

Improving the Green Behavior of Millennials at HEIs: Green Transformational Leadership and Digital Green Campaign on Green Thinking in Indonesia

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Abstract

This study explores the role of green transformational leadership (GTL) and digital green campaign (DGC) in promoting green thinking (GT) and green behavior (GB) among millennials in Higher Education Institutes (HEIs) in Indonesia. Data was collected using questionnaires from students of various semesters, levels, and study programs. The data was analyzed using statistical software and thematic analysis. Findings. The study reveals that green transformational leadership has a positive influence on green thinking that affects green behavior; correspondingly, digital green campaigns have a positive influence on green thinking and green behavior. Furthermore, the study also discovered that green thinking acts as a mediator in the relationship between green transformational leadership and green digital campaigns with green behavior. Thus, students should be strongly encouraged to embrace a 'think green' mindset through transformative leadership and engaging digital crusades, fostering an increase in their environmentally friendly behaviors. Uniqueness. This study has made significant contributions to both theoretical and practical implications useful in inspiring millennial students to act toward environmental conservation and promoting a shared vision of a sustainable future.

Keywords: *Green Transformational Leadership, Digital Green Campaign, Green Thinking, Green Behavior.*

1. Introduction

Green transformational leadership (GTL) and digital green campaigns (DGC) have received a lot of attention in recent years. Notably, in Indonesia's higher education institutes (HEIs), where millennials are being groomed as future leaders for their respective nations, these two concepts hold immense significance. Laurie et al. (2016) highlight that the attainment of environmentally sustainable development via education relies significantly on educators and students. As key change agents, they play a pivotal role in initiating green management practices right from the outset of the educational journey, fostering the promotion of sustainable development. All students of all ages are prepared from an early age to be able to solve problems present and future (UNESCO, 2018, 2021). Leadership support from stakeholders is needed so that the principles of sustainability can be applied in schools (Shulla et al., 2020).

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The United Nations Educational, Scientific, and Cultural Organization (UNESCO) is an agency under the United Nations that promotes world peace and security through international collaboration in science, art, culture, and education. It adopts Sustainable Development Goals (SDGs) where one of the key objectives among the 17 SDGs is to achieve quality education by the year 2030. An essential element in ensuring quality education is Education for Sustainable Development (ESD) which emphasizes an educational approach that fosters changes in knowledge, skills, values, and attitudes to enable the establishment of a more sustainable and equitable society for all. (Aboramadan, 2022; Al-Zawahreh et al., 2019; Fischer et al., 2022; Heleta & Bagus, 2021; Laurie et al., 2016; Ma et al., 2023; Parker & Prabawa-Sear, 2020; Prieto-Jiménez et al., 2021; Rosi & Obrecht, 2023; Shulla et al., 2020; UNESCO, 2018, 2021).

The urgency for ESD arises due to the depletion of natural resources, necessitating the exploration of alternative resources in handling the escalating challenges stemming from the surge of the world's population. Forecasts indicate that by 2050, the earth will be influenced by factors such as natural resources, demographics, climate, and globalization (Ahmad & Nordin, 2014; Badariah et al., 2013; Mustapha, 2019; Shulla et al., 2020). The rapid industry revolution over the past few decades has led to adverse impacts on the environment, including rising sea levels, heatwaves, floods, and droughts. To preserve environmental quality and overall health, encompassing clean air, healthy water, a stable climate, and the adoption of renewable energy sources, humans must transform their way of life (WWF, 2016).

Parker & Prabawa-Sear (2020) suggest that the youth in Indonesia lack sufficient exposure to impactful environmental education and they advise the best and most culturally suitable course of action for Indonesia is to redefine citizenship in terms of pro-environmental behavior and responsibilities. They also recommend the inclusion of dedicated environmental education as a distinct subject. Considering this gap and addressing the challenge of framing and advocating green behavior among the youth, this study examines the impact of GTL and DGC on shaping green thinking (GT) and consequently green behavior (GB) of students within Indonesian HEIs. Furthermore, it aims to provide empirical evidence supporting a proposed framework model that elucidates the interactive role in the relationship between green stimulants, and organismic and response variables. The significance of the study would be its contribution to providing a deeper understanding of the factors influencing environmentally conscious responses among students benefitting the policymakers to be more fluent in shaping the development of environmental and green education.

The importance of the problem illustrates that in an effort to develop GB in millennials, it is necessary to strengthen certain aspects. Most importantly it takes transformational leaders with green insight, and digital green campaigns to drive high GT to grow and create GB. Furthermore, this study aims to examine the effect of GTL, DGC, and GT on GB. In addition, GT was tested for its significance as a mediator of GTL, and DGC in influencing GB, with the main consideration that GT is the main determinant of the true of GB in millennials. Thus, the study problem and research objectives answer the following questions:

1. Does GTL, DGC, and GT directly affect GB?
2. Can GT operate as a substantial mediator of GTL and DGC's indirect influence on GB?

