climate change, and social inequality fueled by conventional consumption patterns. Born and raised in the digital era and massive globalization, Generation Z possesses unique characteristics that distinguish them from previous generations, particularly in terms of access to information, social awareness, and sensitivity to sustainability issues. Intense exposure to environmental issues through digital media, education, and global discourse has made Generation Z more critical of the ecological and social impacts of the products they consume. This awareness has driven a shift in values from ownership-based consumption to more ethical, responsible consumption, and oriented towards long-term sustainability (Dragolea et al., 2023).

In a global context, sustainable consumption is no longer understood solely as efforts to reduce waste or use environmentally friendly products, but rather as a systemic transformation encompassing changes in individual behavior, business innovation, and public policy. Generation Z acts as a catalyst in this transformation process through consumption preferences that demand transparency, accountability, and sustainability commitments from producers. They tend to choose brands that align with sustainability principles, such as the use of eco-friendly materials, ethical production practices, and contributions to social welfare. This selective attitude directly influences the strategies of global companies, which are increasingly driven to integrate Environmental, Social, and Governance (ESG) principles into their business models to maintain relevance among young consumers.

Generation Z's role as agents of change is also reflected in the use of digital technology as a means of advocacy and education for sustainable consumption. Social media has become not only a space for identity expression but also a tool for spreading collective awareness, criticizing environmentally damaging business practices, and promoting sustainable lifestyles. Through digital campaigns, product reviews, and viral movements, Generation Z is able to shape public opinion and pressure companies to be more responsible for the social and environmental impacts of their activities. This phenomenon demonstrates that sustainable consumption is no longer an individual matter but has become a social movement strengthened by global digital networks (Cyfert et al., 2024).

Beyond being critical consumers, Generation Z also plays a role as innovators and economic actors, driving the development of sustainable solutions. Many of them are involved in social entrepreneurship, circular economy-based product development, and resource-sharing initiatives that challenge the linear consumption paradigm. This approach reflects a shift in perspectives on economic value, where sustainability is positioned as an opportunity for innovation, rather than a cost burden. By combining creativity, technology, and environmental awareness, Generation Z is contributing to the formation of a more inclusive and sustainable consumption ecosystem globally (Halibas et al., 2025).

However, Generation Z's role as agents of change in sustainable consumption also faces various structural challenges. Limited purchasing power, dependence on a global production system that is not yet fully sustainable, and the phenomenon of greenwashing are obstacles to realizing truly responsible consumption. Despite their high awareness, not all members of Generation Z are able to consistently access sustainable products, which often come at a higher price. This situation emphasizes the need for changes in individual consumption behavior to be supported by pro-sustainability public policies, economic incentives, and strict regulations against unethical business practices.

From a global perspective, Generation Z's contribution to sustainable consumption also demonstrates a broader shift in social norms. Sustainability values are beginning to be internalized as part of generational identity, influencing perspectives on success, well-being, and social responsibility. Consumption is no longer simply about fulfilling material needs, but rather a means of expressing concern for the future of the planet and future generations (Ramirez Lozano et al., 2024). This value transformation has long-term implications for the global economic system, as it drives a shift from exploitative economic growth to a more balanced development across economic, social, and environmental dimensions (Linh & Doan, 2025).

Thus, Generation Z can be seen as strategic agents of change in promoting sustainable consumption globally. Through critical awareness, the use of digital technology, and the courage to challenge conventional consumption practices, they are contributing to the formation of more responsible and sustainable consumption patterns. While structural challenges remain significant, Generation Z's potential to shape the future of global consumption remains significant, especially when supported by collaboration between governments, the private sector, and civil society. The role of this generation is not only to determine the direction of the current

market, but also to be the foundation for a systemic transformation towards a more equitable and sustainable global sustainability.

Eco-Guilt as a Psychological Mechanism for Promoting Environmental Awareness

Eco-guilt is a psychological concept that refers to an individual's feelings of guilt due to behavior or lifestyle perceived as contributing to environmental damage. This feeling arises when an individual recognizes a discrepancy between their believed environmental moral values and their actual actions in daily life. In the context of the escalating climate crisis, environmental degradation, and massive exploitation of natural resources, eco-guilt has become an increasingly relevant psychological phenomenon. Awareness of the impacts of human activities, such as overconsumption, the use of single-use plastics, carbon emissions, and dependence on fossil fuels, triggers profound moral reflection in individuals. Eco-guilt functions not only as an emotional response but also as an internal mechanism that encourages individuals to reevaluate their relationship with the natural environment (Yao et al., 2025b).

