

# Ecological awareness of Generation Z through academic literature and interdisciplinary perspectives

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## Abstract

Generation Z grows up amidst a massive flow of information, making them a group that is highly connected to global issues, including environmental sustainability. This study aims to systematically review the development of ecological awareness among this generation using a literature review approach. The analysis was conducted on various academic sources discussing how information, social values, educational experiences, and digital media influence the ecological attitudes and actions of Generation Z. The study results indicate that awareness of environmental issues among the younger generation has increased, but it has not yet fully manifested in consistent behavior. The discrepancy between the values believed and actual actions is still found in various forms. Factors such as social pressure, emotional narratives, concrete experiences, and social identity have a significant contribution to the formation of ecological attitudes. Therefore, strategies to enhance environmental awareness in this generation must be designed through an approach that simultaneously touches on emotional, cognitive, and social realms. This study is expected to provide a theoretical and conceptual foundation for formulating more effective environmental education and communication policies that align with the characteristics of the current generation.

## Keywords:

Digital media; Ecological awareness; Environmental behavior; Generation Z; Social identity.

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## INTRODUCTION

Awareness of environmental issues has increased over the past two decades, coinciding with the emergence of a generation born and raised in a highly connected digital era. Generation Z, as a group born from the mid-1990s to the early 2010s, exhibits unique characteristics in how they understand

global issues, including ecological issues (Khalil et al., 2021). Exposure to information at a rapid pace makes them a group that is more responsive to the evolving environmental discourse, both in online and offline public spaces. Access to information makes environmental awareness something more immediate and personal compared to previous generations (Severo et al., 2019).

The more interactive communication patterns of Generation Z shape sensitivity towards sustainability issues, such as air pollution, climate change, and biodiversity crises. On various digital platforms, they actively voice their opinions, form communities, and create movements based on environmental awareness (Hidayat & Hidayat, 2021). This behavior marks a shift from a reactive approach to more direct participation in voicing sustainability values. Environmental awareness among this generation no longer seems theoretical but rather integrated into their daily lifestyle and social expressions.

The emergence of various environmental campaigns driven by the youth reflects a collective spirit to drive change. However, the intensity of the movements that have emerged on the surface still requires further examination to see if those attitudes have manifested in real actions (Elsen & Ord, 2021). The tendency to engage in digital activism does not automatically mean that ecological behavior has become a habit. Therefore, it is important to critically review how this awareness develops and to what extent it is consistently internalized in the lives of Generation Z.

Academic studies on the development of environmental awareness in Generation Z are important for understanding the ongoing shifts in values and ecological behavior. Literature discussing this topic shows that an approach combining social psychology, digital media, and environmental education is necessary to understand the new patterns in the thinking and actions of this generation (Parzonko et al., 2021). By reviewing the existing literature, a common thread can be found between the development of knowledge, attitudes, and actions that reflect an increase in ecological concern among the younger generation.

The main issue in assessing the environmental awareness of Generation Z lies in the gap between discourse and action. According to Dunlap and Scarce (1991), the increasing attention to environmental issues is not always followed by significant behavioral changes in daily life. Many individuals express concern for the Earth, but are still trapped in a consumerist lifestyle that generates a high carbon footprint (Diprose et al., 2018). This raises the question of whether that awareness is reflective or merely symbolic.

Moreover, the awareness possessed by the younger generation is often fragmentary, depending on the trending issues currently developing on social media (Andersson & Öhman, 2017). Guber (1996) states that the environmental value orientation among the younger generation tends to be

fluctuating and is greatly influenced by public sentiment. When the issue receives widespread attention, participation increases, but when the spotlight diminishes, commitment also tends to weaken. This shows that the awareness is not yet fully stable and may still be in the formation stage.

Another issue that has emerged is the limited literature specifically discussing the transformation of environmental awareness in Generation Z within a comprehensive empirical and theoretical framework. Most research is still general and does not delve into detail on how digital experiences, educational patterns, and social identities influence the formation of ecological attitudes in this group. In fact, Generation Z represents the future that will significantly determine the direction of global ecosystem sustainability (Su et al., 2019).