2. Literature Review

This review focuses on comprehending the Stimulus-Organism- Response (SOR) Theory and pivotal variables of the research namely GTL and DGC in their role of fostering green thinking and behavior. Additionally, it encompasses the proposed research

framework, explaining the interrelationships between these variables.

2.1 Stimulus-Organism-Response (SOR) Theory

The Stimulus-Organism-Response (SOR) theory, sometimes known as the Stimulus-Organism-Response hypothesis, is a psychological paradigm that describes how humans respond to stimuli in their environment. It implies that external stimuli induce interior psychological and physiological responses, which then result in behavioral responses (Y. Chen et al., 2014; F. Wang & Wang, 2023; X. Wang et al., 2018; Yu et al., 2022). Thus, the SOR theory has been applied in various research studies to understand human behavior and intentions. For instance, Yu et al. (2022) applied the SOR theory to investigate how e-commerce live streaming influences consumers' purchase intention by examining anchor characteristics, product promotion, and external situational factors. Meanwhile, research (Al-Sulaiti, 2022) focused on how shopping malls' attributes influenced tourists' behavioral intentions in mega shopping malls. These studies demonstrate the application of the SOR theory in understanding human behavior and intention in different contexts. As such, it can be applied to understand how employees respond to different stimuli in the workplace (Aguinis et al., 2022). Furthermore, Awan et al. (2023) investigated the incorporation of environmental issues into an organization's human resource policies and practices through SOR. According to their findings, green human resource management, green transformational leadership, and green innovation can boost environmental performance in small and medium-sized businesses.

2.2 Green Transformational Leadership (GTL)

The transformational leadership style normally focuses on increasing and motivating followers to do something better than their expectations with indicators of trust, admiration, loyalty, and respect for the leader (Awan et al., 2023; T. Chen & Wu, 2022; Jiang et al., 2017; Nurjanah et al., 2020; Santoso et al., 2019; Steinmann et al., 2018; X. Wang et al., 2018; Widisatria & Nawangsari, 2021), and is a proactive behavior in increasing awareness of common interests to achieve goals at the highest or extra level (Steinmann et al., 2018). The role of transformational leadership in influencing creative thinking is evidenced by earlier research including a study focusing on improving environmental performance with transformational leadership dimensions including inspirational motivation, charisma, individual consideration, and intellectual stimulation (Mittal & Dhar, 2016). Improved thinking and cognitive abilities can be enhanced using the intellectual stimulation of charismatic leadership. As a result, transformational leaders can inspire followers to handle personal interests, be critical, set high-performance criteria, assist followers in becoming more creative and innovative, and pay attention to followers' needs. Transformational leadership dimensions include the ideal influence a leader engages in promoting followers to earn trust and follow the leader, inspiring, motivating, and encouraging followers to innovate and challenge themselves, and the individual consideration of the leader caring about the individual needs of followers (Jiang et al., 2017).

The leader's contribution when leading by example can empower educators to follow the leader's model (Nusraningrum, 2018) so that leaders can be role models in all aspects (Stamatis & Chatzinikolaou, 2020). The results of the study show that there is a positive relationship between leadership and performance (Nygaard, 2017) because leader behavior is contagious and spreads and affects the performance of followers (Owens & Hekman, 2016). Transformational leadership is used to maintain employee productivity and business continuity, while green transformational leadership is important to increase green effectiveness (Fukey & Issac, 2014). The application of GTL will affect the actions and performance of employees to be environmentally friendly (X. Wang et al., 2018). Therefore, GTL is needed to create employees with green behavior (Salama, 2021; Titisari Dewi Adriana et al., n.d.; Widisatria & Nawangsari, 2021). Transformative leaders can motivate, influence, and engage green-behaved employees (T. Chen & Wu, 2022; Jiang et al., 2017; X. Wang et al., 2018).

2.3 Digital Green Campaign (DGC)

Digital media using social networks is very popular and versatile allowing organizations to reach selected target audiences using the right communication tools to convey information to establish relationships and communicate with customers (Eka Putra et al., 2022; Raudeliuniene et al., 2018). Based on Liu et al. (2016), social media provides a convenient platform for swift information dissemination, enhanced interaction, audience identification, improved visibility, and relationship building. Additionally, it offers opportunities to enhance one's image and reputation. Environmental policies or green management are needed so that the balance between humans and natural capital is maintained, and the economic rate remains productive (Mueller, 2017; Shulla et al., 2020). Green technology innovations have positive impacts and benefits for life and business continuity so that the earth stays healthy, bills are reduced and are more economical. The utilization of contemporary technology and equipment can boost students' interactive learning, assist them in more successfully transferring knowledge, and is simple, pleasant, and quick (Nusraningrum et al., 2019; Raja & Nagasubramani, 2018). Education-related technology enabled lecturers and students to become computer literate and to adopt a positive attitude, both of which are key variables in behavior modification (Adeel et al., 2023; Bennett et al., 2002; Butler & Sellbom, 2002; Mueller, 2017; Mustapha, 2019; Putri et al., 2020; Zhang et al., 2019). Therefore, it is necessary to use technology skills, and access to technological resources, including the availability of compatible hardware and software on campus (Adeel et al., 2023; Bennett et al., 2002; Butler & Sellbom, 2002; Liu et al., 2016), so that digital green campaigns can be delivered well to millennials.

