

Fostering a Green Generation: Associations between Core Values and Pro-Environmental Behavioral Intentions among College Students

Membangun generasi hijau: Asosiasi nilai-nilai dasar dengan intensi perilaku pro-lingkungan pada mahasiswa

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ABSTRACT

Human activities exacerbate environmental degradation and climate change. Pro-environmental behavior can help mitigate these effects, and intention is a key predictor of such behavior. This study examined the associations between basic values and intentions to engage in pro-environmental behavior among university students. An online survey was conducted with 127 students using the Indonesian version of the Portrait Values Questionnaire (PVQ-40) and a pro-environmental behavior intention scale. Universalism and self-direction were weakly and positively correlated with pro-environmental intentions, whereas hedonism and power were weakly and negatively correlated. These findings indicate that basic values are related to pro-environmental intentions, although only selected values showed significant associations. In particular, values within self-transcendence and openness to change were associated with pro-environmental intentions. Interventions that seek to strengthen pro-environmental behavior should therefore foster concern for others, concern for nature, and openness to new ideas.

Keywords: Pro-environmental behavior, Climate change mitigation, Basic human values.

ABSTRAK

Aktivitas manusia berperan dalam masalah lingkungan hidup dan perubahan iklim. Melakukan perilaku pro-lingkungan adalah salah satu cara mengurangi dampak negatif masalah lingkungan hidup. Nilai dasar adalah panduan bagi seseorang dalam menjalani kehidupan dan mendorong munculnya perilaku. Penelitian ini bertujuan melihat apakah terdapat hubungan antara nilai dasar dengan intensi perilaku pro-lingkungan pada sampel mahasiswa. Pengambilan data dilakukan menggunakan survei daring. Instrumen penelitian terdiri dari skala PVQ-40 versi Bahasa Indonesia dan skala intensi perilaku pro-lingkungan. Sebanyak 127 mahasiswa berpartisipasi dalam penelitian ini. Hasil penelitian menunjukkan terdapat hubungan positif yang lemah antara nilai universalisme dan *self-direction* dengan intensi perilaku pro-lingkungan sementara nilai hedonisme dan power memperlihatkan hubungan negatif yang lemah. Dari segi teoritis, penelitian ini menegaskan bahwa nilai dasar berhubungan dengan intensi perilaku pro-lingkungan, meskipun hanya nilai-nilai tertentu yang berkorelasi. Nilai dasar yang termasuk ke dalam dimensi nilai transendensi diri dan keterbukaan terhadap perubahan berhubungan dengan intensi pro-lingkungan. Secara praktis, mempromosikan perilaku pro-lingkungan sebaiknya diiringi dengan internalisasi nilai-nilai yang memperhatikan kesejahteraan orang lain dan alam serta kesiapan untuk menerima ide-ide baru.

Kata Kunci: Perilaku pro-lingkungan, Mitigasi perubahan iklim, Nilai-nilai kemanusiaan.

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INTRODUCTION

Environmental problems affect many countries, including Indonesia. The expansion of extractive industries, intensive use of natural resources, and ongoing ecosystem degradation have created serious environmental risks. These risks include deforestation, plastic pollution, sea-level rise threatening coastal communities, and limited access to clean water (Lotulung, 2023; Sari et al., 2022; Shahreen, 2022). In 2021, the Asian Development Bank ranked Indonesia among the three countries most vulnerable to climate change (Asian Development Bank, 2021). Human activities drive both climate change and environmental degradation (Rahmani & Ahmadi, 2024). Effective responses, therefore, require changes in human behavior. Pro-environmental behavior can reduce resource waste, lower emissions, and mitigate environmental damage, making it essential for sustainability (Meyer, 2016).

People do not always engage in pro-environmental behavior. Low motivation, limited environmental knowledge, competing priorities, perceived lack of need for change, and conflicting goals can inhibit such behavior (Harding et al., 2018; Vieira et al., 2023). In psychology, intention is a key predictor of behavior because it reflects a person's readiness to invest effort in a planned action (Ajzen, 1991). In the environmental context, pro-environmental intention refers to a person's willingness to perform actions that protect the environment (Li & Wu, 2019). This willingness can facilitate environmentally responsible action.