Theoretically, eco-guilt can be explained through moral psychology and cognitive dissonance theory. When individuals possess sufficient knowledge about environmental issues but still engage in actions that are detrimental to the environment, psychological tension arises between their beliefs and behavior. This tension gives rise to guilt as an emotional signal that a personal moral standard has been violated. Eco-guilt acts as an internal reminder that stimulates individuals to reduce this dissonance, either by changing behavior, strengthening justification, or increasing engagement in pro-environmental actions (Nielsen & Gamborg, 2024). In this context, eco-guilt can be understood as a self-regulatory mechanism that helps individuals adjust their actions to align with sustainability values.

The role of eco-guilt in promoting environmental awareness becomes significant when this emotion is processed constructively. The guilt that arises from awareness of the ecological impact of personal behavior can increase an individual's sensitivity to environmental issues. Eco-guilt encourages individuals to seek more information about environmental impacts, pay attention to their personal ecological footprint, and increase empathy for future generations and other living things (Nielsen et al., 2024). In many cases, this feeling of guilt serves as the initial trigger for attitude change, which then develops into a long-term commitment to sustainable living practices. The resulting environmental awareness is not only cognitive but also affective, driven by deep emotional involvement.

However, the effectiveness of eco-guilt as a mechanism for promoting environmental awareness depends heavily on its intensity and social context. Moderate levels of eco-guilt tend to be adaptive and encourage positive actions, such as reducing consumption, recycling, using environmentally friendly transportation, and supporting environmental policies. Conversely, excessive eco-guilt can lead to feelings of helplessness, ecological anxiety, and emotional exhaustion (Nambiar & Singh, 2023). In these circumstances, individuals may potentially avoid environmental issues as a psychological defense mechanism. Therefore, eco-guilt needs to be understood as an ambivalent emotion, which can be either productive or counterproductive depending on how individuals and society manage it.

In a social and cultural context, eco-guilt is also influenced by prevailing norms, values, and narratives within society. Mass media, environmental campaigns, and public discourse often play a significant role in shaping individuals' perceptions of ecological responsibility. Narratives that emphasize individual responsibility without considering structural factors can over-reinforce eco-guilt. Conversely, approaches that link individual responsibility to collective action and systemic change tend to produce more constructive eco-guilt. Thus, eco-guilt that is effective in fostering environmental awareness is one that is accompanied by hope, self-efficacy, and access to realistic solutions (Eshan et al., 2025a).

Furthermore, eco-guilt contributes to the formation of an individual's environmental identity. When environmental guilt is integrated into their self-concept, individuals begin to view environmentally friendly behavior as part of their moral identity. This process strengthens the consistency of pro-environmental behavior in the long term, as such actions are no longer driven solely by external pressure but by internal commitment. In this case, eco-guilt serves as a catalyst that accelerates the transition from passive awareness to active participation in environmental conservation efforts. Overall, eco-guilt is a complex yet potent psychological mechanism for fostering environmental awareness. This emotion serves as a bridge between environmental knowledge and concrete action, by triggering moral reflection and self-regulation. When managed in a balanced manner and supported by a positive social environment, eco-guilt can be a driving force for sustainable behavioral change. Therefore, a thorough understanding of eco-guilt is important not only for environmental psychology studies but also for policymakers, educators, and environmental activists in formulating effective strategies to increase public ecological awareness and responsibility.

The Role of Social Media and Digital Activism in Strengthening Eco-Guilt among Generation Z

The development of digital technology and the massive penetration of social media have significantly shaped the interaction, communication, and social awareness patterns of the younger generation. Generation Z, which grew up and developed concurrently with the internet and social media era, has unique characteristics in how it understands global issues, including environmental issues. Issues of climate change, the ecological crisis, and environmental degradation are frequently featured in digital information flows, particularly through social media platforms such as Instagram, TikTok, X, and YouTube. Intense and repeated exposure to information related to the impacts of environmental damage not only builds ecological awareness but also elicits a specific emotional response known as eco-guilt, which is an individual's feeling of guilt for their direct or indirect contribution to environmental damage (Understanding Youth Environmentalism, n.d.). In this context, social media and digital activism play a crucial role in shaping, strengthening, and spreading eco-guilt among Generation Z.

