International Journal of Humanities, Social Sciences and Business (INJOSS) e-ISSN: 2962-6781
Vol. 5 No. 1 January 2026, page 119-134
https://injoqast.net/index.php/JOSSS

ENVIRONMENTAL IDENTITY AS A PREDICTOR OF DIGITAL PRO-ENVIRONMENTAL BEHAVIOR: A STUDY OF DIGITAL CARBON FOOTPRINT AWARENESS AMONG GENERATION Z

Julian Amriwijaya
Universitas Padjadjaran, Indonesia
Email: julian@unpad.ac.id

Abstract

The rapid development of digital technology has driven an increase in online activities that indirectly contribute to the digital carbon footprint, especially through the use of electronic devices, cloud-based services, and intensive data consumption. Generation Z as the demographic group most familiar with digital technology has a strategic role in encouraging pro-environmental behavior in the digital realm. This study aims to examine the role of environmental identity as a predictor of digital pro-environmental behavior, with a focus on digital carbon footprint awareness among Generation Z. The method used is a systematic literature review of scientific articles, academic books, and research reports relevant to the topics of environmental identity, digital pro-environmental behavior, and environmental awareness of Generation Z. The results of the study indicate that a strong environmental identity contributes significantly to increasing individual awareness and engagement in environmentally friendly digital behavior, such as managing digital energy consumption, selecting sustainable platforms, and reducing non-essential digital activities. In addition, the literature also confirms that personal values, social norms, and digital environmental literacy play a mediating role in the relationship between environmental identity and digital pro-environmental behavior. This research provides a conceptual contribution in broadening the understanding of pro-environmental behavior in the digital era and serves as a basis for developing educational strategies and policies oriented towards reducing the environmental impact of Generation Z's digital activities.

Keywords: Environmental identity, digital pro-environmental behavior, digital carbon footprint, Generation Z, environmental awareness

INTRODUCTION

Climate change and environmental degradation are increasingly pressing global issues that require urgent attention. The impact of human activities on the environment extends beyond the use of physical resources to the digital realm. With the increasing use of digital technology, digital carbon footprints, such as server energy consumption, cloud data usage, video

streaming, and other online activities, have become significant sources of carbon emissions. This phenomenon demands that society, especially the younger generation, who are highly connected to the digital world, increase their awareness of the ecological impacts of everyday digital behavior. In this context, the concept of digital carbon footprint awareness has emerged as a crucial element in encouraging pro-environmental behavior in the digital realm, known as digital pro-environmental behavior.

Generation Z, born between the mid-1990s and early 2010s, is a unique group in terms of their interaction with technology (Juma-Michilena et al., 2024). They are not only active consumers of digital content but also highly sensitive to social and environmental issues. Previous research has shown that this generation tends to adopt sustainability values more quickly than previous generations, but the application of these values in daily behavior, including digital activities, remains variable. Factors influencing digital pro-environmental behavior depend not only on knowledge or awareness but also on an individual's self-identity. The concept of environmental identity emphasizes the extent to which a person views themselves as caring and responsible for the environment (Bhutto & Rūtelionė, 2025). This identity acts as an internal motivator that encourages individuals to align their behavior with their ecological values.

Several studies have suggested that individuals with a strong environmental identity tend to be more consistent in engaging in pro-environmental actions, both directly and indirectly (Dąbrowski et al., 2022). In the digital realm, this can translate into behaviors such as reducing unnecessary data consumption, choosing more environmentally friendly digital services, or using technology efficiently to minimize their carbon footprint. However, empirical studies specifically linking environmental identity to digital carbon footprint awareness are still very limited. This gap raises the need to better understand how environmental identity can predict pro-environmental behavior in the digital world, especially among generations with a high affinity for technology.

Furthermore, advances in information and communication technology have created both new opportunities and challenges in the context of sustainability. On the one hand, technology allows individuals to access information on environmental impacts, participate in digital campaigns, and adopt environmentally friendly behaviors more easily (Parzonko et al., 2021). On the other hand, massive and uncontrolled digital consumption can significantly increase the carbon footprint. Awareness of this is crucial, because without adequate understanding, environmentally unfriendly digital

behaviors can persist despite pro-environmental intentions. Thus, environmental identity can serve as a bridge between intention and action, making individuals more aware of the ecological consequences of their digital activities (Wijaya & Kokchang, 2023).