2.4 Green Thinking (GT)

Education fosters vision and drive to act in accordance with goals (Adeel et al., 2023; Ginaib Fitriwati, 2018; Nusraningrum, 2018). The Learning outcomes are quantifiable successes based on students' comprehension of learning inputs and demonstration of green knowledge, skills, and abilities. During the learning and interaction process, internal conditions interact with surface conditions, resulting in learning attainment (Adeel et al., 2023; Ginaib Fitriwati, 2018). There is a relevant and significant, both direct and indirect, association between learning creativity, the use of instructional media, and learning achievement as they relate to green thinking.

Green education management practices are driven by green thinking using environmentally friendly raw materials to improve pro-environmental behavior (Caldera et al., 2019). Green millennials will be environmentally conscious by caring for the environment by cultivating, producing, and purchasing environmentally friendly goods (Ali et al., 2020). Millennials can feel and think about being environmentally friendly when motivated by the concept of being environmentally friendly continuously. When millennials are motivated, they design green behavior and do the process to protect the environment (Rademaker & Royne, 2018). Millennials will consciously protect their communities by solving environmental problems, and complying with policies related to the environment. Values that can foster green thinking will be internalized into him by means of decision-making that are aligned with environmental friendliness (Caldera et al., 2019). green thinking by carrying out practices to maintain the environment, make environmentally friendly designs, and produce environmentally friendly goods and services (Xie et al., 2019). HEIs should expand and diversify their technological capabilities, enabling students to move forward by developing green processes and green thinking (Al-Ghazali et al., 2022; Begum et al., 2022; Cristina De Stefano et al., 2016).

2.5 Green Behavior (GB)

The green concept is a human resource management need and has been integrated into green human resource management (Mishra, 2017). This practice is designed to support environmental goals by promoting changes in attitudes and behaviors to green or environmentally friendly behavior (Aboramadan, 2022; Adriana et al., 2020; Ahmad & Nordin, 2014; Chaudhary, 2020; T. Chen & Wu, 2022; X. Wang et al., 2018; Yu et al.,

2022; Zhang et al., 2019; Zhu et al., 2021). The green operations management function of an organization aims to produce products and services, that are offered to individual consumers as well as businesses by providing added value in meeting customer needs and making customers satisfied (Nusraningrum et al., 2021). Integrating environmental perspectives into supply chain management ranging from product design to final product delivery to consumers and product management after expiration is called green supply chain management (Rohdayatin et al., 2018). Green behavior favors environmental concerns with the aim of reducing waste and environmental impacts caused by industrial or supply chain operations. Environmental concerns from long-term non-financial aspects are important related to the environment that must be considered by the HEIs in maintaining good relations for the sustainability of its supply chain activities in the future. Green behavior indicators are; always turning off lights when leaving the room, always using conference facilities instead of traveling to meetings, editing documents electronically instead of printing them, printing two sides instead of one side, reporting leaks in the bathroom to save water, recycling materials (plastic, paper and others) whenever possible (Aboramadan, 2022; Adriana et al., 2020; Chaudhary, 2020; T. Chen & Wu, 2022; Yu et al., 2022; Zhu et al., 2021).

Based on the review literature on the relationship between green transformational leadership, digital green campaigns, green thinking, and green behavior, we seek to highlight directly the impact of GTL and DGC on green thinking and green behavior for millennials in higher education. But we also examined the indirect impact of GTL and DGC through the mediating role of green thinking. Further study is needed to understand this relationship in the context of collegiate institutions. One that is expected to affect this relationship is green thinking. Figure 1 presents the theoretical framework of the study.

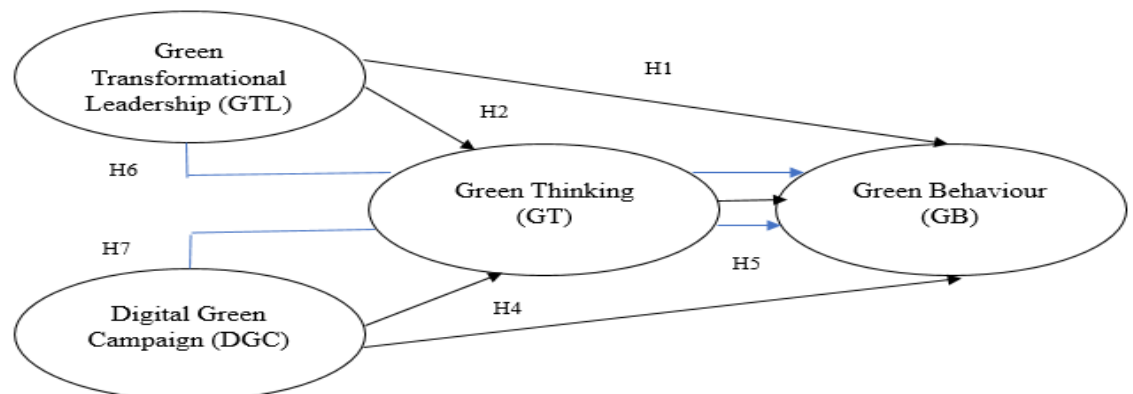


Figure 1: Research Framework

Based on the given framework, there are several hypotheses to be considered and analyzed:

