



Analysis of The Relationship Between The Role of Local Culture and Digital Media in Shaping Environmentally Conscious Character

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Abstract: The global environmental crisis demands urgent strategies to cultivate environmental awareness, particularly among youth. This study aims to analyse and compare the influence of local culture and digital media on fostering environmentally conscious character among university students in Indonesia. An ex post facto design with multivariate correlation was employed. The sample included 228 biology education students from three universities in Indonesia who had completed the Environmental Knowledge course. Data were collected via an online questionnaire consisting of 15 Likert-scale items and five open-ended questions. Expert judgment was used to validate the instrument, and reliability scores for all constructs exceeded $\alpha = 0.78$. Pearson correlation and multiple linear regression were used for quantitative analysis, supported by qualitative coding of open responses. A statistically non-significant and weak correlation was found between local culture and environmental character ($r = 0.185$; $p = 0.323$). Strikingly, only 2% of respondents demonstrated awareness of local environmental cultural values, highlighting an alarming disconnect between youth and traditional ecological wisdom. Meanwhile, digital media showed a statistically significant but practically weak relationship ($r = 0.150$; $t = 2.27$; $p = 0.024$). This statistical significance may be attributed to the large sample size and should not be interpreted as a strong practical effect. Students frequently cited digital platforms such as TikTok and Instagram as sources of ecological content. While digital media offers an accessible entry point for environmental messaging, its real-world impact is limited. Conversely, local culture holds deep contextual potential that is currently underutilized. A key limitation of this study is its specific sample of biology education students who likely possess higher baseline environmental knowledge, potentially skewing results. Future studies should include more diverse academic disciplines to improve generalizability. These findings underscore the urgency of integrating cultural ecological values into youth education via engaging digital formats.

Keywords: digital media, environmentally conscious character, local culture.

INTRODUCTION

Environmental issues have become a global crisis that threatens the sustainability of life on Earth. Climate change, characterised by rising global temperatures, alarming levels of air and water pollution, and widespread damage to ecosystems, requires urgent action from everyone in society (IPCC, 2023). The latest report from the World Meteorological Organization (WMO, 2024) confirms that 2020-2023 was the hottest four-year period on record. In this critical situation, raising awareness and fostering concern are important components of efforts to mitigate the impact of environmental damage (Stern et al., 2021). This demonstrates that fostering an environmentally conscious character in each individual is not just an option but an urgent necessity that will determine the future of our planet. Such a character, demonstrated through everyday

behaviours such as waste management, energy conservation, and sustainable consumption, provides a vital foundation for building a society in harmony with nature (Kollmuss & Agyeman, 2020).

Culture is a system of values passed down from generation to generation that significantly shapes society's view of its relationship with nature (Priyanka et al., 2025). Several studies have revealed that much of the local wisdom embedded in Indonesia's traditional customs is geared towards environmental conservation. One example is the Balinese concept of 'Awig-Awig', which regulates the use of forests and water (Junia, 2023). In Maluku, 'Sasi' regulates the harvest period in order to maintain the sustainability of resources (Rakuasa, 2022). The 'Tritangtu' tradition among the Sundanese people emphasizes harmony between humans and nature (Listiani et al., 2013). These studies suggest that elements of environmental consciousness have been embedded in traditional practices within Indonesian society. However, further systematic data is needed to generalize this observation across diverse regions and communities (Asrawijaya, 2024). These values are embedded in cultural identity and offer moral and ethical foundations for community-based environmental behavior (Abdelazim et al., 2025). However, in today's rapidly evolving information landscape, these traditional values face competition from digital narratives that shape perceptions and habits among youth (Zhang et al., 2025). The rise of the digital age has not only changed how people interact (Huy & Phuc, 2025) and access information but also challenged the dominance of inherited cultural frameworks (Gallego-Álvarez & Rodriguez-Dominguez, 2025). This intersection sets the stage for a dynamic tension (Luque-Alcaraz et al., 2024) and a potential synergy between local culture and digital media in influencing environmental consciousness among the younger generation (Corrias, 2023; You, 2024).

The digital age has also brought significant changes in the way people interact, access information, and form opinions (Li, 2023). According to a report by Loretan (2023), social media, video streaming, podcasts, and educational games are becoming increasingly popular among people of all ages, particularly the younger generation. In Indonesia, 73.7% of the total population has access to the internet (Xiao et al., 2023). It indicates that digital media has become an extremely effective way of disseminating information, including that relating to environmental issues. Creative content on digital platforms can be used to deliver environmental campaigns that reach a wide audience at a relatively low cost (Dwivedi et al., 2021; Reimer, 2023). The combination of cultural values and the influence of digital media provides a valuable opportunity to foster environmentally conscious attitudes, particularly among younger people who actively engage with digital media (Karantalis & Koukopoulos, 2024). However, despite these potentials, there remains a lack of empirical clarity regarding which factor, local culture or digital media, is more effective in shaping environmental consciousness among young people (Truc, 2024; Khan et al., 2024). Many previous studies tend to promote local wisdom as an idealized solution to ecological problems, yet they rarely test to what extent such cultural values are internalized by the younger generation (Berkes, 2018; Ens et al., 2015). This study, therefore, not only compares the influence of local culture and digital media but also critically examines the prevailing assumption that local traditions remain a strong and relevant force in environmental character formation today.