The Theory of Planned Behavior (TPB) identifies intention as the most immediate predictor of behavior; stronger intentions increase the likelihood of behavior (Ajzen, 2020). Strong intentions also improve the accuracy of behavioral prediction (Conner & Norman, 2022). They may also narrow the gap between intended and actual behavior. Individuals who intend to act pro-environmentally are therefore more likely to incorporate such actions into their daily lives.

However, pro-environmental intentions do not always translate into behavior (Ahmad et al., 2023). Strengthening pro-environmental intentions remains important because intentions precede actions. Higher participation in pro-environmental behavior can support positive environmental change, whereas lower participation can intensify environmental problems (Büchs et al., 2015; Wan et al., 2017).

Values are another important predictor of pro-environmental behavior (Lind et al., 2015). As motivational constructs, values shape decision making and support adaptive responses. They therefore function as behavioral antecedents (Liñán & Kurczewska, 2017). Values do more than express beliefs. They guide goal setting, influence attitudes, and direct behavior across contexts (Sagiv & Schwartz, 2022; Schwartz, 2010). Although both values and intentions predict behavior, they represent distinct constructs. Intention reflects immediate readiness to act (Raz, 2017). Values, in contrast, reflect enduring principles that individuals consider important (Maio, 2016). These principles guide both personal and collective beliefs and actions (Verma & Thakur, 2019).

Schwartz's theory of basic human values differentiates values according to the goals they express (Schwartz, 2016). The model includes ten basic values: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security (Schwartz, 1992, 1994). These values cluster into four higher-order dimensions that reflect the tensions between openness to change and conservation, and between self-enhancement and self-transcendence (Lechner et al., 2024). This structure clarifies the motivational basis of each value and helps explain the relationships among values.

Previous studies have linked self-transcendence and openness to change to pro-environmental behavior (Jonsson & Nilsson, 2014; Karp, 1996; Prime et al., 2021; Schultz & Zelezny, 1998). By contrast, self-enhancement and conservation show negative associations

with pro-environmental behavior (Karp, 1996). People who endorse self-transcendence are more likely to engage in pro-environmental behavior because they regard nature as having inherent moral value (Jonsson & Nilsson, 2014). Within self-transcendence, benevolence and universalism are significant predictors of pro-environmental behavior (Primc et al., 2021). These values orient individuals toward the welfare of others rather than personal gain. From this perspective, environmental protection serves collective interests rather than private benefit. Notably, these studies measured self-reported behavior directly by asking participants how often they engaged in pro-environmental actions in daily life.

Previous research has established links between Schwartz's basic values and pro-environmental behavior. However, supportive values do not guarantee action because psychological barriers can impede behavior. Pro-environmental intention is therefore a critical construct to examine. Because values and intentions both predict behavior, values may also relate to pro-environmental intentions. This possibility remains underexplored because prior studies have focused primarily on actual behavior rather than intention. The present study addresses this gap by examining whether basic values are associated with intentions to engage in pro-environmental behavior.

University students occupy a strategic position in environmental protection. As future leaders and professionals, they can influence environmentally sustainable policies and practices (Palupi & Sawitri, 2018). Young people also face the long-term consequences of current environmental degradation and related social challenges (Kantenbacher et al., 2022). Continued promotion of pro-environmental behavior is therefore essential. Identifying factors associated with pro-environmental intentions can inform psychosocial interventions that encourage sustainable behavior among students.

The present study examined the relationship between the ten basic values and intentions to engage in pro-environmental

behavior among university students. The findings were expected to advance understanding of the psychological factors that shape pro-environmental intentions. Two hypotheses were tested. First, stronger endorsement of achievement, power, security, conformity, and tradition would be associated with lower pro-environmental intentions. Second, stronger endorsement of hedonism, stimulation, self-direction, universalism, and benevolence would be associated with higher pro-environmental intentions.