Attention to this dynamic needs to be increased because Generation Z is in a crucial position as the successors of leadership and future decision-makers in an increasingly complex world. Understanding how environmental values are formed and translated into their lives will provide a strong foundation for policy formulation, educational programs, and more adaptive environmental communication strategies (Dabija et al., 2020). Through literature review, a conceptual picture of the evolution of ecological awareness can be formulated, which is inseparable from social influences, technology, and the unique mindset of the generation.

An increased understanding of the process of forming ecological awareness among Generation Z can help clarify the direction of educational and policy interventions. When knowledge and values about sustainability can be instilled early on and consistently reinforced, the chances of creating a generation committed to environmental preservation will increase significantly. Therefore, an approach that combines digital literacy, contextual learning, and value reinforcement must be continuously observed and analyzed scientifically.

This study systematically reviews literature on the processes, factors, and characteristics shaping environmental awareness among Generation Z. It explores how information, social values, education, and media influence their ecological mindset and actions. The findings aim to contribute theoretically to environmental education policies and youth-centered social programs.

## **RESEARCH METHOD**

This research uses a descriptive-qualitative literature study approach to examine the development of environmental awareness in Generation Z based on relevant academic sources. This method was chosen to obtain a comprehensive conceptual understanding through the review of scientific literature that has been published in journals, books, and previous research reports. Literature review allows for the identification of thematic patterns that

emerge in academic writings regarding how Generation Z absorbs environmental values through various channels, such as education, media, and social experiences. As explained by Merriam (1998), this approach allows researchers to build arguments based on the synthesis of available knowledge and identify gaps that still require further attention.

The analysis is conducted by referring to systematic evaluation steps of the selected literature, including examining the theoretical structure, methodology, and topic relevance in each publication. In this approach, secondary data is collected and categorized based on the main themes that emerge, such as environmental perception, behavior patterns, the role of education, and digital engagement. The analysis process refers to Creswell's (2009) guidelines, which explain that qualitative literature studies aim to develop a reflective and interpretive understanding of social phenomena. Thus, the results obtained are not statistical generalizations, but rather a construction of thought based on mapping ideas and strengthening arguments grounded in valid scientific sources.

## **FINDINGS AND DISCUSSION**

Amid the boundless flow of communication, Generation Z is the group most exposed to various global narratives and discourses, including environmental issues. They witness the ecological crisis not just through written reports or printed news, but directly through images, sounds, and digital visuals that touch both the senses and consciousness. The presence of digital media has made information about sustainability available instantly and personally, often shaping perceptions before formal education has a chance to provide a framework for understanding (Hamid et al., 2017).

The ability of this generation to absorb various information in a short time makes them seem familiar with terms like climate change, carbon emissions, and sustainability (Tyson et al., 2021). However, that familiarity does not always mean a complete understanding. When information is only consumed superficially without a process of examination or critical discussion, the knowledge formed can be reactive, trend-following, and easily replaced by other more popular issues. Therefore, it is important to review how that awareness is formed and what is actually embedded behind their seemingly pro-environment expressions.

The presence of digital environmental campaigns, ranging from online petitions to educational posts on social media, provides space for Generation Z to show participation quickly. They can like, share, and even comment on environmental content without having to engage physically. These activities do reflect engagement, but they do not necessarily indicate commitment. Because true awareness requires understanding that grows through experience, not just passive exposure to information (Calinoiu, 2020).

The response of Generation Z to ecological issues is influenced by how deeply they can connect the information received with their personal lives (Seemiller & Grace, 2018). When an environmental message does not resonate with concrete experiences or values they consider relevant, the message is easily forgotten. On the other hand, if the issue touches on their emotional aspects or social identity, engagement will increase and be more lasting. Sustained awareness is not the result of the volume of information, but rather the quality of resonance that emerges within.