Existing research often focuses on the value of each factor independently, without directly comparing their relative impacts. Moreover, the limited influence of local cultural

values on the environmental awareness of the younger generation raises a critical scientific problem: why are these values not being transmitted effectively, and what role can digital media play in addressing this gap? This study, therefore, aims to analyse and compare the roles of local culture and digital media in fostering environmentally conscious character, especially among university students in Indonesia. Based on this aim, the study seeks to answer the following research question: “To what extent do local cultural values and digital media influence the development of environmentally conscious character among university students, and which of these factors demonstrates a stronger or more significant role?”

▪ METHOD

Participants

The population in this study consisted of undergraduate students enrolled in the Biology Education program across three universities: Universitas Muhammadiyah Kupang, Universitas Dharmawangsa, and Universitas Labuhanbatu, Indonesia. A total of 228 students participated in the study. The sampling technique used was purposive sampling, considering the relevance of the course background to the research topic. The sample was selected based on their completion of the Environmental Knowledge course, ensuring minimum exposure to formal environmental education. The demographic characteristics and background of the respondents are analysed in Table 1. The analysis shows a high proportion of females (147 students) come from urban areas and are aged between 18 and 25 years old. Regarding the frequency of digital media use, more than 65% of students answered 1-3 hours/day.

Table 1. Descriptive statistic

Variable	Percentage (%)
Gender	
Female	67.12
Male	32.88
Residence	
Urban	73
Rural	27
Age	
18-25 years	97.56
26-35 years	2.44
Frequency of digital media use per day	
< 1 Hour	22.83
1-3 Hour	42.92
> 3 Hour	34.25

Research Design and Procedures

This study employed a quantitative, non-experimental ex post facto design. The analysis includes Pearson’s correlation for preliminary exploration and a t-test to examine the unique contribution of each independent variable, local culture, and digital media, toward the dependent variable while controlling for each other’s effects. The research was conducted from February to April 2024. The procedures included: development and validation of the questionnaire. This stage aims to ensure that the research instrument

(questionnaire) accurately measures the intended variables, such as local culture and digital media, as well as specific dependent variables, such as attitudes or behaviour. Activities at this stage include: identifying indicators based on theoretical reviews and previous research results; developing questions for each indicator using a scale (usually a Likert scale); conducting content validity testing by seeking input from experts in terms of both substance and methodology; conducting a pilot test of the instrument on a small sample to assess its reliability and empirical validity; revising the instrument based on the pilot test results (e.g. removing or improving invalid or unreliable items).

Distribution of the online questionnaire via Google Forms to selected respondents. Once the questionnaire has been deemed valid and reliable, the next step is to distribute it to respondents. This involves determining the respondent criteria (e.g., students, university students, teachers, or specific communities) and distributing the Google Form link through the most appropriate channels (e.g., email, social media, WhatsApp groups, or community forums). It is also necessary to provide clear preliminary information on the questionnaire, including details of the research purpose, data confidentiality, and the time required for completion. Collection of both quantitative and qualitative responses. This stage includes: quantitative data obtained from closed questions on the questionnaire (e.g., Likert scale or multiple choice), which will be used for statistical analysis. Qualitative data, if available, usually takes the form of open-ended questions that enable respondents to provide narrative responses.

Instruments

The instrument was a structured questionnaire developed based on theoretical constructs from Asrawijaya (2024) regarding local ecological values and Liao (2024) on the impact of digital media on pro-environmental behavior. It consisted of 15 closed-ended Likert-scale items (1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree) and five open-ended questions. The questionnaire was distributed evenly across three constructs: local culture (5 items), digital media (5 items), and environmentally conscious character (5 items). For the local culture construct, items were designed to assess students' awareness, appreciation, and behavioral relevance of local ecological traditions. For example, one item stated: *"I know the traditional practices in my region that promote forest or water conservation"* (knowledge), while another asked: *"I consider local wisdom important for solving modern environmental problems"* (attitude). The digital media construct measured exposure, engagement, and perceived influence of digital environmental content. Items included: *"I often see environmental campaigns on platforms such as Instagram or TikTok"* (exposure), and *"Watching environmental videos motivates me to take eco-friendly actions"* (perceived impact). The environmentally conscious character construct focused on pro-environmental attitudes and behavioral tendencies. Example items included: *"I feel responsible for reducing my plastic use in daily life"* and *"I actively participate in environmental activities on campus"*.

Construct validity was first evaluated through expert judgment involving three senior lecturers specializing in environmental education and psychometric evaluation. To provide stronger empirical evidence of construct validity, a Confirmatory Factor Analysis (CFA) was conducted to validate the three-factor model of the instrument, encompassing Local Culture, Digital Media, and Environmentally Conscious Character, each with five indicators. The CFA was performed using the maximum likelihood estimation method.

