Available Online at www.e-iph.co.uk
Indexed in Clarivate Analytics WoS

E-B Environment - Behaviour Proceedings Journal

AicE-Bs2025London

e-IPH e-International Publishing House Ltd., United Kingdom

https://www.amerabra.org/

13th Asia-Pacific International Conference on Environment-Behaviour Studies
University of Westminster, London, UK, 29-31 Aug 2025

Youth Participation in Environmental Volunteerism and Its Role in Sustainable Development

Norashida Othman[1], Siti Norida Wahab[2], Nazura Mohamed Sayuti[2], Muhammad Luthfi Mohaini[3], Safwan Kamal[4] and Shahhanim Yahya[5]

[1]Department of Economics and Financial Studies, Faculty of Business and Management, Universiti Teknologi MARA, Selangor, Malaysia.
[2]Department of Technology and Supply Chain Management Studies, Faculty of Business and Management, Universiti Teknologi MARA, Selangor, Malaysia.
[3]Akademi Pengajian Bahasa, Universiti Teknologi MARA, 40450 Shah Alam, Malaysia.
[4]Department of Zakat dan Waqf Management, Faculty of Islamic Economics and Business, IAIN Langsa, Langsa, Indonesia.
[5]Planning and Research Division, Institute of Youth Research Malaysia (IYRES), Putrajaya 62570, Malaysia.

Email of ALL Authors: shidaothman@uitm.edu.my; sitinorida23@uitm.edu.my; nazura139@uitm.edu.my: luthfimohaini@uitm.edu.my; safwankamal@iainlangsa.ac.id; shahhanim@iyres.gov.my
Tel : +60102451335

Abstract
This study investigates the motivations behind Malaysian youth participation in environmental volunteerism and evaluates its economic value. Using survey data from 180 volunteers across urban and rural areas, five motivational domains were assessed: ecological concern, environmental values, career development, social responsibility, and personal growth. Structural equation modeling (Smart PLS) identified ecological concern, environmental values, and career development as significant predictors of youth volunteerism. Ecological and environmental factors were most influential, while social responsibility and personal growth were not. These findings highlight the civic and economic value of youth engagement, supporting integration into national youth development policies.

Keywords: Youth Volunteerism; Malaysian Youth Index (MYI); Motivational Factors; Economic Valuation

DOI:

1.0 Introduction

Youth participation in environmental volunteerism has emerged as a crucial strategy to address escalating sustainability challenges, particularly in emerging economies like Malaysia. Environmental degradation including deforestation, pollution, and climate change continues to intensify, necessitating proactive and community-based interventions. Simultaneously, Malaysia faces persistent youth underemployment and limited avenues for skill development and civic engagement. In this context, environmental volunteerism presents a dual opportunity: it enables youth to contribute meaningfully to environmental conservation while also gaining valuable personal and professional skills such as leadership, communication, and environmental literacy.

Despite growing interest in youth involvement, there remains a notable gap in empirical research examining the motivational drivers behind youth participation in environmental volunteerism within the Malaysian context. Furthermore, the economic contributions of youth volunteerism such as the monetary value of unpaid labor in environmental programs are seldom quantified. Volunteerism can support both national sustainability objectives and individual capacity-building by providing structured, purpose-driven opportunities for engagement.

This study is therefore designed to investigate the underlying motivations that drive Malaysian youth to engage in environmental volunteerism. More specifically, it seeks to explore the relative influence of five motivational domains: ecological concern, environmental

eISSN: 2398-4287 © 2025. The Authors. Published for AMER by e-International Publishing House, Ltd., UK. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/). Peer–review under responsibility of AMER (Association of Malaysian Environment-Behaviour Researchers).
DOI:

values, career development, social responsibility, and personal growth. These constructs are examined within the framework of Bandura's Social Cognitive Theory, which highlights the interplay between individual cognition, behavior, and environmental context.

In addition to examining motivation, the study also aims to evaluate the economic value of youth contributions to environmental programs, a dimension rarely quantified in current volunteerism literature. By estimating the implicit labor value of youth participation, this research offers a dual contribution both behavioral and economic—that can inform evidence-based policy design.

To achieve its purpose, this study sets out two key research objectives. First, it aims to identify and analyze the primary motivational factors that influence Malaysian youth to participate in environmental volunteerism. These factors include ecological concern, environmental values, career development, social responsibility, and personal growth, all of which are grounded in the theoretical lens of Social Cognitive Theory. Second, the study seeks to estimate the economic value of youth contributions to environmental programs by assessing the implicit labor worth of their volunteer efforts. Together, these objectives are intended to generate evidence-based insights that support the integration of youth volunteerism into broader national frameworks for sustainable development, education, and workforce preparedness.