The importance of this research is also driven by the social and cultural context surrounding Generation Z. This generation is characterized by being collaborative, critical, and adaptable to change. Therefore, an identity-based approach to motivating pro-environmental behavior is believed to be more effective than traditional approaches that rely solely on education or information campaigns. Furthermore, this research is expected to contribute to educational strategies and digital interventions aimed at reducing the digital carbon footprint, while strengthening the role of the younger generation as agents of change in sustainability issues (Muhammad et al., 2025).

Overall, this research emphasizes the importance of environmental identity as a predictor of digital pro-environmental behavior. By focusing on digital carbon footprint awareness among Generation Z, this study seeks to fill the literature gap regarding the relationship between individual identity and sustainable digital practices. The findings of this study are expected to not only provide academic contributions but also serve as a basis for developing policies, digital campaigns, and educational practices that support behavioral transformation towards a more environmentally conscious society, particularly in the rapidly evolving digital era.

RESEARCH METHOD

The research method used in this study is a descriptive-analytical literature review. The study began with the selection of relevant academic sources, such as international journals, books, scientific articles, and research reports related to environmental identity, digital pro-environmental behavior, and digital carbon footprint awareness. The literature collection process was conducted through trusted scientific databases such as Google Scholar, Scopus, and ScienceDirect, using key keywords such as "environmental identity," "digital carbon footprint," "pro-environmental behavior," "Generation Z," "digital sustainability," and "online environmental awareness." Literature selection was carried out systematically, considering the relevance, credibility, and novelty of the research, while ensuring the selected sources had a strong theoretical foundation and a clear methodology. Next, the collected literature was organized based on key themes and concepts to map the relationship between environmental identity and pro-environmental behavior in a digital context.

Data analysis was conducted qualitatively through synthesis and interpretation of previous research findings. The analysis phase begins by identifying basic concepts and key variables, then evaluating various theories that support the relationship between environmental identity and digital pro-environmental behavior, particularly in the context of Generation Z. The researcher integrates the results of empirical studies and theoretical concepts to build a comprehensive understanding framework of how digital carbon footprint awareness is influenced by an individual's environmental identity. In addition, the study also discusses supporting and inhibiting factors that appear in the literature, and concludes the implications of the findings for the development of more effective educational strategies and digital awareness campaigns for Generation Z. Thus, this study produces a systematic and critical understanding of the role of environmental identity as a predictor of digital pro-environmental behavior in the digitalization era.

RESULT AND DISCUSSION

Generation Z Characteristics and Digital Consumption Patterns

Generation Z is a demographic group born and raised in an era of rapid digital technology development. They were generally born between the mid-1990s and early 2010s, a period when the internet, smartphones, and social media became integral parts of daily life. This condition shaped Generation Z as digital natives, a generation accustomed to interacting with digital technology from an early age. The internet is not just a tool for Generation Z; it has become a primary space for learning, communicating, working, and expressing their identity. This high dependence on the internet has led Generation Z to have different perspectives, mindsets, and consumption behaviors than previous generations. (Panagiotou et al., 2022)

One of the main characteristics of Generation Z is their highly active online activities. They spend a significant portion of their time accessing various digital platforms, from social media like Instagram, TikTok, and X, to video and music streaming services. Streaming has become the primary form of entertainment for Generation Z, replacing conventional media like television and radio. Furthermore, online shopping has become part of their lifestyle, where ease of access, product variety, and the influence of digital promotions drive increased consumption through e-commerce platforms. This digital consumption pattern indicates that Generation Z tends to prioritize speed, practicality, and personalization in meeting their needs, whether for entertainment, information, or the consumption of goods and services (Harahap et al., 2023).

Generation Z's high digital activity is also influenced by the need for social connectivity. Social media serves as a space for interaction, identity formation, and a means of gaining social recognition. Through content uploads, comments, and online interactions, Generation Z builds social relationships that transcend time and space. However, this intense digital media use indirectly contributes to increased energy and resource consumption, such as electricity consumption for electronic devices, data centers, and internet networks. Although this impact is invisible, digital activity still has a significant environmental footprint (Alruthaya et al., 2021).