In the digital landscape, the abundance of information can create both sensitivity and saturation. Generation Z can care about one issue today and switch to another issue the next day. The speed of information consumption like this poses a challenge in fostering reflective awareness (Afshar et al., 2019). Spaces are needed that allow them not only to receive but also to reflect, discuss, and develop personal positions on environmental issues. Without this process, their attention may be temporary and not form sustainable behavior patterns.

Therefore, studying the relationship between digital media and the ecological awareness of Generation Z is not about measuring how often they are exposed to environmental issues, but rather how that information is received, understood, and lived (Su et al., 2019). Continuous exposure does indeed open the door to attention, but awareness truly grows when there is space to think, feel, and act purposefully. In this framework, interpretation becomes the key between transient information and embedded values.

Studies show that early exposure through digital media is a key trigger for Generation Z's growing attention to sustainability issues. Growing up in an era of global connectivity, they have real-time access to environmental news, campaigns, and discussion forums (Khalil et al., 2021). In a study conducted by Leiserowitz et al. (2006), it is explained that consistent exposure to environmental information can shape individuals' perceptions and concerns about ecosystems. However, mere information does not guarantee the formation of stable awareness if it is not followed by reflective interpretation.

Ecological behavior patterns among Generation Z are greatly influenced by values formed through social interactions (Kamenidou et al., 2019). The decision to engage in eco-friendly actions, like reducing plastic use or planting trees, is often driven by social pressure or the need for community acceptance. In the research by Kollmuss and Agyeman (2002), it is explained that emotional factors, group norms, and social identity have a stronger influence on actions compared to cognitive knowledge alone. Therefore, the environmental awareness of this generation cannot be separated from the social dynamics of their surroundings.

Formal education plays a significant role in shaping the ecological understanding of the younger generation (Debrah et al., 2021). A curriculum

that integrates sustainability issues and real practices in schools encourages the development of critical thinking habits towards ecological issues. According to Tilbury (1995), transformative environmental education can develop moral sensitivity and responsible decision-making abilities. However, uneven implementation limits equal early opportunities to develop ecological sensitivity. Therefore, inclusive environmental education is essential for broader, more equitable impact.

The role of the family as the primary unit in value socialization also contributes to the formation of environmental awareness. Generation Z raised by parents with an ecological orientation tends to show higher levels of concern (Güven & Yılmaz, 2017). Research by Grønhøj and Thøgersen (2009) states that parental behavior has a transmission effect on children, especially in terms of consumption habits and waste management. Therefore, the values instilled at home become an important foundation before being reinforced by external influences.

Social media has become the dominant channel for conveying environmental issues to Generation Z. Platforms like Instagram, TikTok, and YouTube provide a wide space for expression for digital campaigns and online activism. According to Anderson (2011), the power of social media lies in its ability to create networks of solidarity and spread ideas at high speed. However, the success of environmental messages on social media highly depends on their presentation. Emotional and personal messages tend to be more successful compared to informative or technocratic messages.

Although interest in environmental issues is increasing, not all individuals show consistency between discourse and practice. There is still a gap between the declaration of support for the environment and daily decisions that contradict sustainability principles (Eckert & Kovalevska, 2021). In terms developed by Blake (1999), this phenomenon is known as the "value-action gap," which is a situation where the values believed in are not reflected in actual behavior. This indicates that awareness has not yet been fully internalized and remains declarative.

Generation Z shows a tendency to connect environmental issues with self-identity. Concern for the Earth has become part of the image they want to project within their social communities. This aligns with the findings of Herring et al. (2010), which show that a sustainable lifestyle has now become a symbol of moral status among young people. This ecological identity has the potential to strengthen action consistency, as long as it does not get trapped in superficial expressions without long-term commitment.

In the academic realm, there is still little research that thoroughly examines the impact of digital technology on the construction of ecological values in Generation Z. Most studies focus more on aspects of consumption or specific behaviors, without delving into the process of consciousness formation

longitudinally. However, according to Dunlap and Van Liere (2008), changes in environmental paradigms do not occur in a short time, but rather through the accumulation of repeated experiences and learning. Such studies are necessary to understand the roots of ecological attitudes that emerge in everyday digital practices.