The analysis began with model specification based on the theoretical framework, followed by the estimation of factor loadings, error variances, and correlations among latent variables. Model fit was evaluated using multiple fit indices, including Chi-square (χ^2), Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), and Tucker–Lewis Index (TLI). Indicators with standardized factor loadings below 0.50 were considered for revision or removal to improve the model fit. Modification indices were also reviewed to identify potential model improvements while ensuring theoretical justification for any adjustments.

Data Analysis

Quantitative data were analyzed using Pearson's correlation to assess the strength of relationships between variables. A t-test was applied to determine statistical significance. All statistical analyses were performed using SPSS version 26 and LISREL 8.8. In addition to the quantitative data, five open-ended questions were included to capture students' contextual understanding and personal reflections. The responses to these questions were analyzed using thematic analysis. Following Braun & Clarke, (2006) six-step approach, the process included data familiarization, initial coding, searching for themes, reviewing themes, defining and naming themes, and producing the report. Recurring themes such as traditional forest taboos, digital environmental campaigns, and campus sustainability practices were identified, and frequencies of theme occurrence were also recorded to highlight dominant patterns. This combination of qualitative coding and frequency counts was used to enrich interpretation and to triangulate the quantitative findings regarding the low awareness of local environmental values and the high exposure to digital environmental content

▪ RESULT AND DISSCUSSION

Descriptive Statistical Analysis

The Confirmatory Factor Analysis (CFA) results indicated that the three-factor model comprising Local Culture, Digital Media, and Environmentally Conscious Character, demonstrated a good overall fit to the data ($\chi^2/df = 1.85$, RMSEA = 0.057, CFI = 0.953, TLI = 0.941, SRMR = 0.043). All standardized factor loadings ranged from 0.66 to 0.81 and were statistically significant ($p < 0.001$), exceeding the commonly accepted threshold of 0.50 for convergent validity. These findings confirm that each construct was measured reliably and accurately by its respective indicators (Table 2).

Table 2. Confirmatory factor analysis (CFA) results

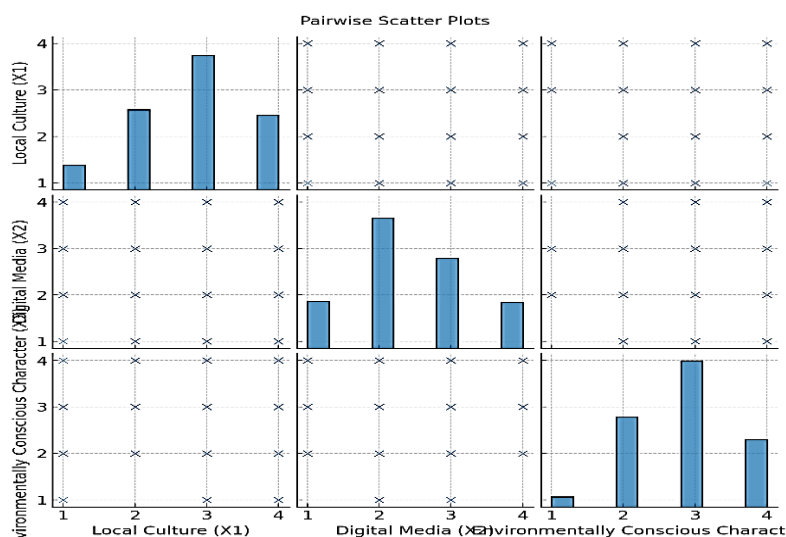
Variable	Number of Indicators	Factor loading range	Significance
Local Culture	5	0.66	$p < 0.001$
Digital Media	5	0.78	$p < 0.001$
Environmental Conscious Character	5	0.81	$p < 0.001$

To complement these measurement results, descriptive statistics of the main study variables were examined to provide an overview of students' responses before proceeding to further inferential analysis. The descriptive results are shown in Table 3.

Table 3. Descriptive statistic

Variable	N	Min	Max	Mean	SD
Local Culture	219	1	5	3.45	0.72
Digital Media	219	1	5	3.12	0.68
Environmental Conscious Character	219	1	5	3.58	0.74

Students reported a moderate score for Local Culture ($M = 3.45$, $SD = 0.72$), a slightly lower score for Digital Media ($M = 3.12$, $SD = 0.68$), and a relatively higher score for Environmentally Conscious Character ($M = 3.58$, $SD = 0.74$). These findings suggest that while students perceive some influence of local culture and digital media, their environmentally conscious character is relatively stronger. To provide a clearer understanding of these statistical findings, the relationship patterns among the main variables are further illustrated in Figure 1. The results indicate that local culture has the potential to support the development of an environmentally conscious character, although not very strongly. Education or activities based on local culture can be considered in shaping students' character. Digital media might influence character, but its impact is minimal in this data. This could be because the digital media used have not been focused on environmental values.