H1: GTL affects positive and significant GB

H2: GTL affect positive and significant toward GT

H3: DGC affects positive and significant GB

H4: DGC affects positive and significant GT

H5: GT affects positive and significant GB

H6: GT can mediate GTL can GB

H7: GT can mediate DGC and GB

3. Materials and Methods

This research employs a causal quantitative approach, utilizing data collected from the field to investigate the causal relationship between variables. Data are collected from conditions or events that have occurred, by applying Stimulus-Organismic-Response (SOR) theory as a basis for the research model, the study follows a cross-sectional design, gathering data from a representative sample of higher education students in Indonesia over a period of weeks. The sample size is determined using the Hair et al. technique (Hair et al., 2021), multiplying the number of indicators by 10, resulting in 268 completed online questionnaires. To analyze the data, the research employs path analysis through Structural Equation Modelling-Partial Least Squares (SEM-PLS) methodology. This rigorous approach allows for a comprehensive investigation into Green Transformational Leadership and Digital Green Campaigns' impact on Green Thinking and Behavior among the targeted respondents. This is a cross-sectional study where data obtained through questionnaires are developed from variable indicators in accordance with the conceptual framework of theoretical studies in accordance with actual data, and the direction of research is in line with green campus development policies in Indonesia in line with SDGs.

3.1 Research Participants

Participants in this study were selected based on the criteria of having college experience ranging from semester one, women and men, from a wide variety of study programs and universities. Participants have experience and involvement in green behavior on their campus. Simple random sampling results based on probabilistic calculations were used to obtain the number of participants (N = 268 people) representing 15 universities in Indonesia. The 15 universities were determined by considering their achievements in building a sustainable green Campus which was realized through the awards they received. Of the participants, sixty-six-point 4 percent (178 people) were women, and thirty-three-point six percent (90 people) the rest were men. 60.8 percent of the students involved are students from the management study program and the rest are from other study programs. The length of college varies from less than one year for 71 people, one year for 75 people, two years for 29 people, three years for 42 people, four years for 44 people, and more than four years for 7 people.

3.2. Measures

3.2.1. Green Transformational Leadership (GTL) Scale

The GTL scale was adopted by Mittal & Dhar (2016) for the purpose of formulation and development of this research instrument. The scale was adopted taking into account the high level of reliability and validity required to measure the quality and achievement of GTL in the millennials studied. This scale consists of six indicators that are used to analyze and evaluate the level of GTL in universities. We reassessed the level of validity and reliability through retesting with confirmatory factor analysis (CFA), obtaining the following items: the leader inspires the institutional members with the environmental plans (LF = 0,821); the leader provides a clear environmental vision for the members to follow (LF = 0,824); The leader gets the institutional members to work together for the same environmental goals (LF = 0,776); The leader encourages the institutional members to achieve the environmental goals (LF = 0,765); The leader acts with considering environmental beliefs of the institutional members (LF = 0,789); and the leader stimulates the institutional members to think about green ideas (LF = 0,784). The instrument adopts a 5-point Likert Scale type ranging from a score of 1 (strongly disagree) to 5 (strongly agree).

3.2.2. Digital Green Campaign (DGC) Scale

DGC measurement is carried out by referring to the strength of the indicator as a parameter used by Eka Putra et al. (2022) which is then retested to ensure the appropriate

level of validity and reliability. All DGC indicators receive a high degree of confirmation of validity and reliability and they are used for measurement; Courtesy- my institution is courteous in its green campaigns (LF = 0,783); Concreteness-my institution delivers the clear concept of the green campaign (LF = 0,851); Completeness-the green campaign provides relevant green information (LF = 0,844); Correctness-an accurate information presented in the green campaign (LF = 8,24); Conciseness-I understand the green campaign as it was simple and concise (LF = 0,816); Clarity-the green campaign provides clear details for people to understand easily (LF = 0,863); Consideration-my institution careful weighing of considerations concerning green environment (LF = 0,849). As before, for these measures, we adopt a 5-point Likert Scale with the same measurements.