Interestingly, on the other hand, Generation Z is known as a generation that shows a high level of concern for social and environmental issues. They tend to be more aware of climate change, social justice, gender equality, and environmental sustainability than previous generations. This concern is reflected in their critical attitude towards public policies, business practices, and social phenomena deemed detrimental to society or the environment. However, this concern is often not matched by a deep understanding of the real impact of their daily digital activities. Many members of Generation Z are unaware that excessive digital consumption, such as constant high-quality streaming or rapid device switching, contributes to carbon emissions and the exploitation of natural resources.

This gap between social awareness and understanding of digital impacts highlights the challenges in developing sustainable digital behaviors. Generation Z tends to view digital activities as clean and environmentally friendly because they do not directly produce physical waste. However, behind the scenes, digital activities rely on complex and energy-intensive technological infrastructure. A lack of literacy regarding the ecological footprint of digital technology means that Generation Z's environmental concerns have not yet been fully realized in responsible digital consumption practices (Tolstikova et al., 2021).

Nevertheless, Generation Z has great potential as agents of social change, particularly through digital activism. Their ability to utilize social media and online platforms allows for the rapid and widespread dissemination of information and mass mobilization. Online campaigns, digital petitions, and social media-based movements have become effective tools for Generation Z to voice their aspirations and drive change. Digital activism allows them to engage in global issues without having to physically participate, making participation more inclusive and accessible. In the context of environmental issues, many pro-environmental movements are driven or supported by Generation Z through online campaigns.

Generation Z's role as agents of social change demonstrates that they are not merely passive consumers of digital technology, but also active actors capable of influencing public opinion and collective behavior. Their sensitivity to social issues and adaptability to technology make Generation Z a strategic group in social transformation efforts. However, for this role to be optimal, an increased understanding of the relationship between digital activities and environmental impacts is needed. Sustainable digital activism should not only focus on campaign messages, but also on wiser and more environmentally friendly technology use practices (Laor & Galily, 2022).

In this context, Generation Z has great potential as a primary target for education regarding pro-environmental digital behavior. Digital education and literacy that emphasize sustainability can help Generation Z understand that their digital choices have ecological consequences. This education can include awareness of digital energy consumption, e-waste management, and efficient technology use. With approaches tailored to Generation Z's characteristics, such as through social media, creative content, and digital campaigns, pro-environmental messages can be conveyed effectively and relevantly.

Changes in Generation Z's digital behavior not only impact individuals but also have the potential to influence markets and policies. As a generation with significant purchasing power and social influence, Generation Z's digital consumption choices can encourage technology companies and digital platforms to adopt more sustainable practices. Furthermore, the social pressure they generate through digital campaigns can influence public policy related to the environment and technology. Thus, Generation Z is not only an object of education but also a crucial subject in driving the transformation towards a more environmentally friendly digital ecosystem.

Digital Carbon Footprint Awareness as a Mediator

This discussion positions Digital Carbon Footprint Awareness as a mediator variable that bridges the relationship between antecedent factors, such as digital technology use, environmental literacy, or individual digital behavior, and outcomes in the form of environmentally friendly behavior or sustainability. This mediating role becomes increasingly relevant as the intensity of digital activities in daily life increases, which indirectly contribute to carbon emissions through the energy consumption of data centers, internet networks, and electronic devices.

Digital carbon footprint awareness reflects the extent to which individuals understand that seemingly intangible digital activities, such as sending emails, streaming videos, storing data in the cloud, or using social media, have tangible environmental consequences. When individuals have a

high level of Digital Carbon Footprint Awareness, they are not only aware of the existence of these impacts but also understand the mechanisms by which digital activities contribute to global carbon emissions. This awareness plays a crucial role in shaping individual attitudes and perceptions toward more responsible technology use (Daoud et al., 2024).