**Figure 1.** Graph of the relationship patterns between each pair of variables

Analysis of the Correlation Between Culture and Environmental Awareness

Pearson's correlation analysis revealed a weak positive correlation between cultural role ($r = .185$). With a coefficient of determination (R^2) of 0.034, culture explains only 3.4% of the variance in environmental concern. A significance test confirmed that this relationship was not significant ($p = 0.132$). These results suggest that culture is not a primary predictor of environmentally conscious character formation in this sample. The results of the two-tailed t-test also show that there is no significant relationship between cultural role and environmentally conscious character. Although the observed correlations were weak, it is important to note that the constructs were measured with good validity and reliability, as confirmed by the CFA results ($\chi^2/df = 1.85$, $RMSEA =$

0.057, CFI = 0.953, TLI = 0.941, SRMR = 0.043). This provides confidence that the weak effects reflect the actual patterns in the sample, rather than measurement limitations.

Table 4. Cultural T-test for environmental awareness

Variable	T-test	p-value	Significance ($\alpha=0.05$)
Culture	0.98	0.323	Not significance

The results of the open-ended questions showed that only 2% of students were aware of local cultural values. These include traditional ceremonies involving tree planting to ensure cool air, communal cleaning of the surrounding area, and protected or customary forests, which are rarely entered by humans, thereby ensuring their preservation. Other examples are the prohibition of logging in the customary forests of Sumba, the 'Huyula' culture from Gorontalo Province, Tri Hita Karana in Bali, and the traditional wisdom of the Dayak people, who preserve the forest as a 'shared home'.

This study explores how cultural factors contribute to the development of an environmentally conscious character — a critical issue for global sustainability efforts. Previous studies by Whitmarsh & O'Neill (2010) have identified culture as one of the potential determinants of pro-environmental behaviour. However, the complexity of its interaction with other influencing factors is often not fully understood. In this study, the findings indicate that cultural values do not significantly predict the development of environmentally conscious character among the respondents. The robustness of the measurement model through CFA supports the interpretation that the limited role of local culture and digital media is not due to flaws in the instrument. However, it reflects the complexity of factors influencing environmentally conscious character. This result aligns with those of more recent studies, such as Tamar et al. (2020), which suggest that cultural influences on behaviour are often limited or mediated by other dominant variables, especially in relation to actual environmental actions.

Only 2% of students are familiar with local environmental cultural values, such as the Sumba Forest Reserve and Bali's *Tri Hita Karana* philosophy. These results suggest that, although local culture is rich in conservation values, these are not reflected in environmental behaviour and are even unknown to the younger generation. This result highlights a critical cultural disconnection that warrants deeper reflection. Although Indonesia possesses rich ecological traditions, these values appear to be largely absent in the environmental consciousness of contemporary university students. Several factors may contribute to this gap.

First, a significant fragmentation in cultural transmission is evident. Local ecological wisdom, once passed down through oral traditions and lived experience, is being eroded by rapid social and technological change. Second, 73% of respondents in this study are from urban areas, which are typically detached from the agrarian or rural settings where many local environmental values were born and practiced. In urban contexts, students are often disconnected from nature, and traditional practices become abstract or obsolete. This is due to the fragmentation of local wisdom resulting from intergenerational cultural transmission failure, urbanization, modern education, and digital disruption. A study by Whyte (2013) found that traditional ecological knowledge declined by 72% over 10 years due to a loss of intergenerational interaction and cultural decontextualization in education, caused by educational institutions rarely integrating

local wisdom into formal curricula. Research by Alhinai (2025) that was conducted in 15 ASEAN universities reveals that 86% of environmental science curricula overlook local content, instead focusing on Western concepts. Furthermore, there is a cultural cognitive dissonance with modern realities, causing traditional values, such as viewing forests as shared homes, to be deemed irrelevant in the context of urban lifestyles and consumerism. Saari et al. (2021) identified a dissonance effect, whereby 92% of respondents supported conservation in principle, yet only 17% took action. This 2% discrepancy is indicative of a systemic failure in the transmission of knowledge, the dominance of Western epistemology in environmental discourse, and an absence of contextual educational innovation. Research by Nagy & Molnárné (2018) indicated that broader cultural dimensions, such as individualism and power distance, exert a modest negative influence on pro-environmental behaviour. This suggests that local culture may be insufficient to drive substantial change. Aura et al. (2023) argue that the disconnect between local cultural practices and dominant social values can undermine the effectiveness of local wisdom in promoting environmental management.

Regarding the frequency of digital media use, 65.2% of students reported spending 1–3 hours per day on digital platforms. However, this measure reflects general screen time rather than specific exposure to environmental content. As such, it serves as a crude proxy that may not accurately represent students’ actual engagement with pro-environmental messages online. It is important to note that the measurement of digital media usage in this study captures overall time spent on platforms like TikTok, Instagram, and YouTube, rather than direct engagement with environmental content. This is a significant limitation, as high usage does not necessarily equate to exposure to or interaction with ecological messages. Prior studies emphasize the importance of measuring content-specific engagement rather than general media exposure (Li & Noor, 2022; Liao, 2024). Therefore, the correlation observed between digital media usage and environmental character should be interpreted cautiously, as it is based on a coarse approximation of actual environmental exposure. Future studies should develop more refined instruments that assess both the type and frequency of environmental content consumed on digital platforms.