3.2.3. Green Thinking (GT) Scale

GT measurement is carried out by referring to the strength of indicators as parameters owned by the community regarding green thinking. In measuring GT, we follow previous parameters from Ali et al. (2020), which are then retested to ensure appropriate levels of validity and reliability. There are three accepted indicators confirming their high level of validity and reliability, namely; I am thoughtful about the environment (LF = 0,818); the condition of the environment makes me think about the quality of my life (LF = 0,811); I am willing to find ways to protect the environment (LF = 0,846). As before, we adopted the 5-point Likert Scale with the same conditions.

3.2.4. Green Behavior (GB) Scale

GB was measured using a parameter strength scale adopted from Adriana et al. (2020) for the purposes of formulating and developing this research instrument. The scale was adopted in consideration of a high degree of reliability and validity to measure GB profiles in various characteristics of participants. This scale consists of six items used to measure DC in society, where GB 1, 2, and 3 are unreliable and invalid so it is omitted from the model. We obtain certainty about the level of validity and reliability, namely; I edit documents electronically rather than printing them (LF = 0,688); I print double side instead of single side most of the time (LF = 0,816); I report leaks in the washroom to save water (LF = 0.752). The instrument adopts the 5-point Likert Scale using scores from 1 (strongly disagree) to 5 (strongly agree).

Table 1. Measurement Model Evaluation

Constructs	Items	Loadings	Cronbach's Alpha	Composite Reliability	AVE
GTL	GTL1	0.821	0.882	0.911	0.629
	GTL2	0.824			
	GTL3	0.776			
	GTL4	0.765			
	GTL5	0.789			
	GTL6	0.784			
DGC	GC1	0.783	0.927	0.941	0.694
	GC2	0.851			
	GC3	0.844			
	GC4	0.824			
	GC5	0.816			
	GC6	0.863			
	GC7	0.849			

GT	GT1	0.818	0.766	0.865	0.681
	GT2	0.811			
	GT3	0.846			
GB	GB4	0.688	0.622	0.797	0.568
	GB5	0.816			
	GB6	0.752			

From Table 2, it can be seen that the indicators GB1, GB2, and GB3 were deleted due to a low loading factor.

3.3. Statistical Analysis

Through route analysis and bootstrapping approaches, structural equation modeling (SEM) analysis is used to directly examine hypotheses of effect between variables as well as indirect influences (mediation roles). The direct influence of GTL, DGC, and GT on GB is measured via path analysis. Simultaneously, bootstrapping approaches are employed to assess the role of GT in mediating the influence of GTL and DGC on GB. Bootstrap was chosen because it is the most plausible method for determining confidence limits for specific indirect effects in most scenarios (Hair et al., 2017). We use SmartPLS 3.0 software for data analysis. The research hypothesis is founded on theoretical support on the line of the effect of exogenous variables on endogenous variables either directly or by using the mediator variable.

4. Result and Discussion

4.1. Model Fit Evaluation

The fit model was tested four times until finally determining the appropriate model until presentation in Figure 1. This model testing provides a standard structural model-level conformity evaluation that is able to explain the coefficients of relationships between variables and mediation roles. Table 1 shows the evaluation of the match index in the last test (as a basic model). After the analysis, all fit indices across the base model have been well evaluated using the cut-off criteria. The predicted small chi-square value is confirmed. The high probability value ($p\text{-value} \geq 0.50$) clarifies the fit between the model being tested and the data, indicating that the tested model's predictive performance at the observation value is great. GTL, DGC, GT, and GB are all realized according to the above threshold value (≥ 0.90). SRMR values < 0.05 and RMSEA < 0.08 indicate high suitability for structural model analysis (Westland, 2019).

Table 2. Heterotrait-Monotrait (HTMT) Ratio

	GB	GC	GT	GTL
GB				
DGC	0.689			
GT	0.764	0.609		
GTL	0.639	0.751	0.685	

Table 2 shows that all values within the HTMT Matrix are below 0.85, indicating the satisfactory level of discriminant validity assessment of all constructs.

Table 3. Fornell-Larcker Criterion

	GB	GC	GT	GTL
GB	0.754			
DGC	0.525	0.833		
GT	0.543	0.521	0.825	
GTL	0.482	0.685	0.566	0.793

Table 3 indicates that the root square of AVE for all constructs are greater to its adjacent values (highlighted in bold), indicating that all constructs have the satisfactory level of discriminant validity.

Table 4. Collinearity Assessment

Relationships	VIF
GTL->GB	2.125
GTL->GT	1.885
DGC->GB	1.982
DGC->GT	1.885
GT->GB	1.549

From table 4, all observed relationships have the variance inflated factor (VIF) of lower than 3, indicating that there is no issue of collinearity in the model.

Table 5. Fit Model

Fit Indices	Estimated Model
SRMR	0.062
Chi-Square	423.261
NFI	0.856
rms Theta	0.145

From the calculation of the fit model as seen in table 5, the values of the fit indices show that the model has a good fit, particularly since the value of SRMR is lower than 0.008.

