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The Effect of Leadership Styles and Big-5 Personality on University Students' CB toward the Environment Mediated by Students' Motivation.

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Abstract

Since 1970, humans have been made aware that environmental damage is caused by human activities themselves. Therefore, a system is needed through an education system that is useful for anticipating increasingly severe damage due to human behavior. Therefore, research is needed that can reveal whether factors such as leadership style, personality, and motivation influence human behavior. This research was conducted using a causal survey method by randomly selecting 205 university students as samples, in Jakarta. There are four instruments developed to measure student behavior (students' citizenship behavior (CB) toward the environment) with an environmental perspective (reliability was 0.987), leadership style (0.924), big-5 personality (0.934), and student motivation (0.949). Data were analyzed using path analysis. The results showed that the only leadership style factors had a direct and indirect significant effect on the behavior of students with an environmental perspective. Likewise, it was also found that student motivation was an appropriate mediator between leadership style and student behavior due to its indirect effect was found significant. However, the accuracy of students' big-5 personalities was found not to significantly affect both students' motivation and students' CB toward the environment. Therefore, based on those findings, it can be concluded that to shape student behavior with an environmental perspective to be more positive, factors such as student assessments are increasingly positive towards the transformational style of campus leaders in leading students and the strong motivation of students in preserving the environment, cannot be ignored in formulating and developing green campus policies. From this case, the role of the accuracy of the personality of the students, could not be considered.

Keywords: Big-5 personality, Citizenship behavior toward the environment, Reliability, and Path-analysis.

Introduction

In today's rapidly evolving global landscape, the imperative for fostering responsible citizenship behavior towards the environment has never been more pressing. With environmental concerns such as climate change, pollution, and biodiversity loss becoming increasingly prominent, there is a growing recognition of the pivotal role that individuals, particularly students, play in shaping sustainable futures. As such, understanding the multifaceted factors that influence students' citizenship behavior towards the environment has emerged as a critical area of inquiry (Hollweg, et.al., 2011).¹⁰

Moreover, John Muir, a naturalist and advocate for the preservation of wilderness, emphasized in the late 1800s, "When we try to pick out anything by itself, we find it hitched to everything else in the universe." This sentiment underscores the interconnectedness of leadership styles with the broader environmental ethos, particularly in guiding students' attitudes and actions toward sustainable practices. Highlighting the importance of proactive engagement, Greta Thunberg, a young climate activist, stated in 2019, "The one thing we need more than hope is action. Once we start to act, hope is everywhere." Despite growing environmental awareness, understanding the nuanced connections between leadership styles, personality traits, and their impact on motivating environmentally responsible behaviors among students remains a relatively unexplored terrain in scholarly research (Nag & Vijayakumar, 2005).⁷

Elaborating on the transformative potential of education, Wangari Maathai, a Nobel laureate, stressed in the early 2000s, "Education, if it means anything, should not take people away from the land but instill in them even more respect for it." This study aims to discern how diverse leadership styles, in conjunction with specific personality traits, act as catalysts or barriers in fostering a sense of responsibility and action toward environmental conservation among students. Rachel Carson, an influential environmentalist, articulated in the 1960s, "The more we can focus our attention on the wonders and realities of the universe about us, the less taste we shall have for destruction." This research bears significance in guiding educational institutions, policymakers, and leaders in cultivating an environmentally conscious generation, paving the way for a sustainable and harmonious coexistence with the planet.^{2,11}

At the intersection of leadership styles, personality traits, motivation, and environmental stewardship lies a complex interplay that demands scholarly attention. Leadership styles wield significant influence over organizational climates and cultures, setting the tone for collective attitudes and behaviors toward environmental conservation. Likewise, individuals' inherent personality traits, as encapsulated by the Big Five framework, shape their predispositions towards environmental engagement and activism. Motivation, both intrinsic and extrinsic, serves as a driving force behind individuals' willingness to adopt environmentally responsible behaviors.^{5,12,16,18}