The emotional dimension becomes an important element in driving the ecological awareness of the younger generation. Feelings of anxiety about the climate crisis, guilt over environmental destruction, and empathy towards other living beings become triggers for more authentic actions. In a study by Clayton and Opatow (2003), it is explained that emotional engagement is a driving factor in pro-environmental decision-making. Therefore, narratives that touch on the emotional side have a greater potential to foster sustainable reflection.

Environmental issues in the digital space are often framed with visual and personal narrative approaches. Generation Z is more interested in real stories that showcase the direct impact of environmental damage compared to abstract statistical reports. According to Segerberg and Bennett (2011), this form of communication creates affective attachment and encourages collective action. Therefore, the success of environmental communication is greatly determined by the ability to convey messages in a way that stirs affection and imagination.

Literature studies also show that participation in environmentally-based volunteer activities strengthens the sense of ownership towards ecological issues. Activities such as beach cleanups, tree planting, or urban farming create direct experiences that deepen the meaning of sustainability (Jorgensen et al., 2021). In Chawla's (1998) view, active involvement in environmental activities from a young age increases the likelihood of long-term participation in adulthood. This proves that concrete experiences are much more effective in shaping attitudes compared to mere exposure to information.

Generation Z shows interest in ecological justice, linking environmental issues with ethical and social dimensions. They view environmental damage not just as a technical problem but as structural inequality. Research by Agyeman et al. (2002) highlights that an intersectional approach fosters cross-issue solidarity and collective commitment. This indicates that Generation Z's ecological awareness is multi-dimensional and deeply rooted in humanitarian values. The global dynamics colored by the climate crisis and ecological damage create a new landscape in the way Generation Z understands the world. The information they consume is no longer local, but rather global and interconnected. In a study by O'Brien et al. (2009), it is explained that the younger generation shows an increased capacity to connect environmental issues with personal responsibility. This becomes a starting point for strengthening a more reflective and action-oriented awareness.

The process of forming ecological awareness is not a linear process. It is influenced by the interaction between internal values, social structures, real experiences, and media. Generation Z is at the intersection of all those elements. Therefore, mapping their environmental awareness needs to be done comprehensively through a cross-disciplinary approach. This approach will provide a more accurate understanding of the direction of ecological value development in the lives of future generations.

## CONCLUSIONS

A literature review on Generation Z's environmental awareness reveals a dynamic shaped by digital exposure, formal education, emotions, and social interactions. This generation shows strong potential to respond to ecological issues both online and in real life. However, a gap remains between their cognitive understanding, emotional commitment, and consistent daily actions. The sensitivity developed through media and education has yet to fully translate into sustainable behavior, indicating that their awareness is still evolving.

These findings highlight the need for a multidimensional approach to foster ecological awareness in future generations. Efforts must integrate emotional, cognitive, and experiential elements. By combining transformative education, compelling narratives, and hands-on experiences, we can build spaces that support deeper value internalization. Schools, families, and online communities must work together to create reflective and empowering environments, ensuring that sustainability becomes a lived daily practice, not just a slogan.

As a follow-up, it is recommended that further research delve deeper into the process of forming ecological values within the framework of interactions between media, education, and social structures. The government, educators, and environmental program developers need to consider the characteristics of Generation Z when designing materials, communication approaches, and effective participation models. By understanding their mindset more comprehensively, the path towards an environmentally conscious society can be designed on a more solid, humane, and socially relevant foundation.

## AUTHOR CONTRIBUTION

**Rafadi Khan Khayru:** Conceptualisation, Research Design, and Writing Entire Paper, **Fayola Issalillah:** Data Collection, Methodology, Editing and Layouting, **Rahayu Mardikaningsih:** Supervision, Conceptualisation, and Analysis. All Authors have read the final version of the paper.

## Declaration of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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