Table 6. Predictive Model Assessment

Relationships	R Square	Q Square	f square	effect size
GTL->GB			0.007	small
GTL->GT			0.128	small-medium
GC->GB	0.379	0.204	0.064	small
GC->GT			0.052	small
GT->GB			0.122	small-medium

Table 6 provides an overview of the magnitude of the relationship between the variables studied, where green transformational leadership has a higher value than others.

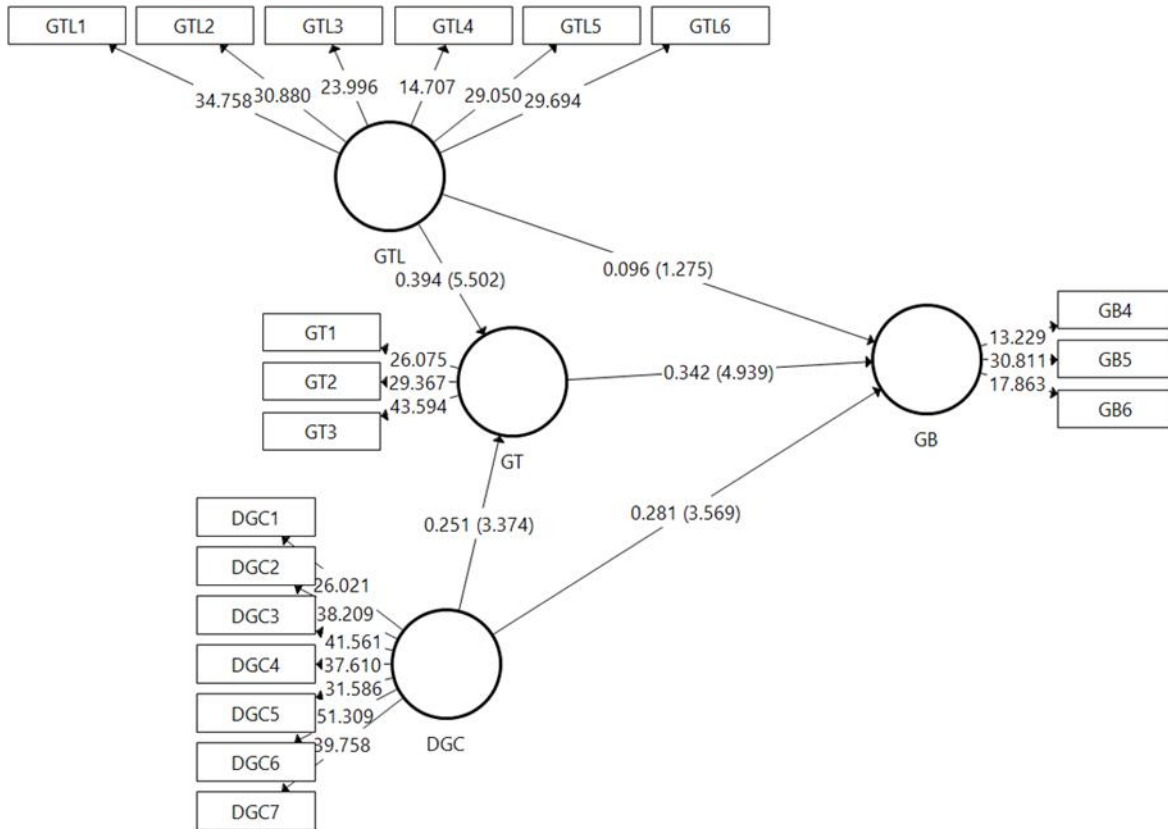


Figure 2. PLS Bootstrapping Output: path coefficient (T-values)

Table 7. Hypotheses Testing (Direct Relationships)

Relationships	Path Coefficient	T Statistics	P Values	Decision
GTL -> GB	0.096	1.307	0.191	Rejected
GTL -> GT	0.394	5.421	0.000	Accepted
DGC -> GB	0.281	3.692	0.000	Accepted
DGC -> GT	0.251	3.289	0.001	Accepted
GT -> GB	0.342	5.081	0.000	Accepted

The presentation of direct influence test results through path analysis refers to the estimated path coefficient in the original sample and the p-value with a significance level of 5% ($p \leq 0.05$), as shown in Table 8. The estimated GTL to GB path coefficient is 0.096, and the p-value is 0.191***, meaning H1 is rejected. Both considerations state that the value of the GTL to GT path coefficient is 0.394, and the p-value is 0.000***, meaning H2 is accepted. Furthermore, the estimation of the significant path coefficient obtained the value on the DGC to GB path with an estimate of 0.281 and a p-value of 0.000***, supporting H3. Likewise, H4 is supported by considering the estimated path coefficient of 0.251 and a p-value of 0.001*** on the DGC to GT path. Furthermore, the path coefficient on GT to GB is 0.342 and the p value is 0.000***, meaning H5 is supported. Thus, the results prove that one hypothesis is rejected and the rest have a direct influence. The first hypothesis, namely green transformational leadership, has no influence on green behavior.