Correlation Analysis of Digital Media Featuring Environmentally Conscious Characters

Pearson’s correlation analysis revealed a very weak positive relationship between digital media usage and environmental awareness, with an r-value of 0.150 and a coefficient of determination (R^2) of 0.023. However, the t-test result ($t = 2.27$; $p = 0.024$) indicates that the observed relationship is statistically significant, suggesting that it is unlikely to have occurred by chance. Nevertheless, the Pearson correlation coefficient ($r = 0.150$) reflects a very weak positive relationship between digital media use and environmental character. This implies that while the association exists, the effect size is minimal, and other factors may have a stronger influence.

Table 5. T-test of the effect of digital media on environmental awareness

Variable	T-test	p-value	Significance ($\alpha=0.05$)
Digital Media	2.27	< 0.024	Significance

The results of the open-ended questions revealed that students watched content about planting trees, documentary videos about climate change and Plastic Island, videos discussing environmental issues, podcasts about the environment, and campaigns to raise awareness and promote environmentally friendly behaviour on the following digital media platforms: Instagram, TikTok, YouTube, and the Digital Experience Platform (DXP).

This suggests a statistically significant but practically negligible effect. Exposure to digital media is consistently associated with increased environmental concern, albeit only a small amount. The significant effect is likely due to massive exposure (97% of students use digital platforms), compared to the local culture. The mechanism by which digital media influences environmentally conscious individuals involves the creation of dramatic visual content that activates affective empathy through vicarious experiences, making viewers feel the environmental impact indirectly. It also involves emotional contagion, whereby negative emotions (such as sadness and anger) are transferred to the audience from the content (Martell & Rodewald, 2024) 2) Cognitive mechanisms that trigger behavioural change through behavioural modelling (Bandura's learning theory), providing examples of real actions and transforming abstract environmental concerns into practical steps to reduce ambiguity (Simanungkalit et al., 2021) 3) Social mechanisms utilise social engagement in the form of descriptive social norms by observing others participating. Gamification displays challenge features that provide psychological rewards (e.g., likes/sharing) as positive reinforcements (Liao, 2024).

While this study assessed the effects of local culture and digital media independently, it is important to consider how these forces may interact or fail to interact within the lived experiences of students. Our data suggest that increased digital media use does not co-occur with awareness of local ecological traditions, raising the possibility that high digital engagement may indirectly contribute to the erosion of traditional environmental values, particularly among urban youth. This aligns with findings by Villamil & King (2024), who argue that constant exposure to globalized digital narratives may displace locally grounded ecological worldviews, especially when traditional knowledge is not digitally mediated or preserved. On the other hand, it is also plausible that local culture and digital media operate in entirely separate epistemic domains, with little interaction. This is consistent with the idea of "cognitive compartmentalization", where individuals consume environmental content online without integrating it with inherited cultural practices (Hao et al., 2024). According to Rezaei et al. (2021), students who engage in hands-on environmental projects and campus sustainability programs show stronger environmental behaviors than those merely exposed to digital messages.

This finding can also be explained by the social cognitive theory approach (Bandura), in which individuals learn from their environment through observation. In this context, students observe pro-environmental behaviour in digital media and then either imitate or internalise it. Hao et al. (2024) support this by showing that exposure to environmental content in the media encourages environmentally friendly behavioural intentions. While digital media is often praised for its capacity to disseminate environmental information, build empathy, and support learning through social cognitive mechanisms, it is equally important to recognize its potentially detrimental effects on environmental character formation. First, digital platforms inherently foster a consumerist culture, which can undermine sustainability efforts. According to Billet et al. (2024),

social media algorithms prioritize engagement-driven content, often promotional or entertainment-based, over educational or challenging material. This tendency may dilute pro-environmental messaging and redirect users toward fast-paced, consumption-oriented content.

Second, the prevalence of slacktivism, performative online support such as liking or sharing environmental posts without deeper commitment, poses a major concern. Kristofferson et al. (2014) define slacktivism as a form of symbolic action that rarely translates into meaningful behavioral change. In this sense, digital media may give users the illusion of activism, while actual environmental engagement remains minimal. Third, the role of algorithmic filtering, commonly referred to as the "filter bubble," can restrict exposure to diverse or critical environmental content. Williams et al. (2015) found that personalized content curation can insulate users within ideological echo chambers, limiting opportunities for reflective learning and confrontation with unfamiliar ecological perspectives. These limitations suggest that while digital media can facilitate environmental awareness, its passive, consumer-driven, and filtered nature may reduce its effectiveness in cultivating action-oriented character. Thus, digital environmental education must go beyond information delivery and be intentionally designed to promote active participation, critical thinking, and reflective engagement.

The results of this study reveal that both local culture and digital media have only a very weak influence on students' environmentally conscious character, with correlation coefficients below 0.20. This challenges the initial assumption that these two factors play a dominant role in shaping environmental character. The appeal to local culture is often framed romantically as a moral and identity-based solution to ecological degradation. However, for today's youth many of whom are disconnected from agrarian or traditional community contexts such values may lack relevance if not reframed pedagogically. As Blatt (2013) emphasizes traditional cultural knowledge only becomes impactful when recontextualized within contemporary sociocultural realities. On the other hand, exposure to digital media also appears insufficient, especially when it involves passive consumption of content without critical engagement or reflection. (Tian & Liu, 2022) argue that meaningful behavioral change requires active involvement, not just information intake. Although digital media offers broad access to environmental content, its transformative impact on character is limited unless mediated through experiential or participatory learning.