In the context of its mediating role, Digital Carbon Footprint Awareness functions as a cognitive mechanism that transforms the influence of independent variables into more sustainable behavioral responses. For example, intense digital technology use does not necessarily have a negative impact on the environment if balanced with adequate awareness. Individuals with high levels of technology use who are aware of their digital carbon footprint tend to make behavioral adjustments, such as reducing unnecessary data consumption, extending the lifespan of devices, or choosing more environmentally friendly digital services (Chen et al., 2024). Thus, this awareness transforms the direct relationship between technology use and environmental impact into a more positive indirect relationship.

Furthermore, Digital Carbon Footprint Awareness also plays a role in strengthening the internalization of sustainability values. This awareness is not only informative but also normative, as it encourages individuals to reassess their digital habits based on ethical considerations and environmental responsibility. Within the framework of the theory of planned behavior, this awareness can influence attitudes toward behavior, subjective norms, and perceived behavioral control, ultimately increasing intentions and the implementation of environmentally friendly behavior. Therefore, the existence of Digital Carbon Footprint Awareness as a mediator helps explain why not all individuals with high levels of digital literacy or access to technology exhibit the same sustainable behavior.

This mediating role also demonstrates that increased awareness is a crucial prerequisite for behavioral change. Without an understanding of the environmental consequences of digital activities, individuals tend to view technology as a neutral entity free of ecological impacts (Martínez Falcó et al., 2024). This creates a gap between the increased use of digital technology and environmental sustainability efforts. With the advent of Digital Carbon Footprint Awareness, this gap can be bridged, as individuals begin to connect everyday digital actions with broader issues of climate change and environmental degradation.

Furthermore, Digital Carbon Footprint Awareness, as a mediator, highlights the importance of an educational approach to behavior-based carbon emission reduction efforts. Efforts to encourage sustainable digital

behavior require more than simply providing more efficient technology; it also requires increasing user awareness. This awareness enables individuals to actively choose and adopt more environmentally friendly digital practices, thereby maximizing the positive impact of technological innovation (Alsanie, 2025). In this regard, the mediator variable serves as a catalyst that strengthens the effectiveness of policy interventions or environmental education programs.

The findings, which position Digital Carbon Footprint Awareness as a mediator, also offer significant theoretical implications. Conceptually, this broadens sustainability studies by incorporating the digital dimension as an integral part of environmental behavior. To date, discourse on carbon footprints has focused primarily on physical activities, such as transportation and household energy consumption. By positioning digital carbon footprint awareness as a mediating variable, this study confirms that digital transformation has ecological implications that cannot be ignored and require responses through changes in awareness and behavior.

From a practical perspective, the mediating role of Digital Carbon Footprint Awareness suggests that carbon emission reduction strategies in the digital age must target both the cognitive and affective aspects of individuals. Digital literacy programs integrated with environmental education have the potential to yield more significant impacts than approaches that solely emphasize technological efficiency. When individuals understand that their digital choices have environmental consequences, they are more motivated to adopt behaviors that align with sustainability principles.

The Relationship Between Environmental Identity and Digital Pro-Environmental Behavior

The relationship between environmental identity and pro-environmental behavior is a key focus in environmental psychology studies because it explains why individuals are willing to consistently engage in actions that support environmental sustainability. Environmental identity refers to the extent to which an individual views themselves as part of nature and incorporates environmental concerns into their self-concept. When an environmental identity is firmly established, individuals view environmentally friendly behavior not only as a rational choice but also as an expression of who they are. Thus, environmental identity functions as an internal psychological factor that motivates individuals to engage in pro-environmental behavior voluntarily and sustainably, even in the absence of external pressure or material incentives.

As a psychological factor, environmental identity plays a crucial role in fostering intrinsic motivation for pro-environmental behavior. This intrinsic motivation arises because individuals perceive environmental protection as aligned with their personal values and self-identity. When someone identifies as an environmentally conscious individual, actions such as reducing plastic use, conserving energy, or choosing environmentally friendly transportation become personally meaningful. These behaviors are no longer viewed as burdensome obligations but rather as actions that strengthen self-image and provide psychological satisfaction. This explains why individuals with a strong environmental identity tend to be more consistent in engaging in pro-environmental behaviors than those driven solely by external rules or norms (Gong et al., 2020).