RESEARCH METHOD

Participant

The study population consisted of currently enrolled undergraduate students at Muhammadiyah University Bandung. A total of 127 students participated. Most participants identified as female (76.4%), whereas 23.6% identified as male. Participants ranged in age from 18 to 28 years ($M = 20.89$, $SD = 1.81$). Most participants were enrolled in the Faculty of Social and Humanities (89.0%). The remainder were enrolled in the Faculty of Islamic Studies (FAI), Faculty of Economics and Business (FEB), and Faculty of Science and Technology (FST). Most participants were psychology students (88.2%). The remainder came from accounting, biotechnology, Islamic economics, communication science, management, Islamic communication and broadcasting, Islamic education, and information technology. These programs were distributed across the four faculties. In terms of academic standing, 38.5% of participants were in the seventh semester, 36.2% in the third, and 17.3% in the fifth. The remainder were enrolled in other semesters.

The eligibility criteria required participants to be at least 18 years old, currently enrolled as undergraduate students at Muhammadiyah University Bandung, and willing to complete all study procedures. Muhammadiyah University Bandung was selected because it actively conducts waste-management outreach in Bandung (Universitas

Muhammadiyah Bandung, 2024c, 2024b, 2024a, 2025). These initiatives position students to support environmentally sustainable practices on and off campus. Therefore, this setting was considered appropriate for examining factors associated with pro-environmental behavioral intention. Convenience sampling was used because it enabled recruiting participants based on accessibility and willingness to participate (Golzar & Tajik, 2022).

Measurement

Portrait Value Questionnaire (PVQ-40)

Personal values were measured with the Portrait Value Questionnaire (PVQ-40), which was developed from Schwartz's Value Theory. The Indonesian adaptation of the PVQ-40 was used. The instrument contains 40 items that measure ten values: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security. These values can also be grouped into four higher-order dimensions: self-transcendence, self-enhancement, openness to change, and conservation.

Each item describes a person's characteristics, and participants rated how similar each description was to themselves. One item, for example, states: "Thinking of new ideas and being creative is important to him/her. He/she likes to do things in his/her own original way." Responses were recorded on a six-point scale ranging from "not at all like me" to "very much like me."

In Indonesian samples, Cronbach's alpha coefficients for the ten value dimensions range from 0.50 to 0.90, and corrected item-total correlations range from 0.20 to 0.80 (Sinaga, 2024). Exploratory factor analysis of the Indonesian PVQ-40 identified two factors that explained 19.0% of the variance (Borualogo, 2015). Factor 1 comprised universalism, conformity, tradition, benevolence, and security. Factor 2 comprised power, achievement, hedonism, stimulation, and self-direction. Cronbach's alpha was 0.81 for Factor 1 and 0.75 for Factor 2, which indicated adequate internal consistency. The PVQ-40

scores were centered by subtracting each participant's mean rating (MRAT), calculated across all 40 items, from each raw value score.

Pro-Environmental Behavior Intention (PEBI) Scale

Pro-environmental behavioral intention was measured using the PEBI Scale, based on the Theory of Planned Behavior (Ajzen, 2005). The Indonesian version developed by Rahmawati et al. (2024) was used. The scale conceptualizes behavioral intention as a tendency to perform specific behaviors. In this study, pro-environmental behavioral intention referred to the intention to engage in behaviors that support environmental protection. These behaviors included waste management, recycling, and reuse. A sample item is, "I intend to sort waste into organic and inorganic waste." Participants responded on a four-point scale: 1 = strongly disagree, 2 = disagree, 3 = somewhat agree, and 4 = strongly agree. The PEBI Scale showed good reliability, with a composite reliability coefficient of 0.921. The scale also showed adequate discriminant validity, with factor loadings above 0.70 and an average variance extracted (AVE) of at least 0.50.

Research Procedure

The study was conducted from October 2024 to February 2025. Data were collected through an online survey administered via Google Forms. The survey link was distributed through group chats and private messages. The questionnaire comprised two sections. The first section contained a brief study description, an informed consent form, and a demographic form. The second section contained the two study instruments. Demographic information on participants' initials, gender, age, faculty, study program, and semester was collected. Participants were additionally requested to detail the pro-environmental behaviors they had previously engaged in. Participants then completed the personal values scale and the pro-environmental behavioral intention scale.