These findings suggest that developing an environmentally conscious character requires more than exposure to traditional values or online information. It necessitates transformative pedagogies that incorporate direct experiences in nature, value-based reflection, action-oriented learning, and social support systems. In line with Wu et al. (2025), active engagement in environmental action and emotionally grounded learning experiences play a more crucial role in fostering deep ecological awareness. Thus, the minimal impact of the two hypothesized predictors should not be seen as a failure, but rather as an invitation to rethink the foundational strategies for environmental character education, shifting from symbolic exposure to immersive, contextually meaningful, and socially integrated approaches.

Therefore, fostering environmentally conscious character in the digital era requires more than simply integrating digital literacy and sustainability into the curriculum. We propose the following concrete and innovative approaches. Strategic

Partnerships with Environmental Influencers: Universities can collaborate with popular social media figures who promote sustainability to deliver messages in a language and tone that resonates with youth. This strategy leverages algorithmic visibility and helps extend the reach of environmental messages organically. Critical Digital Literacy Training: This goes beyond basic technology skills to include media narrative analysis, algorithmic bias awareness, and the ability to distinguish between informative content and superficial or manipulative environmental messaging. Implementing these strategies can help transform students from passive recipients of environmental content into active, critical, and culturally grounded agents of ecological change.

▪ CONCLUSION

This study concludes that local culture has a limited influence on students' environmental awareness, as indicated by a weak and statistically nonsignificant correlation. This is supported by the fact that only a small proportion of students demonstrated familiarity with local cultural values related to environmental conservation. In contrast, digital media use shows a statistically significant, though practically weak, relationship with environmental awareness. The Pearson correlation coefficient ($r = 0.150$) reflects a very weak positive relationship between digital media use and environmental character. This implies that while the association exists, the effect size is minimal, and other factors may have a more substantial influence. Thus, rather than being a powerful predictor, digital media can be considered a consistent and accessible avenue for raising awareness among students. Environmental content shared via platforms such as Instagram, TikTok, YouTube, and DXP serves as a complementary learning resource that may help visualize real-world issues and foster initial ecological concern. These findings suggest that character education programs should adopt a more integrative approach, combining formal instruction with meaningful digital engagement that appeals to students' emotional and moral sensibilities. Further research is needed to explore how factors such as social media algorithms, content quality, and digital literacy affect ecological character formation.

▪ REFERENCES

- Abdelazim, T., Alfraidi, Y., Tueaiman, A., Alhamli, F., Elhassan, A., & Nassr, A. (2025). Local people's participation in Jubbah Heritage Site conservation: Extending the motivation, opportunity, and ability (MOA) theory. *Npj Heritage Science*, 13(1), 7–18. <https://doi.org/10.1038/s40494-025-01554-9>
- Alhinai, M. (2025). Decolonizing environmental education: celebrating epistemological diversity through integrating traditional ecological knowledge and scientific knowledge in Oman. *Journal of Philosophy of Education*, 59(2), 234-252. <https://doi.org/10.1093/jopedu/qhaf004>
- Asrawijaya, E. (2024). Traditional ecological wisdom for the resilience of indigenous peoples in Indonesia. *Besari: Journal of Social and Cultural Studies*, 1(2), 87-100. <https://doi.org/10.71155/besari.v1i2.29>
- Aura, S., Supiandi, C., & Nugraha, D. (2023). The influence of character education based on local wisdom on students' social and environmental behavior. *Social Impact Journal*, 2(2), 102-114. <https://doi.org/10.61391/sij.v2i2.46>