Various empirical evidence shows that environmental identity is positively correlated with pro-environmental behaviors, particularly in physical contexts and everyday life. Research in environmental psychology shows that individuals with a strong environmental identity are more active in waste reduction, such as recycling, reusing items, and avoiding single-use products. Furthermore, environmental identity is also associated with energy-saving behaviors, such as turning off electrical appliances when not in use, choosing energy-efficient household appliances, and reducing overall energy consumption (Pong & Tam, 2023a). In the context of nature conservation, individuals with a strong environmental identity are more likely to engage in environmental conservation activities, such as supporting conservation areas, participating in tree-planting activities, and demonstrating concern for biodiversity.

The positive relationship between environmental identity and pro-environmental behavior can be explained through several interrelated psychological mechanisms. One key mechanism is the influence of identity on an individual's value system. Environmental identity encourages individuals to internalize ecological values, such as concern for sustainability, the balance of nature, and intergenerational responsibility. These values then become the basis for daily decision-making, making individuals more likely to choose behaviors that minimize negative impacts on the environment (Udall et al., 2020). In other words, environmental identity forms a value framework that guides behavior consistently across situations.

In addition to values, environmental identity also influences an individual's personal norms. Personal norms refer to feelings of moral obligation to act in a certain way. When environmental identity is internalized, individuals feel a moral responsibility to protect the environment, even in the

absence of social oversight. This sense of responsibility makes individuals feel uncomfortable or guilty when engaging in environmentally damaging actions, and conversely, feel morally fulfilled when engaging in pro-environmental actions (Sierra-Barón et al., 2023). Thus, environmental identity strengthens personal norms, which serve as internal drivers for pro-environmental behavior.

Another equally important mechanism is the role of environmental identity in fostering a sense of personal responsibility for environmental conditions. Individuals with a strong environmental identity tend to view environmental problems not as abstract issues or the responsibility of others, but as something directly relevant to them. This perception increases their sense of involvement and ownership in environmental issues, thus motivating individuals to contribute through concrete actions. This sense of personal responsibility also reduces the tendency to blame others, such as the government or industry, and encourages individuals to initiate changes in their daily behavior.

Environmental identity is also closely linked to habit formation and the consistency of pro-environmental behavior. When environmentally friendly behaviors are repeatedly performed as part of an expression of self-identity, they gradually become automatic. For example, individuals who perceive themselves as "environmentally conscious" will reflexively carry their own shopping bags or sort their waste without much consideration. This habituation process makes pro-environmental behavior more stable and less susceptible to situational changes, such as time constraints or convenience (Udall et al., 2021).

Consistency in pro-environmental behavior is also reinforced by an individual's need to maintain harmony between identity and action. In psychology, individuals tend to strive to maintain consistency between self-concept and actual behavior to avoid psychological stress. Therefore, when environmental identity has become an important part of self-concept, individuals will strive to act in accordance with that identity across various life contexts. This consistency is evident in individuals' tendency to implement pro-environmental behavior not only in one domain, but across various aspects of life, from consumption and transportation to social participation.

The Influence of Environmental Identity on Digital Pro-Environmental Behavior

The discussion of the influence of environmental identity on digital pro-environmental behavior stems from the understanding that environmental

identity is no longer limited to physical human interactions with nature, but has evolved along with technological transformation and the digitalization of everyday life. Environmental identity conceptually refers to the extent to which individuals view themselves as part of the natural environment and incorporate environmental concerns into their self-concept (Pong & Tam, 2023b). In the contemporary context, this identity has expanded in meaning as human activities increasingly occur through digital media, from communication and information consumption to entertainment and economic transactions. Digital activities previously perceived as environmentally neutral are now understood to have their own ecological footprint, such as data center energy consumption, carbon emissions from internet use, and e-waste. Therefore, expanding the concept of environmental identity to the digital realm is relevant in explaining the emergence of digital pro-environmental behavior.

In the digital context, environmental identity acts as a cognitive and affective lens that influences how individuals assess the environmental consequences of their online activities. Individuals with a strong environmental identity tend not to separate digital behavior from ecological responsibility. They view actions such as excessive data storage, high-quality streaming without urgent need, or frequently changing digital devices as part of consumption patterns that have environmental implications. Thus, environmental identity encourages individuals to consider the environmental impact of everyday digital activities, even if these impacts are invisible and indirect. This awareness reflects the internalization of environmental values into the digital space, which ultimately influences preferences, attitudes, and behavioral decisions.