Social media serves as a highly effective space for the production and distribution of environmental discourse. Visual content in the form of short documentary videos, infographics, before-and-after photos of environmental damage, and personal narratives about the impacts of climate change can convey ecological messages emotionally and persuasively. For Generation Z, who tend to be responsive to visual content and storytelling, these messages are perceived not only as factual information but also as affective experiences. When individuals are continually exposed to content depicting the plight of ecosystems, species extinction, or the impact of human overconsumption, a reflective awareness emerges about their own role in the global consumption structure. This awareness often develops into eco-guilt, especially when personal lifestyles are perceived as inconsistent with the sustainability values promoted in digital spaces (Chen et al., 2024).

Digital activism reinforces this dynamic by creating new social norms regarding environmentally friendly behavior. Online campaigns such as movements to reduce single-use plastic, calls for fast fashion boycotts, and promotions for low-carbon lifestyles consistently place environmental responsibility at the individual level. Social media enables environmental activists, influencers, and non-governmental organizations to voice normative messages emphasizing that everyday consumption choices have global ecological implications. In the context of Generation Z, which places a high premium on social validation and digital identity, this normative pressure can

exacerbate feelings of guilt when individuals perceive they have failed to meet perceived sustainability ideals. Eco-guilt, then, becomes a psychological mechanism linking ecological awareness to moral evaluations of personal actions (Shata et al., 2025).

Furthermore, social media algorithms contribute to deepening eco-guilt through echo chamber mechanisms and message repetition. Generation Z's interest in environmental issues encourages algorithms to present more similar content, creating a cycle of intense exposure to ecological information. This can reinforce the perception that the environmental crisis is urgent and personal, rather than simply a structural or global policy issue. Viral digital activism also often emphasizes the urgency of immediate action, indirectly framing inaction as a form of moral negligence. As a result, eco-guilt emerges not merely as a fleeting response but develops into a lasting feeling that shapes how Generation Z interprets their relationship with the environment (Sustaining Climate Activist Wellbeing Through the Role of Individual and Organizational Supports - ProQuest, n.d.).

However, the role of social media and digital activism in reinforcing eco-guilt is not always negative. In many cases, eco-guilt actually triggers pro-environmental behavioral changes. Feelings of guilt can encourage Generation Z to adopt more sustainable lifestyles, such as reducing excessive consumption, choosing environmentally friendly products, or engaging in community-based environmental movements. Social media provides a space to express this commitment, both through personal content and participation in digital campaigns, transforming eco-guilt into eco-responsibility. Digital activism then serves as a bridge between individual emotions and collective action, strengthening Generation Z's identity as a generation concerned with sustainability.

On the other hand, excessive amplification of eco-guilt also has the potential to have less constructive psychological impacts. Exposure to environmental content laden with narratives of crisis and human failure can trigger ecological anxiety, emotional exhaustion, and feelings of helplessness. Generation Z, still in the phase of identity formation and emotional stability, is vulnerable to conflict between ecological ideals and structural realities that limit their choices. In this context, digital activism that overemphasizes individual blame without offering collective and structural solutions can deepen eco-guilt without producing meaningful change. Therefore, the role of social media should not only be to amplify awareness and guilt, but also to build narratives of hope and empowerment.

The Challenges and Risks of Over-Eco-Guilt to Consumer Psychological Well-Being

The phenomenon of increasing environmental awareness in recent decades has brought about significant changes in consumer behavior. Consumers are increasingly encouraged to consider the ecological impact of every consumption decision they make, from everyday product choices to their overall lifestyle. On the one hand, this awareness is a positive force encouraging sustainable consumption practices and social responsibility. However, on the other hand, a psychological phenomenon known as eco-guilt has emerged, a feeling of guilt that arises when individuals perceive their consumption behavior as contributing to environmental damage. When this eco-guilt grows excessively and disproportionately, it can turn into over-eco-guilt, which poses serious challenges and risks to consumers' psychological well-being (Ullah et al., 2024).