- Berkes, F. (2018). *Sacred Ecology* (4th ed.). Routledge taylor and francis group. <https://www.routledge.com/Sacred-Ecology/Berkes/p/book/9781138071490>
- Billet, M. I., Baimel, A., Milfont, T. L., & Norenzayan, A. (2024). Political common ground on preserving nature: environmental motives across the political spectrum. *Environment and Behavior*, 56(7–8), 542–576. <https://doi.org/10.1177/00139165241303315>
- Blatt, E. (2013). Exploring environmental identity and behavioral change in an Environmental Science course. *Cultural Studies of Science Education*, 8(2), 134–146. <https://doi.org/10.1007/s11422-012-9459-2>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp0630a>
- Corrias, L. D. A. (2023). Environmental law and youth protests: future generations between speech acts and political representation. *International Journal for the Semiotics of Law - Revue Internationale de Sémiotique Juridique*, 36(2), 893–906. <https://doi.org/10.1007/s11196-022-09907-4>
- Dwivedi, Y. K., Ismagilova, E., Hughes, D. L., Carlson, J., Filieri, R., Jacobson, J., Jain, V., Karjaluoto, H., Kefi, H., Krishen, A. S., Kumar, V., Rahman, M. M., Raman, R., Rauschnabel, P. A., Rowley, J., Salo, J., Tran, G. A., & Wang, Y. (2021). Setting the future of digital and social media marketing research: Perspectives and research propositions. *International Journal of Information Management*, 59 (1), 78–92. <https://doi.org/10.1016/j.ijinfomgt.2020.102168>
- Ens, E. J., Pert, P., & Clarke, P. A. (2015). Indigenous biocultural knowledge in ecosystem science and management: Review and insight from Australia. *Biological Conservation*, 181(2), 133–149. <https://doi.org/10.1016/j.biocon.2014.11.008>
- Gallego-Álvarez, I., & Rodríguez-Domínguez, L. (2025). Board of directors and environmental practices: The effect of board experience, culture, and tenure. *Environment, Development and Sustainability*, 27(1), 1643–1668. <https://doi.org/10.1007/s10668-023-03937-z>
- Hao, Y., Yasin, M. A. I., & Sim, N. B. (2024). A study on the influence of media use on college students' environmental protection behaviors. *Management of Environmental Quality An International Journal*, 34(1), 154. <https://doi.org/10.1108/MEQ-05-2022-0149>
- Huy, P. Q., & Phuc, V. K. (2025). Insight into how social media platforms in building relational social commerce capability for green entrepreneurial innovation. *Future Business Journal*, 11(1), 58–69. <https://doi.org/10.1186/s43093-025-00471-4>
- IPCC. (2023). *Climate Change 2022 – Impacts, adaptation and vulnerability: working group ii contribution to the sixth assessment report of the intergovernmental panel on climate change*. Cambridge University Press. <https://doi.org/10.1017/9781009325844>
- Junia, I. L. R. (2023). Mengenal hukum adat awig-awig di dalam desa adat bali. *Jurnal Hukum dan HAM Wara Sains*, 2(9), 213–225. <https://doi.org/10.58812/jhhws.v2i09.636>
- Karantalís, N., & Koukopoulos, D. (2024). The role of cultural heritage and digital media in the inclusive education of refugee students. *SN Social Sciences*, 4(11), 214–227. <https://doi.org/10.1007/s43545-024-01012-6>

- Khan, O., Varaksina, N., & Hinterhuber, A. (2024). The influence of cultural differences on consumers' willingness to pay more for sustainable fashion. *Journal of Cleaner Production*, 442, 141-160. <https://doi.org/10.1016/j.jclepro.2024.141024>
- Kollmuss, A., & Agyeman, J. (2020). Mind the Gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, 8(3), 239–260. <https://doi.org/10.1080/13504620220145401>
- Kristofferson, K., White, K., & Peloza, J. (2014). The nature of slacktivism: how the social observability of an initial act of token support affects subsequent prosocial action. *Journal of Consumer Research*, 40(6), 1149–1166. <https://doi.org/10.1086/674137>
- Li, K. (2023). Role of digital economic development in environmental transition of renewable energy sector of China. *Environmental Science and Pollution Research*, 30(57), 119825–119837. <https://doi.org/10.1007/s11356-023-30582-w>
- Li, P., & Noor, S. M. (2022). A study on the influence of social media on college students' pro-environmental behavior. *Eurasian Journal of Educational Research*, 102(1), 102-118. <https://doi.org/10.14689/ejer.2022.99.5>
- Liao, C.H. (2024). Exploring social media determinants in fostering pro-environmental behavior: Insights from social impact theory and the theory of planned behavior. *Frontiers in Psychology*, 15, 123–135. <https://doi.org/10.3389/fpsyg.2024.1445549>
- Listiani, W., Ahimsa-Putra, H. S., LonoLastoroSimatupang, G. R., & Piliang, Y. A. P. A. (2013). Regenerative-Relational tritangtu: Sundanese triadic transformation model. *Panggung*, 23(2), 93-111. <https://doi.org/10.26742/panggung.v23i2.91>
- Loretan, K. (2023). The changing world of digital in 2023. *We Are Social Indonesia*. <https://wearesocial.com/id/blog/2023/01/the-changing-world-of-digital-in-2023-2/>
- Luque-Alcaraz, O. M., Aparicio-Martínez, P., Gomera, A., & Vaquero-Abellán, M. (2024). The environmental awareness of nurses as environmentally sustainable health care leaders: A mixed-method analysis. *BMC Nursing*, 23(1), 229–245. <https://doi.org/10.1186/s12912-024-01895-z>
- Martell, J. E. M., & Rodewald, A. D. (2024). Promoting conservation behaviors by leveraging optimistic and pessimistic messages and emotions. *Society & Natural Resources*, 37(4), 564–585. <https://doi.org/10.1080/08941920.2023.2294847>
- Nagy, S., & Molnár, C. K. (2018). The effects of hofstede's cultural dimensions on pro-environmental behaviour: how culture influences environmentally conscious behaviour. *Theory, Methodology, Practice – Review of Business and Management*, 14(01), 1-13. <https://doi.org/10.18096/TMP.2018.01.03>
- Priyanka, R., Ravindran, K., Sankaranarayanan, B., Karuppiah, K., & Jaganathan, P. (2025). A TISM decision modeling framework for identifying key elements of organizational culture in start-up companies: implications for sustainable development. *Journal of the Knowledge Economy*, 16(1), 556–580. <https://doi.org/10.1007/s13132-025-02729-2>
- Rakuasa, H. (2022). Mapping the local wisdom of sasi laut culture in nuwewang village, maluku province. *Geographica: Science and Education Journal*, 4(2), 76-90. <https://doi.org/10.31327/gsej.v4i2.1850>
- Reimer, T. (2023). Environmental factors to maximize social media engagement: A comprehensive framework. *Journal of Retailing and Consumer Services*, 75, 103–118. <https://doi.org/10.1016/j.jretconser.2023.103458>