The influence of environmental identity on pro-environmental digital behavior can also be explained through the role of self-concept. Self-concept is how individuals define and understand themselves, including their values, beliefs, and social roles. When environmental concern becomes an integral part of their self-concept, individuals are motivated to act consistently with that identity across various domains of life, including the digital world. Consistency between identity and behavior is a psychological need, so individuals with a strong environmental identity will feel uncomfortable engaging in digital activities that conflict with their environmental values. For example, these individuals might choose to activate energy-saving settings on devices, use digital services that claim to be committed to renewable energy, or limit the consumption of unnecessary digital content. In other words, digital

pro-environmental behavior becomes a means of self-expression and identity affirmation (Lu et al., 2024).

In addition to self-concept, moral obligation plays a crucial role in bridging environmental identity and digital behavior (Wild & Schulze Heuling, 2024). A strong environmental identity is often accompanied by a sense of moral responsibility to protect the environment, not only through physical actions like recycling or saving household energy, but also through digital behavior. Individuals feel a moral obligation to minimize the negative impacts of their online activities, even if their individual contributions are relatively small in aggregate. This sense of moral obligation fosters personal norms that lead individuals to act more responsibly digitally, such as reducing digital waste, extending the lifespan of electronic devices, or supporting green technology innovations. In this sense, pro-environmental digital behavior is not simply a rational choice but a manifestation of a moral commitment rooted in self-identity.

Several previous studies have demonstrated a link between environmental identity and environmentally oriented digital behavior. Research in consumer behavior and sustainable technology has found that individuals with high levels of environmental identity are more likely to adopt green technologies, such as energy-efficient devices, efficient cloud-based services, and applications that support sustainable lifestyles. Furthermore, several studies have linked environmental identity to efforts to reduce data consumption, for example, by avoiding auto-play videos, downloading content only when needed, or choosing lower resolutions to conserve energy. These findings suggest that environmental identity serves as an important predictor of digital pro-environmental behavior, even when the environmental benefits of such behavior are not directly perceived by the individual (Schwartz et al., 2020).

Furthermore, the influence of environmental identity on digital pro-environmental behavior is not homogeneous across generations. Generation Z exhibits a relatively stronger influence than previous generations. This is due to the very high level of digital engagement among Gen Z, where almost every aspect of their lives is integrated with digital technology. For Gen Z, digital space is not simply a tool, but rather an integral part of their social reality and self-identity. Therefore, when environmental identity is formed in Gen Z individuals, its expression also tends to emerge in their digital behavior. They are more responsive to digital sustainability issues, more open to narratives about the environmental impact of technology, and more actively adapt their online behavior to align with their environmental values.

Furthermore, Gen Z is known to possess a high social and moral sensitivity to global issues, including climate change and sustainability. The combination of environmental awareness and digital literacy makes this generation better able to connect everyday digital actions with long-term environmental consequences. Unlike older generations, who may view digital activities as separate from environmental issues, Gen Z tends to view them as part of an interconnected global consumption system. This reinforces the role of environmental identity in shaping digital pro-environmental behavior in this age group, whether in the form of technology choices, media usage patterns, or support for sustainable digital initiatives (Teng et al., 2025).

Overall, this discussion demonstrates that environmental identity is a key psychological factor influencing pro-environmental behavior in the digital age. Expanding the concept of environmental identity to the digital context allows for a more comprehensive understanding of how values, self-concept, and moral obligations shape individual behavior in virtual spaces. Findings from previous studies, along with differences in characteristics between generations, particularly Gen Z, confirm that digital pro-environmental behavior is not a marginal phenomenon but rather an integral part of sustainability efforts in a digital society. Thus, strengthening environmental identity can be an important strategy in encouraging more environmentally friendly digital practices in the future.