Data Analysis

The data were analyzed using JASP (Jeffreys's Amazing Statistics Program), version 18.03. Normality and linearity were first tested. The Shapiro-Wilk test indicated that the data were not normally distributed ($p < 0.05$). Linearity was assessed with partial plots and Q - Q plots of the residuals. Relationships were considered non-linear when the points were widely scattered and deviated from the diagonal line. Descriptive statistics were then used to summarize personal values and pro-environmental behavioral intention. Because the data were not normally distributed and did not meet the linearity assumption, Spearman's rank correlation was used to examine the associations.

RESULTS

Table 1 presents the descriptive statistics for all study variables, including the mean, standard deviation, minimum, and maximum. To control for individual response tendencies on the PVQ-40, each value score was centered by subtracting the participant's mean rating across all 40 items (MRAT) from the raw score. Positive-centered scores indicate values endorsed above the participant's overall average response level.

Universalism showed the highest centered mean ($M = 0.315$, $SD = 0.43$). Security ($M = 0.314$, $SD = 0.47$) and conformity ($M = 0.291$, $SD = 0.49$) also showed relatively high centered means. Benevolence ($M = 0.106$, $SD = 0.64$), self-direction ($M = 0.098$, $SD = 0.53$), and hedonism ($M = 0.084$, $SD = 0.78$) showed smaller positive centered means. Achievement ($M = -0.226$, $SD = 0.64$), tradition ($M = -0.211$, $SD = 0.58$), stimulation ($M = -0.301$, $SD = 0.76$), and power ($M = -1.015$, $SD = 0.87$) showed negative-centered means. Power had the lowest centered mean. The mean score for intention to engage in pro-environmental behavior was 9.99 ($SD = 1.78$).

Table 2 presents the results of the Spearman rank correlation analysis. Four of the ten basic values were significantly associated with intention to engage in pro-environmental behavior. Universalism showed a weak positive correlation with pro-environmental behavioral intention ($r_s = 0.303$, $p < 0.05$). Self-direction also showed a weak positive correlation ($r_s = 0.304$, $p < 0.05$). In contrast, hedonism ($r_s = -0.195$, $p < 0.01$) and power ($r_s = -0.24$, $p < 0.05$) showed weak negative correlations with pro-environmental behavioral intention. Security, conformity, benevolence, stimulation, achievement, and tradition were not significantly associated with pro-environmental behavioral intention.

Table 1. Personal Value Scores and Pro-Environmental Behavior Intentions

PVQ-40 Scale	M	SD	Min	Max
Universalism	0.315	0.43	-0.76	1.38
Security	0.314	0.47	-0.98	1.73
Conformity	0.2908	0.49	-1.53	1.15
Benevolence	0.106	0.64	-2.15	1.45
Self-Direction	0.098	0.53	-1.43	1.30
Hedonism	0.084	0.78	-2.56	1.88
Achievement	-0.226	0.64	-2.20	1.38
Tradition	-0.211	0.58	-1.53	1.15
Stimulation	-0.301	0.76	-3.16	1.13
Power	-1.015	0.87	-3.36	1.33
PEBI Scale				
Intensity of Pro-Environmental Behavior	9.99	1.78	3	12

Note: PVQ-40 refers to the Portrait of Values Questionnaire. Corrections for individual response differences were applied using a centering process, which subtracted the average value from each raw score to obtain the MRAT score, representing the raw score across 40 items.

Table 2. Correlation Between Ten Personal Values and Pro-Environmental Behavior Intentions

	2	3	4	5	6	7	8	9	10	11
1. Universalism	0.29**	0.15	-0.3	0.098	0.02	-0.012	-0.28**	0.011	-0.47**	0.303**
2. Security		0.106	-0.2*	-0.035	0.073	-0.087	-0.131	-0.13	-0.29**	0.113
3. Conformity			-0.13	-0.25**	0.082	0.129	-0.151	-0.03	-0.21*	-0.086
4. Benevolence				-0.098	0.111	-0.113	-0.153	-0.02	-0.185*	0.069
5. Self-Direction					-0.164	-0.134	-0.23**	0.004	-0.134	0.304**
6. Stimulation						-0.084	-0.121	0.100	0.014	0.066
7. Hedonism							0.031	0.007	0.109	-0.19*
8. Achievement								-0.4**	0.231**	-0.123
9. Tradition									-0.195*	0.068
10. Power										-0.24**
11.PEBI										

Note: ** $p < 0.01$; * $p < 0.05$.