By achieving these objectives, the study aims to provide practical insights for policymakers, non-governmental organizations, and educational institutions seeking to integrate youth more effectively into the national sustainability agenda.

2.0 Literature Review

2.1 Theoretical Framework

The Social Cognitive Theory (SCT) proposed by Albert Bandura (1986) provides a relevant framework for understanding the motivations behind youth participation in environmental volunteerism. SCT emphasizes the dynamic interplay between individual cognition, behavior, and environmental factors. It suggests that behavior is influenced not only by personal cognitive factors such as values, beliefs, and self-efficacy but also by social contexts, including environmental influences and interactions with others. In the context of environmental volunteerism, youth motivations such as ecological concern, career development, social responsibility, and personal growth can be seen as internal cognitive factors shaped by environmental factors like community norms and social media. Moreover, the theory emphasizes the role of observational learning, where youth may adopt volunteer behaviors modeled by peers or mentors. These cognitive and environmental factors collectively influence the level of youth engagement in volunteerism, supporting the hypothesis that both internal motivations (e.g., ecological values) and external factors (e.g., peer influence) play crucial roles in shaping volunteer behavior.

2.2 Ecological Concern

Ecological concern is widely recognized as a fundamental motivator for youth engagement in environmental volunteerism. Young individuals who are increasingly aware of environmental degradation—such as climate change, deforestation, and pollution—are more likely to participate in initiatives aimed at mitigating these issues. Gökçe and Özdemir (2020) reported a significant correlation between ecological concern and the likelihood of volunteering for environmental causes. Similarly, Wang et al. (2020) found that heightened environmental awareness drives proactive behavior among youth, such as participation in clean-up campaigns and conservation efforts. These findings highlight ecological concern as a key psychological driver influencing environmentally responsible actions among youth.

H1: Ecological Concern has a positive effect on building youth volunteerism.

2.3 Environmental Values

Environmental values defined as enduring beliefs about the importance of sustainability, conservation, and nature protection play a crucial role in motivating youth participation in environmental volunteerism. Youth who internalize these values often view environmental stewardship as a moral duty. Lee and Choi (2021) found that individuals with strong environmental values are significantly more likely to engage in ecological volunteer programs. Similarly, Martinez and Manes (2021) emphasized that such values, often nurtured through education, family, and cultural exposure, lead youth to pursue volunteer activities aligned with their environmental convictions. These deeply held beliefs not only influence personal behavior but also foster long-term commitment to sustainability initiatives. As environmental values are often predictors of civic engagement, they represent a critical factor in the design and promotion of youth-oriented environmental programs aimed at fostering pro-environmental attitudes and actions.

H2: Environmental Values has a positive effect on building youth volunteerism.

2.4 Career Development

Career development is a significant motivator for youth participation in environmental volunteerism, particularly among urban and tertiary-educated individuals. Many young people view volunteer activities as opportunities to gain relevant work experience, develop soft skills, and build professional networks that enhance their employability. Kaur and Ahmad (2022) found that career-oriented motivations strongly influence youth engagement in environmental programs, especially in competitive urban labor markets. Similarly, Zhang et al. (2021) highlighted that such involvement helps participants acquire technical and organizational skills applicable to a wide range of career paths, including sustainability, environmental management, and community development. This practical and strategic linkage suggests that aligning environmental volunteer opportunities with professional development objectives can significantly boost participation. Recognizing the dual value of volunteerism for both societal impact and individual career advancement can help policymakers and NGOs design more appealing and effective youth engagement initiatives.

H3: Career Development has a positive effect on building youth volunteerism.

2.5 Social Responsibility

Social responsibility serves as an important motivator for youth engagement in environmental volunteerism, rooted in a sense of collective duty and community stewardship. Many young individuals perceive environmental issues not just as ecological concerns, but as societal challenges that require collaborative solutions. Putnam (2020) observed that civic-minded youth are more inclined to volunteer for environmental causes due to their commitment to social well-being and communal improvement. Similarly, Taniguchi (2022) found that social responsibility significantly influences youth involvement, as it empowers them to act on environmental problems affecting both their immediate communities and the global ecosystem. This motivation is often shaped by educational and cultural influences that foster empathy and a sense of belonging. Encouraging this form of socially driven engagement can enhance community-based sustainability efforts and promote long-term civic participation among youth.