Table 8. Hypotheses Testing (Mediating Relationships)

Relationships	Path Coefficient	T Statistics	P Values	CI LL (2.5%)	CI UL (97.5%)	Decision
GTL -> GT -> GB	0.135	3.796	0.000	0.074	0.213	Accepted
GC -> GT -> GB	0.086	2.655	0.008	0.030	0.158	Accepted

The mediation role test considers bootstrapping results with a 97.5% confidence level interval using a thousand iterations. The mediation role tested here is the mediation of GT's role as a consequence of the development of GB in millennials. Analysis using bootstrapping methods obtained significant results from the role of GT in mediating the influence of GTL and DGC on GB. Considerations supporting this hypothesis are presented in Table 9, which presents the mediating role of GT. The estimated indirect coefficient of the effect of GTL on GB is 0.135, with a p-value of 0.000***, meaning H6 is supported. Consistent with this, the indirect effect of DGC on GB is 0.086, with a p-value of 0.008***, meaning H7 is supported.

5. Discussion

Hypothesis one is not proven that green transformational leadership has an influence on green behavior, the possibility is that the inspiration and vision of leaders towards sustainability in environmental conservation programs are not directly influenced by students. In addition, HEI leaders need to motivate, provide examples of behavior, and promote ideas for environmental sustainability to students (Caliskan & Esen, 2019; Fonseca et al., 2020; Heleta & Bagus, 2021; Ma et al., 2023; Prieto-Jiménez et al., 2021; Shulla et al., 2020; UNESCO, 2018, 2021). The second hypothesis is proven that green transformational leadership has a positive and significant effect on green thinking. This shows that when college leaders motivate, set an example, and always explore green ideas from students, students will think about the environment that shapes their quality of life, and look for ways to protect their environment (Ahmad & Nordin, 2014; Caliskan & Esen, 2019; Japir Bataineh et al., 2023; Parker & Prabawa-Sear, 2020; Santoso et al., 2019). The third hypothesis is proven that digital green campaigns affect green behavior, this illustrates that a clear, accurate, simple green campaign, delivered in detail with various considerations related to its application, will affect students' green behavior (Aboramadan, 2022; Ahmad & Nordin, 2014; Chaudhary, 2020; T. Chen & Wu, 2022; Nugraha et al., 2021; X. Wang et al., 2018; Yu et al., 2022; Zhu et al., 2021). The fourth hypothesis is proven that green campaigns affect green thinking, meaning that green campaigns through various platforms to students and the academic community will increase student green behavior (Chaudhary, 2020; T. Chen & Wu, 2022; Eka Putra et al., 2022; Widodo et al., 2023). The fifth hypothesis is proven that green thinking can influence green behavior. This means that when students think about environmental sustainability related to improving their quality of life, then he will look for ways to preserve the environment and prevent it from being damaged (Begum et al., 2022; Parker & Prabawa-Sear, 2020; Siyal et al., n.d.). The sixth and seventh hypotheses prove that green thinking can mediate green transformational leadership toward green behavior. This confirms that the role of leaders in delivering green messages to students is very important in the context of influencing their way of thinking, This shows that a person's green thinking can be penetrated with campaigns that are carried out continuously to get the expected green behavior (Chaudhary, 2020; Scherer & Voegtlin, 2020).

In the context of GTL and DGC as a stimulus to achieve millennial green behavior goals on campus, GTL and DGC research on increasing green thinking improvement can solve and overcome existing gaps. The role of digital green campaigns is needed to be able to transform green thinking and encourage green behavior (Aboramadan, 2022; Ahmad &

Nordin, 2014; Chaudhary, 2020; T. Chen & Wu, 2022; X. Wang et al., 2018; Yu et al., 2022; Zhang et al., 2019; Zhu et al., 2021a, 2021b). In addition, green transformational leadership must emerge in response to digital green campaigns in the form of implementing new ideas to foster sustainable green ways of thinking (Begum et al., 2022; Caldera et al., 2019; Nugraha et al., 2021; Rademaker & Royne, 2018; Siyal et al., n.d.). GT is the thought needed today to build GB on millennials (Aboramadan, 2022; Ahmad & Nordin, 2014; Chaudhary, 2020; T. Chen & Wu, 2022; X. Wang et al., 2018; Yu et al., 2022; Zhang et al., 2019; Zhu et al., 2021). This study provides empirical evidence revealing that DGC and GT have a very significant influence on building GB. These results are consistent with previous research proving the important role of sustainability-oriented thinking and sustainable development goals (Caliskan & Esen, 2019; Fonseca et al., 2020; Fukey & Issac, 2014; Prieto-Jiménez et al., 2021; Scherer & Voegtlin, 2020; Shulla et al., 2020; UNESCO, 2018, 2021). Other studies provide reinforcement for the affirmation that green transformational leadership, and digital green campaigns in the era of digital transformation require high green thinking (Nugraha et al., 2021). The millennial green behavior produced to achieve the sustainable development goal must be based on current and future world needs (Tóth et al., 2020; Widodo et al., 2023).