Over-eco-guilt often arises from exposure to intense and threatening environmental information, whether through mass media, social media, or green marketing campaigns. The persistent emphasis on the climate crisis, ecosystem damage, and individual responsibility can create significant psychological stress. Consumers perceive every small, environmentally unfriendly action, such as using single-use plastic or consuming non-organic products, as a moral failure (Chang et al., 2024). In the long term, this excessive internalization of guilt can disrupt emotional balance and create persistent feelings of anxiety.

One of the main challenges of over-eco-guilt is the unrealistic psychological burden it places on individuals. Consumers are often faced with idealized standards of sustainable consumption that are difficult to achieve in real-life contexts, especially for those with limited financial resources, access, or time. When individuals feel unable to meet these standards, an internal conflict arises between their perceived environmental values and the reality of everyday behavior (Eshan et al., 2025b). This conflict can trigger chronic stress, feelings of helplessness, and lowered self-esteem due to the individual's perceived failure to be a "responsible" consumer.

Furthermore, over-eco-guilt also has the potential to trigger environmental anxiety, or eco-anxiety, which is increasingly prevalent among modern consumers. This anxiety relates not only to the future of the planet but also to the fear that personal actions are always insufficient to prevent environmental damage. Under certain conditions, consumers can experience emotional exhaustion from constantly worrying about the ecological consequences of every consumption choice. This exhaustion can disrupt

overall psychological well-being, characterized by sleep disturbances, difficulty concentrating, and decreased life satisfaction (Unger-Plasek et al., 2024b).

Another risk arising from excessive eco-guilt is a tendency toward paradoxical compulsive consumption behavior. Some consumers attempt to "atone" for their environmental guilt by excessively purchasing green products, even though they are not always necessary. This behavior not only creates financial stress but also creates the illusion that solutions to the environmental crisis can be achieved solely through consumption. In this context, excessive eco-guilt actually distances consumers from a more balanced understanding of sustainability, which should encompass reduced consumption and systemic change, rather than simply product substitution.

From a psychological well-being perspective, excessive eco-guilt can also diminish an individual's ability to enjoy healthy consumption experiences. Consumption, which should be a functional activity or even provide emotional satisfaction, becomes a source of anxiety and negative self-judgment. Consumers feel trapped in a constant moral dilemma, where no choice is entirely correct. This condition can trigger cynicism or apathy toward environmental issues, acting as a psychological defense mechanism to avoid persistent feelings of guilt.

In the long term, the greatest challenge of excessive eco-guilt is its impact on consumers' intrinsic motivation to behave in an environmentally friendly manner. When guilt becomes the primary driver, pro-environmental actions tend to be undertaken out of emotional distress, rather than out of healthy internalized awareness and values. As a result, this motivation becomes fragile and easily collapses when individuals feel tired or frustrated. This risks creating a cycle in which consumers shift between highly self-reliant behavior and a complete disregard for sustainability principles.

Thus, while some levels of eco-guilt can serve as a moral signal encouraging responsible behavior, excessive eco-guilt presents real challenges and risks to consumers' psychological well-being. A more balanced approach is needed, both in environmental education and marketing communications, to prevent consumers from being burdened with excessive individual responsibility. Strengthening collective perspectives, empathizing with individual limitations, and emphasizing incremental progress can help mitigate the negative impacts of excessive eco-guilt. In this way, environmental awareness can continue to grow while sustainably maintaining consumers' mental health and psychological well-being.

CONCLUSION

The conclusion of this study indicates that eco-guilt plays a significant role as a psychological predictor in shaping sustainable consumption behavior in Generation Z. Feelings of guilt arising from the negative impacts of consumption on the environment have been shown to foster moral awareness and individual responsibility in making more environmentally friendly consumption decisions. Generation Z, known for its high levels of environmental awareness and access to information, responds to eco-guilt not only as a negative emotion but also as a trigger for self-reflection that drives changes in attitudes and behavioral intentions toward more sustainable consumption.

Furthermore, the findings of this study indicate that eco-guilt functions as an internal mechanism that bridges pro-environmental values with concrete actions in daily life. When eco-guilt is managed constructively, this emotion can strengthen Generation Z's commitment to sustainable consumption practices, such as choosing environmentally friendly products, reducing waste, and supporting socially and ecologically responsible brands. Therefore, understanding eco-guilt as a crucial psychological factor can provide a basis for policymakers, businesspeople, and educators to design more effective communication and intervention strategies to encourage the transition to sustainable consumption patterns.

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