Overall, the findings partially supported the hypotheses. The results supported the prediction that stronger universalism and self-direction would be associated with higher pro-environmental behavioral intention. The results also supported the prediction that stronger power would be associated with lower pro-environmental behavioral intention. However, the negative association between hedonism and pro-environmental behavioral intention contradicted the hypothesized positive association. The remaining hypothesized associations were not supported.

DISCUSSION

This study extends two major frameworks used to explain pro-environmental behavior: the Value-Belief-Norm theory (VBN) (Stern et al., 1999) and the Theory of Planned Behavior (TPB) (Ajzen, 1991). Using Schwartz's basic value model (Schwartz, 1992), the study highlights the role of personal values in shaping intentions to engage in pro-environmental behavior. The findings showed weak positive associations of universalism and self-direction with pro-environmental behavioral intention. The findings also showed weak negative associations of hedonism and power with pro-environmental behavioral intention. These results suggest that students who more strongly endorse universalism and self-direction report higher intentions to act in environmentally responsible ways. By contrast, students who

place greater importance on hedonism and power report lower pro-environmental intentions.

Universalism and self-direction belong to the higher-order domains of self-transcendence and openness to change, which prior studies have linked to pro-environmental behavior and sustainability (Caracciolo et al., 2016). In Schwartz's value theory, self-transcendence emphasizes concern for others and the broader social world (Sagiv et al., 2022; Sagiv & Roccas, 2021). Universalism, in particular, extends this concern to all people and to nature. This broad orientation helps explain why universalism was positively associated with pro-environmental intention in the present study. Previous research similarly shows that individuals who strongly endorse universalism are more likely to conserve energy, use public transportation, recycle, reuse shopping bags, and participate in environmental activism (Katz-Gerro et al., 2017). They also tend to show stronger concern for environmental problems and greater commitment to sustainable practices in daily life and organizational settings (Yasir et al., 2022).

Universalism may promote pro-environmental intentions by increasing awareness of the consequences of environmental damage and strengthening environmental concern (Weimer et al., 2017). Pro-environmental behavior includes actions such as avoiding polluting products, identifying recyclable materials, conserving energy, reducing waste, and choosing environmentally

friendly products (Candan *et al.*, 2018). People who strongly endorse universalism tend to be less self-focused and more concerned with collective welfare. That orientation may strengthen their willingness to protect the environment. In this sense, universalism provides a moral basis for pro-environmental intention.

The absence of a significant association between benevolence and pro-environmental intention also warrants attention. Although benevolence and universalism both belong to self-transcendence, they differ in scope. Universalism emphasizes understanding, tolerance, and protection for all people and for nature, whereas benevolence emphasizes concern, trust, and support within close interpersonal relationships (Schwartz *et al.*, 2012). Universalism, therefore, targets broad collective welfare, whereas benevolence focuses on the welfare of familiar others (Schwartz & Cieciuch, 2022). Benevolence also includes a desire to be seen as trustworthy, which is not a defining feature of universalism (Nezlek, 2024). These differences may explain why universalism, but not benevolence, was associated with pro-environmental intention in this study.

The positive association between self-direction and pro-environmental intention is consistent with previous findings among young people in Russia, where self-direction predicted both pro-environmental behavior and environmental activism (Zibenberg *et al.*, 2018). In Schwartz's model, self-direction reflects autonomy, creativity, curiosity, and independent thought (Schwartz, 2003). These qualities may support openness to new ideas and social change, including environmental initiatives (Agissova & Sautkina, 2020). Everyday environmental problems often require people to reconsider familiar routines and adopt alternative practices. Research on Indonesian students also suggests that openness to new experiences supports the re-evaluation of existing values and habits (Ariana & Satwika, 2022). This openness may make individuals

more willing to adopt pro-environmental values and behaviors (Ojedokun, 2018; Poškus, 2020).