CONCLUSION

Based on the literature review conducted in this study, it can be concluded that environmental identity plays a significant role as a predictor of digital pro-environmental behavior in Generation Z. Generation Zers who have a strong emotional attachment, values, and self-awareness to environmental issues tend to exhibit more responsible digital behaviors, such as reducing their digital carbon footprint, choosing more environmentally friendly digital services, and managing device and data usage more wisely. Environmental identity serves as an internal foundation that encourages individuals to align their digital activities with sustainability principles, rather than being driven solely by external factors such as trends or social pressure.

Furthermore, this study also confirms that awareness of their digital carbon footprint acts as a mediator, strengthening the relationship between environmental identity and digital pro-environmental behavior. This means that Generation Zers with a strong environmental identity tend to be more sensitive to the environmental impacts of their digital activities, thus increasing their tendency to adopt more environmentally friendly digital

practices. Therefore, efforts to improve digital pro-environmental behavior in Generation Z should not only focus on technical education, but also on developing a strong environmental identity through values education, direct experience, and narratives that link self-identity to environmental sustainability.

REFERENCES

Alruthaya, A., Nguyen, T.-T., & Lokuge, S. (2021). *The Application of Digital Technology and the Learning Characteristics of Generation Z in Higher Education* (No. arXiv:2111.05991). arXiv. https://doi.org/10.48550/arXiv.2111.05991

Alsanie, G. (2025). Investigating the Impact of Digitalization on Resource Use, Energy Use, and Waste Reduction Towards Sustainability: Considering Environmental Awareness as a Moderator. *Sustainability*, *17*(9), 4073. https://doi.org/10.3390/su17094073

Bhutto, M. Y., & Rūtelionė, A. (2025). Greening Generation Z: Unraveling pro-environmental purchase intentions for green apparel in Lithuania through an extended theory of planned behavior, social media influence and environmental self-identity. *Social Responsibility Journal*, 1–17. https://doi.org/10.1108/SRJ-11-2024-0770

Chen, J., Guo, Z., & Lei, Z. (2024). Research on the mechanisms of the digital transformation of manufacturing enterprises for carbon emissions reduction. *Journal of Cleaner Production*, *449*, 141817. https://doi.org/10.1016/j.jclepro.2024.141817

Dąbrowski, L. S., Środa-Murawska, S., Smoliński, P., & Biegańska, J. (2022). Rural–Urban Divide: Generation Z and Pro-Environmental Behaviour. *Sustainability*, *14*(23), 16111. https://doi.org/10.3390/su142316111

Daoud, M. K., Taha, S., Al-Qeed, M., Alsafadi, Y., Ahmad, A. Y. A. B., & Allahham, M. (2024). EcoConnect: Guiding environmental awareness via digital marketing approaches. *International Journal of Data and Network Science*, *8*(1), 235–242. https://doi.org/10.5267/j.ijdns.2023.9.028

Gong, X., Zhang, J., Zhang, H., Cheng, M., Wang, F., & Yu, N. (2020). Internet use encourages pro-environmental behavior: Evidence from China. *Journal of Cleaner Production*, *256*, 120725. https://doi.org/10.1016/j.jclepro.2020.120725

Harahap, R. H., Marpaung, N. Z., & Asengbaramae, R. (2023). Consumptive Behaviour of Gen-Z and Identity in the Digital Era. *Jurnal Sosiologi Andalas*, *9*(2), 183–192. https://doi.org/10.25077/jsa.9.2.184-193.2023

Juma-Michilena, I.-J., Ruiz-Molina, M.-E., Gil-Saura, I., & Belda-Miquel, S. (2024). Pro-environmental behaviours of generation Z: A cross-cultural approach. *International Review on Public and Nonprofit Marketing*, *21*(3), 1–29. https://doi.org/10.1007/s12208-024-00395-9

Laor, T., & Galily, Y. (2022). Who'S clicking on on-demand? Media consumption patterns of generations Y & Z. *Technology in Society*, *70*, 102016. https://doi.org/10.1016/j.techsoc.2022.102016

Lu, S., Sun, Z., & Huang, M. (2024). The impact of digital literacy on farmers' pro-environmental behavior: An analysis with the Theory of Planned Behavior. *Frontiers in Sustainable Food Systems*, *8*. https://doi.org/10.3389/fsufs.2024.1432184