5.1. Practical Implications

The research has several implications for the development of theories of green transformational leadership, digital green campaigns, and green thinking on green behavior. Research on green transformational leadership, and digital green campaigns that stimulate green thinking, and their impact on green behavior is the first time it has been conducted in Indonesia. The results of the study empirically support the digital green campaign and green transformational leadership style in stimulating green thinking to be able to behave green. Recent studies have found sustainability recognized as an important educational component towards a sustainable society through the integration of operational change, and implementing sustainability curricula (Goldman et al., 2018; Santoso et al., 2019). Thus, policymakers can implement sustainability policies that maintain environmental sustainability in HEIs.

This research found that green transformational leadership styles and digital green campaigns can stimulate the academic community to think green, that green or environmentally friendly behavior has been integrated into green human resource management practices and green behavior (Adriana et al., 2020; Zhu et al., 2021). Research based on cognitive-affective behavioral models shows green thinking influences a person to behave green which is indicated by the desire to buy green products (Ali et al., 2020; Nusraningrum et al., 2021; Rademaker & Royne, 2018). So green thinking has an important role in mediating green transformational leadership styles and digital green campaigns with green behavior. The results of the analysis show the impact of transformational green leadership, and digital green campaign interaction can improve green thinking, as well as green thinking can increase green behavior. So, it can be concluded, that students' green thinking in HEIs can be improved by stimulating green transformational leadership styles and digital green campaigns so that students' thinking becomes green.

5.2. Theoretical implications

The research findings reinforce the literature on green transformational leadership, digital green campaigns, green thinking, and green behavior in the context of HEIs. This study proposes a model for shaping green behavior in universities in Indonesia. On the basis of these findings, the study made specific theoretical contributions to green behavior. First, it was found that the green transformational leadership style does not directly increase green behavior, but must go through green thinking in order for green behavior to increase. Second, the findings highlight that improving green behavior requires a green transformational leadership style as a

stimulant. Third, digital green campaigns can directly improve students' green behavior. Fourth, the digital green campaign emphasizes that it can improve green thinking. Fifth, when students' green thinking is improved, their green thinking also increases. This study leads to the conclusion that universities need to do a series of simulations to be able to improve students' green thinking so that they can implement green behaviors.

5.3. Managerial implications

Important advice for university managers can be given by appointing leaders with a green transformational style and always conducting digital green campaigns to improve students' green thinking. When a student's green way of thinking has been formed, it will naturally increase their green behavior. In this study, managers play an important role as leaders who can develop green behaviors to maintain sustainable environmental sustainability.

Green practices such as green transformational leadership and digital green campaigns can also improve green thinking by committing more resources. Higher education managers must conduct training programs to understand the environmentally friendly activities they can do for the promotion of green transformational leadership and digital green campaigns for the academic community to improve their green way of thinking. Leaders must strive to develop green transformational leadership style skills and continuously conduct digital green campaigns to change the way students think about green.

Finally, research findings show that universities in Indonesia need to understand their responsibility to the environment so that they can protect the environment and behave greenly. The findings of this study provide opportunities to develop environmentally friendly activities and their challenges in shaping students' green behavior. The challenge for university managers is how to convey sustainable green messages to students who have a digital lifestyle to be able to think green and behave green.

5.4. Limitations and Future Work Direction

In conducting this research, there are several limitations that need to be discussed. First, studies based on students studying in the Indonesian region, there is a need to conduct further studies in elementary, middle school, and high school in the future generalizing and validating the findings of this study. Second, democratic and autocratic leadership styles are not considered when examining the relationship between green transformational leadership and green thinking. Future studies may consider democratic and autocratic leadership styles to examine the relationship between factors considered in green thinking. Finally, the design of this study was cross-sectional and survey-based. Due to limited time, it was difficult for us to reach more respondents. Therefore, it is recommended that the number of respondents in subsequent studies be broader, and longitudinal in nature so as to gain an in-depth perspective on the complexities involved in environmental performance. Furthermore, future studies may consider variables not examined in this study.

6. Conclusion

This research has examined the role of green transformational leadership and digital green campaigns in improving the green thinking of students in higher education. Furthermore, it was also found that students' green thinking can improve their green behavior. Therefore, this research provides a deeper understanding of the determinants of green thinking of students in universities in Indonesia. Green transformational leadership refers to a leadership style that promotes environmentally sustainable practices in an organization. This type of leadership inspires individuals to act toward environmental

conservation and promotes a shared vision of a sustainable future. In HEIs, green transformational leadership can be observed in the actions of university administrators, professors, and other leaders who actively promote sustainable practices on campus. Digital green campaigns, on the other hand, refer to the use of digital media platforms to promote environmental awareness and sustainable practices through social media posts, videos, podcasts, and other digital content. The research model offers a new construct in the study of green behavior, where green thinking mediates green transformational leadership and digital green campaigns with green behavior.

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