Power belongs to the higher-order domain of self-enhancement. This domain emphasizes personal success, control over resources, and dominance over others (Schwartz, 2016). The observed negative correlation between hedonism and power and pro-environmental behavioral intentions highlights the conflict between the self-enhancement and self-transcendence dimensions. Pro-environmental behavior typically requires concern for shared and external outcomes, including ecological protection and collective welfare. By contrast, power prioritizes personal advantage. Previous studies similarly show that egoistic values can weaken the effect of environmental attitudes on pro-environmental behavior (Tamar *et al.*, 2021). The present finding supports the view that values centered on personal gain may undermine environmental intention.

Other findings indicate that conservation values, including security, conformity, and tradition, are not associated with intentions to engage in pro-environmental behavior. This is notable because such values emphasize maintaining the status quo, preserving traditions and established habits, and prioritizing stability and security (Gandal *et al.*, 2005). Such priorities do not necessarily support behaviors that require people to modify familiar routines. Pro-environmental action often depends on behavioral change, especially in contexts where environmentally harmful habits are already normalized. Earlier research likewise suggests that people struggle to adopt environmentally friendly practices when they rely on familiar routines, lack relevant skills, or do not know how to apply environmental knowledge in everyday settings (Longo *et al.*, 2017). In this context, conservation values may neither strongly promote nor strongly inhibit pro-environmental intention.

Universalism, self-direction, hedonism, and power values are negatively associated with pro-environmental behavioral intentions; however, these relationships are generally weak. The pro-environmental behaviors

assessed in this study are routine actions that can be implemented in daily life, such as sorting waste, recycling, and reusing goods. These behaviors differ from forms of environmental engagement that require stronger ideological commitment, such as activism or sustained collective action. Contextual influences may also reduce the role of values in shaping intention. People do not always act in accordance with their values, especially when social conformity, authority, or situational constraints influence decision making (Chan, 2020). The weak correlations in this study are therefore theoretically meaningful, but they also indicate that values operate alongside other psychological and contextual factors.

These findings may contribute to bridging the gap between values and behavior. Cultivating values such as universalism and self-direction is essential for fostering pro-environmental behavioral intentions, which are likely to manifest in concrete actions. These findings have practical implications for environmental education and psychosocial intervention. Programs that strengthen universalism and self-direction may help increase students' intentions to engage in pro-environmental behavior. Such programs should support value internalization through structured discussion, reflection, personal experimentation, and gradual habit change. These value-based approaches may help students resist the normalization of environmental degradation and become more proactive in everyday environmental practice.

Several limitations should be considered when interpreting these results. The study involved students from only one university, which limits generalizability. Future studies should recruit participants from multiple universities and use larger samples. The cross-sectional design does not permit causal inference. The observed associations were weak, which indicates that additional predictors should be examined. Future studies may benefit from including other predisposing variables and emotional factors that influence pro-environmental intention and behavior. In the

Indonesian context, future researchers may also develop or apply measures that capture value orientations more specifically within local cultural settings.

CONCLUSIONS

This study showed that universalism and self-direction were weakly and positively associated with students' intentions to engage in pro-environmental behavior. Hedonism and power were weakly and negatively associated with these intentions. Security, conformity, benevolence, stimulation, achievement, and tradition were not significantly associated with pro-environmental behavioral intention. Universalism belongs to the self-transcendence dimension and emphasizes concern for other people and for nature. This orientation may increase students' willingness to prioritize environmental issues. Self-direction reflects openness to new ideas and independent action. These characteristics may support the adoption of pro-environmental practices. By contrast, hedonism and power are linked to self-enhancement and emphasize personal gratification, control, and self-interest. Stronger endorsement of these values may therefore correspond to lower pro-environmental intention. Future research should examine additional variables that may moderate or mediate the association between basic values and pro-environmental behavioral intention. Future studies should also assess a broader range of pro-environmental outcomes, including environmental activism and support for environmental policy.

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