Despite the burgeoning interest in these domains, there remains a notable gap in research elucidating the interconnectedness of leadership styles, personality traits, motivation, and students' citizenship behavior towards the environment. By delving into these interconnected dynamics, this study aims to provide a comprehensive understanding of the underlying mechanisms driving students' environmental stewardship. Moreover, by identifying the mediating role of motivation,

this research seeks to unravel the intricate pathways through which leadership styles and personality traits manifest in students' environmental attitudes and actions.^{8,9,14,21.}

Furthermore, the urgency of this inquiry is underscored by the escalating environmental challenges confronting societies worldwide. From the specter of ecological degradation to the imperative for sustainable development, the need for proactive environmental citizenship has never been more pronounced. As future leaders, innovators, and changemakers, students represent a potent force for effecting positive environmental change. Thus, equipping them with the requisite knowledge, skills, and motivations to embrace environmental stewardship is paramount for fostering a sustainable tomorrow.^{3,4,5,17.}

Considering these, this study endeavors to advance scholarly understanding by proposing a comprehensive model that elucidates the intricate interplay between leadership styles, personality traits, motivation, and students' citizenship behavior towards the environment. By illuminating the mechanisms underpinning these relationships, this research seeks to inform targeted interventions and policy initiatives aimed at nurturing environmentally responsible behaviors among students, thereby contributing to the collective endeavor of safeguarding our planet for generations to come.^{17,25, 27,28}

Therefore, research problems could be formulated as follows; Does leadership styles have a direct effect on students' citizenship behavior (CB) toward the environment? Does personality have a direct influence on students' citizenship behavior (CB) toward the environment? Does motivation influence students' citizenship behavior (CB) toward the environment? Does leadership have a direct effect on students' motivation? Does big-5 personality have a direct effect on students' motivation? Does leadership have an indirect effect on students' citizenship behavior (CB) toward the environment through motivation? Does big-5 personality have an indirect effect on students' citizenship behavior (CB) toward the environment through motivation?

Research Methodology

This research was conducted to test a theoretical model based on a hypothetical model involving university student's behavior with an environmental perspective (CB toward the environment), leadership style, big-5 personality, and motivation as mediating factor. Therefore, a causal survey was implemented by randomly selecting 205 university students in Jakarta. There were 4 instruments developed to measure students' CB (coef. reliability was 0.987), leadership style (0.924), big-5 personality (0.934), and motivation (0.949). Data was analyzed using path analysis.

Results and Discussion:

Based on the calculation results, it was obtained that the multiple regression model $X4(\text{students' citizenship behavior (CB) toward the environment}) = 80.158 + 0.329 X1(\text{leadership styles}) + 0.062X2(\text{big-5 personality})$. As a calculation results, the respective path coefficients for the direct influence of X1 on X4 were 0.322 and very significant and the direct influence of X2 on X4 was only 0.062 which was not significant. It was found that the results were not significant, possibly because the personality measured was still general and did not refer to a person's nature or characteristics related to their interaction with the environment. A similar results was found also at Lian & Tui (2012)²⁵ and Putrawan (2020).²⁰

Leadership style can significantly influence students' environmentally conscious behavior and their motivation for several reasons. Different leadership styles can influence how leaders communicate values, expectations, and priorities to students. For example, transformational leadership can inspire students to take ownership and engage in environmentally responsible behavior, while supportive leadership can foster a positive motivational environment that encourages students to excel. Direct effects often indicate a clear and impactful relationship between how leaders lead and how students respond in terms of environmental insight and environmental motivation. Leadership styles that have a direct impact on student motivation can be related to how leaders inspire, guide, and organize an environment that is conducive to motivation. Different leadership styles can create different atmospheres in educational environments.^{1,5,6,19}

For example, transformational leadership, which is known to inspire and empower followers, can fuel students' intrinsic motivation by fostering a sense of purpose and intellectual stimulation. On the other hand, transactional leadership, based on rewards and punishments, may influence extrinsic motivation by providing clear expectations and incentives. Leadership style influences the way goals are communicated, feedback is given, and support is provided—all of which can have a direct impact on a student's level of motivation. When students perceive their leaders to be supportive, encouraging, and aligned with their goals, this can positively impact their motivation to engage and excel in their educational endeavors.