- Rezaei, A., Ahmadi, S., & Karimi, H. (2021). The role of online social networks in university students' environmentally responsible behavior. *Journal of Sustainability in Higher Education*, 43(2), 312–325. <https://doi.org/10.1108/IJSHE-05-2020-0168>
- Saari, U. A., Damberg, S., Frömling, L., & Ringle, C. M. (2021). Sustainable consumption behavior of Europeans: The influence of environmental knowledge and risk perception on environmental concern and behavioral intention. *Ecological Economics*, 189, 107–115. <https://doi.org/10.1016/j.ecolecon.2021.107155>
- Simanungkalit, I. P., Hadining, A. F., & Kusnadi, K. (2021). *Faktor yang memengaruhi perilaku peduli lingkungan: pengembangan model menggunakan theory of planned behavior dan norm activation model*. *IJEEM - Indonesian Journal of Environmental Education and Management*, 6(2), 96–116. <https://doi.org/10.21009/IJEEM.062.06>
- Stern, P. C., Wolske, K. S., & Dietz, T. (2021). Design principles for climate change decisions. *Current Opinion in Environmental Sustainability*, 52, 9–18. <https://doi.org/10.1016/j.cosust.2021.05.002>
- Tamar, M., Wirawan, H., Arfah, T., & Pratiwi Sutopo Putri, R. (2020). Predicting pro-environmental behaviours: The role of environmental values, attitudes and knowledge. <https://www.emerald.com/insight/publication/issn/1477-7835>. <https://repository.unhas.ac.id/id/eprint/4757/>
- Tian, H., & Liu, X. (2022). Pro-Environmental behavior research: theoretical progress and future directions. *International Journal of Environmental Research and Public Health*, 19(11), 345–458. <https://doi.org/10.3390/ijerph19116721>
- Truc, L. T. (2024). Greening the future: How social networks and media shapes youth's eco-friendly purchases. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(4), 114–124. <https://doi.org/10.1016/j.joitmc.2024.100410>
- Villamil, A., & King, S. (2024). A humane social learning-informed metaverse: cultivating positive technology experiences in digital learning environments. *Cyberpsychology, Behavior and Social Networking*, 27(1), 47–56. <https://doi.org/10.1089/cyber.2023.0001>
- Whitmarsh, L., & O'Neill, S. (2010). Green identity, green living? The role of pro-environmental self-identity in determining consistency across diverse pro-environmental behaviours. *Journal of Environmental Psychology*, 30(3), 305–314. <https://doi.org/10.1016/j.jenvp.2010.01.003>
- Whyte, K. P. (2013). On the role of traditional ecological knowledge as a collaborative concept: A philosophical study. *Ecological Processes*, 2(1), 17–28. <https://doi.org/10.1186/2192-1709-2-7>
- Williams, H. T. P., McMurray, J. R., Kurz, T., & Hugo Lambert, F. (2015). Network analysis reveals open forums and echo chambers in social media discussions of climate change. *Global Environmental Change*, 32, 126–138. <https://doi.org/10.1016/j.gloenvcha.2015.03.006>
- WMO, W. M. (2024). *State of the global climate 2023*. <https://library.wmo.int/records/item/68835-state-of-the-global-climate-2023>
- Wu, X., Jia, W., & Wu, T. (2025). Mechanism by which environmental education influences pro-environmental behavior in Wuyishan National Park, China. *Sustainability*, 17(1), 18–35. <https://doi.org/10.3390/su17010043>

- Xiao, F., Xu, M., Wu, J., Meng, C., & Hong, Y. (2023). Impact of online live broadcasts on environmental destructive behavioral intention. *PLOS ONE*, 18(6), 301-316. <https://doi.org/10.1371/journal.pone.0286967>
- You, C. (2024). Who speaks for nature? genre, gender, and the eco-translation of chinese wild animals. *Children's Literature in Education*, 55(2), 179–197. <https://doi.org/10.1007/s10583-022-09484-x>
- Zhang, W., Zhang, F., & Cheng, Z. (2025). Green entrepreneurial orientation and green human capital: Unlocking the potential of green supply chain integration through corporate environmental strategy. *Humanities and Social Sciences Communications*, 12(1), 655–669. <https://doi.org/10.1057/s41599-025-04980-z>