Martínez Falcó, J., Sánchez-García, E., Marco-Lajara, B., & Akram, U. (2024). Digital transformation and green innovation performance: Unraveling the role of green knowledge sharing and top management environmental awareness. *Internet Research*, *35*(4), 1621–1656. https://doi.org/10.1108/INTR-11-2023-1016

Muhammad, Z., Farooq, K., Yusliza, M. Y., Ramayah, T., & Qummar, M. H. (2025). Determining Pro-Environmental Behaviour of Millennials: The Role of Green Self-Identity, Psychological and Social Factors. In S. Kot, B. Khalid, & A. ul Haque (Eds.), *New Challenges of the Global Economy for Business Management* (pp. 373–386). Springer Nature. https://doi.org/10.1007/978-981-96-4116-1_22

Panagiotou, N., Lazou, C., & BaliOu, A. (2022). GENERATION Z: MEDIA CONSUMPTION AND MIL. *İmgelem*, *6*(11), 455–476. https://doi.org/10.53791/imgelem.1187245

Parzonko, A. J., Balińska, A., & Sieczko, A. (2021). Pro-Environmental Behaviors of Generation Z in the Context of the Concept of Homo Socio-Oeconomicus. *Energies*, *14*(6), 1597. https://doi.org/10.3390/en14061597

Pong, V., & Tam, K.-P. (2023a). Relationship between global identity and pro-environmental behavior and environmental concern: A systematic review. *Frontiers in Psychology*, *14*. https://doi.org/10.3389/fpsyg.2023.1033564

Pong, V., & Tam, K.-P. (2023b). Relationship between global identity and pro-environmental behavior and environmental concern: A systematic review. *Frontiers in Psychology*, *14*. https://doi.org/10.3389/fpsyg.2023.1033564

Schwartz, D., Loewenstein, G., & Agüero-Gaete, L. (2020). Encouraging pro-environmental behaviour through green identity labelling. *Nature Sustainability*, *3*(9), 746–752. https://doi.org/10.1038/s41893-020-0543-4

Sierra-Barón, W., Olivos-Jara, P., Gómez-Acosta, A., & Navarro, O. (2023). Environmental Identity, Connectedness with Nature, and Well-Being as Predictors of Pro-Environmental Behavior, and Their Comparison between Inhabitants of Rural and Urban Areas. *Sustainability*, *15*(5), 4525. https://doi.org/10.3390/su15054525

Teng, J., Xiao, X., Zhang, N., & Yang, S. (2025). Impact of internet use on pro-environmental behaviour mediated by environmental concern.

Scientific Reports, *15*(1), 5899. https://doi.org/10.1038/s41598-025-90445-x

Tolstikova, I., Ignatjeva, O., Kondratenko, K., & Pletnev, A. (2021). Digital Behaviour and Personality Traits of Generation Z in a Global Digitalization Environment. In D. Bylieva, A. Nordmann, O. Shipunova, & V. Volkova (Eds.), *Knowledge in the Information Society* (pp. 50–60). Springer International Publishing. https://doi.org/10.1007/978-3-030-65857-1_6

Udall, A. M., de Groot, J. I. M., de Jong, S. B., & Shankar, A. (2020). How do I see myself? A systematic review of identities in pro-environmental behaviour research. *Journal of Consumer Behaviour*, *19*(2), 108–141. https://doi.org/10.1002/cb.1798

Udall, A. M., de Groot, J. I. M., De Jong, S. B., & Shankar, A. (2021). How I See Me—A Meta-Analysis Investigating the Association Between Identities and Pro-environmental Behaviour. *Frontiers in Psychology*, *12*. https://doi.org/10.3389/fpsyg.2021.582421

Wijaya, D. I., & Kokchang, P. (2023). Factors Influencing Generation Z's Pro-Environmental Behavior towards Indonesia's Energy Transition. *Sustainability*, *15*(18), 13485. https://doi.org/10.3390/su151813485

Wild, S., & Schulze Heuling, L. (2024). Exploring the role of identity in pro-environmental behavior: Cultural and educational influences on younger generations. *Frontiers in Psychology*, *15*. https://doi.org/10.3389/fpsyg.2024.1459165