While Big Five personality traits such as openness, conscientiousness, extraversion, agreeableness, and neuroticism play a role in shaping an individual's behavior, they may not directly and significantly influence citizenship behavior towards the environment (CB) for several reasons. Citizenship behavior towards the environment is influenced by various factors including attitudes, beliefs, values, and situational factors. Personality traits alone may not capture the complexity of these influences. Personality traits may indirectly influence environmental citizenship behavior through mediating variables such as environmental attitudes, motivation, and perceived behavioral control. These mediating variables may have a more direct impact on behavior than personality traits themselves.^{9,16,19}

The relationship between personality traits and environmental citizenship behavior may be moderated by other factors such as contextual variables or leadership styles. For example, certain leadership styles may amplify or attenuate the influence of personality traits on behavior. Assessing personality traits and environmental citizenship behavior accurately is challenging. Self-reported measures may be subject to biases and inaccuracies, leading to weaker observed relationships between personality and behavior. Cultural and social norms can also play a significant role in shaping environmental behavior. These norms may override the influence of individual personality traits, especially in contexts where environmental stewardship is highly valued.^{11,12,13}

On the other hand, leadership styles may have a more direct and significant impact on citizenship behavior towards the environment for several reasons. Leaders serve as role models whose behavior can influence followers' attitudes and actions toward environmental issues. Leadership styles that prioritize environmental sustainability can inspire and motivate followers to engage in citizenship behavior towards the environment. Leaders have the power to allocate resources and create organizational structures that facilitate environmental initiatives and encourage pro-environmental behavior among students. Effective leadership involves

communicating the importance of environmental stewardship and providing education and training opportunities for students to develop the necessary skills and knowledge to engage in citizenship behavior towards the environment. Overall, while personality traits may indirectly influence environmental citizenship behavior, leadership styles can have a more direct and significant impact due to their ability to shape organizational culture, inspire action, and allocate resources effectively.

Based on the calculation results, it was obtained that the multiple regression model $X39$ (motivation) = $83.757 + 0.294X1$ (leadership styles) + $0.018X2$ (big-5 personality) was significant and linear. Based on calculations, the respective path coefficients for the direct influence of $X1$ on $X3$ are 0.293 and very significant and the direct influence of $X2$ on $X3$ was -0.018 which was not significant. It was found that the results were not significant, possibly because the personality measured was still general and did not refer to a person's nature or characteristics related to their interaction with the environment. Other logical reasons can be explicitly explained as follows.

Personality traits may not show a direct influence on environmentally minded college students' environmental behavior or motivation for various reasons. Personality is multifaceted and can interact differently with leadership style or environmental factors. Sometimes, the impact of personality may be indirect, mediated by other variables such as individual attitudes, perceptions of the environment, or certain contextual influences. These findings have a different results compared to Putrawan (2018),²⁰ Putrawan (2019)²², and Putrawan (2019).²⁹ Additionally, the complexity of accurately measuring personality or the particular traits examined in this study may not fully capture varying influences on environmental insight or environmental motivation.

The big-5 personality traits (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism) are known to influence various aspects of behavior and motivation. However, the lack of a significant direct effect on student motivation in certain contexts may be due to several reasons. First, motivation is a complex construct influenced by many factors, and personality traits may exert their influence indirectly or in combination with other variables, rather than in a direct linear manner. Second, big-5 traits may not be the most relevant or comprehensive personality factors for understanding motivation in the particular context studied (Kvasova, 2015 and Milfont & Sibley, 2012).^{16,18}

Motivation can be influenced by various aspects of personality, including individual goals, self-efficacy, values, or locus of control, which may not only align with the Big 5 traits. Finally, the impact of personality traits on motivation may depend on context. Although certain traits may not show a direct influence in this study, they can still play a role when combined with other factors or in different situations. Understanding the complex relationship between personality and motivation often requires considering multiple factors and nuances within a particular context to draw more comprehensive conclusions.

The next calculations and tests relate to the influence of $X3$ on $X4$ as the third structural model. Starting with the calculation of a simple regression model $X4 = 66.026 + 0.53 X3$ which was very significant and also the relationship was linear. Therefore, from the calculation results, a path coefficient of 0.527 was highly significant ($P < 0.01$). These results showed that motivation was proven to have a very significant direct effect on environmentally conscious student behavior (CB toward the environment), under and confirming the theoretical model tested through this hypothetical model (Colquitt, et.al., 2019).¹

However, from the calculation results as turns out that the R-square is obtained at 0.278, this result means around 27.80 % of behavioral variance cannot be explained by motivational variance, it is likely determined by other factors that require further testing through other research, thereby adding to the body of knowledge and strengthening theoretical models based on empirical findings.

Students' motivation directly influencing their environmentally conscious behavior towards the environment makes sense because motivation often serves as the driving force behind behavior. When students are motivated, they are more likely to engage in activities that align with their values or interests. In the context of environmental insight, if students are motivated—either intrinsically (driven by personal interests) or extrinsically (through awards, recognition, etc.)—they are more likely to actively participate in environmentally friendly actions. Their motivation acts as a catalyst, influencing their choices and behavior towards pro-environmental actions as depicted earlier by Bronfman, et.al., (2015).²⁷.

From the results of the findings above, the path coefficient for the indirect influence of leadership style (X1) on students' behavior (X4) through motivation (X3) can be calculated. The calculation result was obtained at 0.154 and this result turned out to be significant ($p < 0.05$), meaning that motivation continues to act as a strong mediated factor concerning its role as an intermediary between leadership style and student behavior. These results prove that the hypothetical model from the results of this research can be used as a confirmatory basis for the theoretical model (Colquitt, et.al., 2019 model).¹

These findings are different from the role of motivation in its relation as an intermediary between personality and student behavior, because personality has an insignificant direct influence, both on motivation and also on student behavior, so logically the indirect influence cannot be calculated, as can the direct influence of personality to behavior that also occurs “by chance.” At the same time, it can also be calculated that the total effect of leadership style on behavior is 0.476 which is very significant ($p < 0.01$) and this result means that the role of leadership style in its influence on environmentally friendly student behavior, directly or indirectly through motivation cannot be ignored, especially in implications of campus policies that will be developed.

The logic behind these findings is that leadership style often determines environmental awareness among college students, influencing their environmental insight (CB) behavior and motivation. Effective leadership may inspire or guide students to become more actively involved in environmental activities. On the other hand, although personality traits (big-5) play a role in individual behavior, in this context, they may not have a direct impact on CB or motivation significantly when compared with the influential role of leadership style. The direct influence of leadership may mask the relatively smaller impact of personality traits in these findings. In detail, this logical reasoning could be seen at below figure which figure out the path structural empirical findings that was part of the confirmatory based on its theoretical model itself.

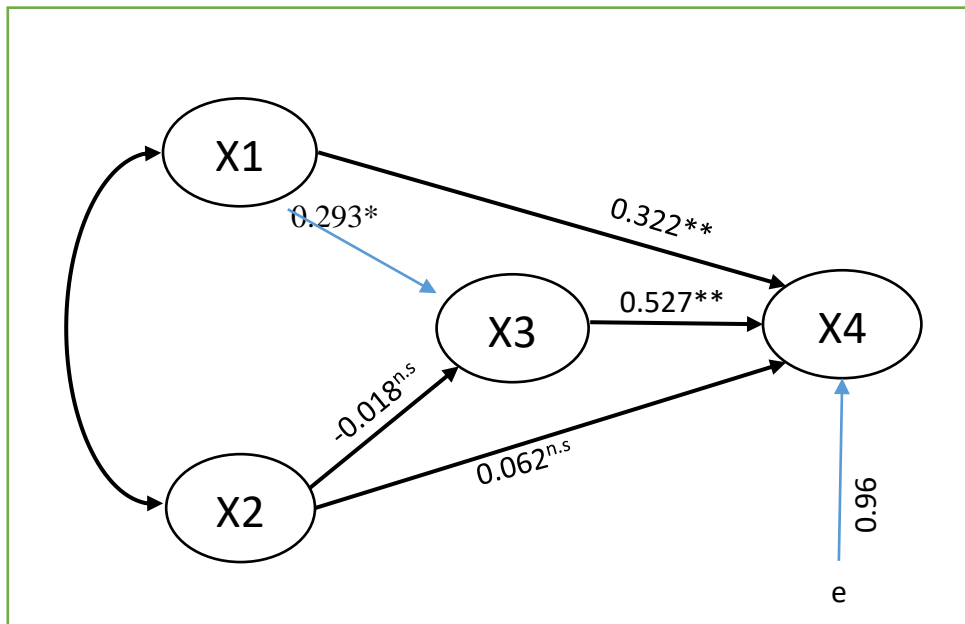


Figure: Final Empirical Model

*P < .05; ** P < .01; n.s: non-significant

Description:

X1 = Leadership styles

X2 = Big-5 Personality

X3 = Motivation

X4 = CB toward the environment

Conclusion:

Based on the research findings, it can be concluded that lecturers' leadership styles play a significant role in influencing students' citizenship behavior (CB) toward the environment, both directly and indirectly through motivation. While the direct and indirect effects of motivation on CB were evident, the impact of students' big-5 personality traits on CB was not statistically significant, either directly or indirectly through motivation. This suggests that while personality traits may not directly influence CB toward the environment, motivation emerges as a critical factor in shaping students' behavior in this regard. Therefore, fostering a motivational environment within educational settings is crucial for promoting positive citizenship behavior toward the environment among students.

Moving forward, educational institutions and policymakers must leverage these insights in designing interventions that cultivate transformative leadership styles and mitigate the impact of detrimental personality traits. By fostering intrinsic motivation and aligning educational strategies with environmental consciousness, we pave the way for a more sustainable future.

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Conflict of interest: NONE

References:

- [1] Colquitt, et.al (2019), *Organizational Behavior: Improving Performance and Commitment at the Work Place*, PEARSON.
- [2] Chiras, Daniel D. (1991). *Environmental Science: Action for a Sustainable Future*. California: the Benjamin, Cummings Pub. Co. Inc.
- [3] Gibson, James L. John M. Ivancevich, and James H. Donnelly Jr. (2014). *Organizational Behavior and Management*. New York: McGraw-Hill.
- [4] Greenberg, Jerald (2010), *Managing Behavior in Organization*, Boston: PEARSON.
- [5] Gower, Jeff Gold (2010), *Handbook of Leadership and Management Development* (Burlington: Gower Publishing Company.
- [6] Robbins, S.P. and Timothy A.Judge. (2019). *Organizational Behavior*, New Jersey: Pearson Education, Inc.
- [7] Nag, A & K. Vizayakumar. (2005). *Environmental Education and Solid Waste Management*. New Delhi: New Age International (P) Limited Publishers.
- [8] Schermerhorn, JR, Richard N. Osborn, Mary Uhl-Bien, James G. Hunt (2011), *Organizational Behavior*. Hoboken, N.J.: Wiley.
- [9] Judge, Timothy A., et.al. (2000). "Personality and Leadership: A Qualitative and Quantitative Review". *Journal of Applied Psychology*, 87(4), pp. 765-780.
- [10] Hollweg, K.S.,et.al. (2011) *Developing a Framework for Assessing Environmental Literacy* Washington, DC: North American Association for Environmental Education.
- [11] Bamberg, Sebastian and Guido Moser (2007). "Twenty Years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behavior". *Journal of Environmental Psychology*, 27 (1), pp. 14-25, doi: 10.1016/j.jenvp.2006.12.002.
- [12] Blaikie, Norman. (1993). "Education and Environmentalism: Ecological World Views and Environmentally Responsible Behaviors," *Australian Journal of Environmental Education*. Vol. September.
- [13] Hines, Jody M., et.al. (1986/1987), "Analysis and Synthesis of Research on Responsible Environmental Behavior: A Meta-Analysis," *Journal of Environmental Education*, Vol. 18 (2), pp. 1-8.
- [14] Ivancevich, John M., Robert Konopaske, M.T.Matteson (2014), *Organizational Behavior and Management*, Irwin: McGraw-Hill.
- [15] Hungerford, Hines, R. and Tomera. "Analysis and Synthesis of Research on Responsible Environmental Behavior: A Meta-Analysis". *Journal of Environmental Education* 18(2), p. 71.
- [16] Kvasova. O. (2015). "The Big Five Personality Traits as Antecedents of Ecology-Friendly Tourist Behavior". *Personality and Individual Differences*, 83, pp. 111–116.
- [17] Lamm, Eric, et.al. (2013), "Read this Article, but Don't Print It: Organizational Citizenship Behavior Toward the Environment," *Group & Organization Management*, Vol. 38 (2), pp. 163-197.

- [18] Milfont and Sibley. (2012). "The big five personality traits and environmental engagement: Associations at the". *Journal of Environmental Psychology*, 187-195.
- [19] Putrawan, I Made. (2017). Leadership and Self-Efficacy: Its Effect on Employees Motivation. *Advanced Science Letters*, 23(1), pp. 173-176.
- [20] Putrawan, I Made (2018), "Predicting Environmental Leadership based on Personality," *International Journal of Engineering & Technology (IJET-UAE)*, 7 (4.28), pp. 92-95.
- [21] Remus, Ilies (2009), "Personality and citizenship behavior: The mediating role of job satisfaction," *Journal of Applied Psychology*, 94(4), p. 945.
- [22] Putrawan, I Made (2019), "A Mediated Role of New Environmental Paradigm between Environmental Personality and Pro-eco Behavior," *Indian Journal of Public Health Research & Development*, Vol.10, No.1, January, pp. 1290-1295.
- [23] Putrawan, I Made (2019), "Pro-Environmental Behavior (PEB) and Its Related Construct Validity," *Journal of Adv Research in Dynamical and Control Systems*, Vol. 11(9),
- [24] Putrawan, I Made. 2017. "Predicting Student's Responsible Environmental Behavior (REB) based on Personality, Students' New Environmental Paradigm (NEP) and Naturalistic Intelligence". *Advance Science Letter*, Vol. 23, Number.9
- [25] Lian, Lee Kim., Low Guan Tui (2012). Leadership styles and Organizational Citizenship Behaviour. *Journal of Applied Business and Economics*, Vol. 13(2): 59-96.
- [26] Hungerford, Harold R. and Trudi L. Volk., (1990). "Changing Learner Behaviour through Environmental Education", *Journal of Environmental Education*. p. 70.
- [27] Bronfman, Nicolas C., et.al. (2015), "Understanding Attitudes and Pro-Environmental Behavior in a Chilean Community," *Sustainability*, 7, pp. 14133-14152, doi: 10.3390/su71014133.
- [28] Christopher, J., et.al. (2012), "Study Abroad Experiences and Global Citizenship: Fostering Pro-environmental Behavior," *Journal of Studies in International Education*, 16(4), pp. 334-352.
- [29] Putrawan, I Made (2018), "Predicting Environmental Leadership Based on Personality and Its Construct Validity," *International Journal of Engineering & Technology*, 7(4.28)