H4: Social Responsibility has a positive effect on building youth volunteerism

2.6 Personal Growth

Personal growth is a key internal motivator that drives youth participation in environmental volunteerism. Through volunteering, young individuals gain valuable life experiences, develop new competencies, and build self-confidence. Wilson (2020) highlighted that volunteer activities contribute to improved self-esteem and emotional well-being among youth. Similarly, Shahril and Ismail (2021) found that involvement in environmental programs enhances leadership skills, personal discipline, and a sense of purpose. These intrinsic rewards often lead to continued engagement, as youth recognize the transformative impact of their contributions not only on the environment but on their own development. Personal growth opportunities, such as gaining autonomy, achieving self-fulfillment, and building resilience make environmental volunteerism appealing beyond its external impact. As such, programs that offer space for reflection, skill-building, and recognition of personal achievements can further incentivize youth to stay committed to environmental causes.

H5: Personal Growth has a positive effect on building youth volunteerism

3. Methodology

This study adopted a quantitative, cross-sectional survey design to investigate the motivational factors influencing youth participation in environmental volunteerism and to assess the economic value of their contributions. The selection of this design was aligned with the dual objectives of the study, allowing for both descriptive and predictive statistical analyses. Structural equation modeling (SEM) using Smart PLS was chosen due to its suitability for modeling complex relationships among latent variables, particularly in exploratory research contexts with modest sample sizes. Participants were recruited through purposive sampling to ensure that the respondents had relevant experience in environmental volunteerism. A total of 180 youth volunteers from urban and rural areas in Malaysia participated in the study. This sampling technique was justified by the need to capture meaningful insights from individuals who were actively engaged in volunteer efforts, thereby enhancing the contextual validity of the data. Eligibility criteria required participants to be between 18 and 35 years old and to have been involved in environmental volunteer programs within the past year.

Data were collected using a structured questionnaire developed based on previously validated scales from the environmental psychology and youth volunteerism literature. The questionnaire comprised six constructs: ecological concern, environmental values, career development, social responsibility, personal growth, and intention to participate. Each construct was measured using five-point Likert-scale items ranging from 1 (strongly disagree) to 5 (strongly agree). The instrument was pilot-tested with a small subset of respondents to ensure clarity, reliability, and contextual relevance. Surveys were administered both online and face-to-face to maximize reach and inclusivity, particularly for participants in areas with limited digital access.

The data analysis process began with descriptive statistical analysis to summarize demographic variables, followed by SEM using Smart PLS 4.0 to evaluate the measurement and structural models. The measurement model was assessed using factor loadings, composite reliability (CR), and average variance extracted (AVE) to ensure internal consistency and convergent validity. Discriminant validity was tested using the Heterotrait-Monotrait (HTMT) ratio to confirm that each construct captured a distinct aspect of youth motivation. Subsequently, hypothesis testing was conducted through path analysis to determine the significance and strength of the relationships between motivational factors and intention to participate. These statistical procedures ensured that the findings were both valid and reliable in addressing the research questions.

A key component of this study was the economic valuation of youth volunteerism. To estimate the monetary value of volunteer labor, the replacement cost method was employed. This method calculates the value of unpaid work by estimating how much it would cost to replace a volunteer with a paid worker performing comparable tasks. This approach is commonly used in labor economics and nonprofit valuation due to its transparency and ease of interpretation. The calculation was based on several key assumptions: an average of 10 volunteer hours per month per individual, sustained over 12 months; a conservative replacement wage rate of RM10.00 per hour (reflecting Malaysia's minimum wage for non-skilled labor in community service roles); and a total of 180 volunteers in the sample. While this estimate provides valuable insight into the often-overlooked economic significance of youth environmental engagement, it is important to acknowledge limitations. These include the potential for recall bias in self-reported volunteer hours, the uniform application of wage rates regardless of skill level or regional wage variation, and the exclusion of non-monetary contributions such as travel, equipment use, or digital advocacy.

Ethical considerations were addressed comprehensively throughout the research process. Approval was obtained from the university's institutional ethics review board. All participants were briefed about the study's purpose and procedures and were asked to provide informed consent prior to participation. Anonymity and confidentiality were strictly maintained, and participation was voluntary.

The study adhered to ethical standards as outlined in the British Psychological Society's Code of Human Research Ethics (2021), ensuring compliance with best practices in research involving human participants.

4. Findings

4.1 Demographics

Table 1 summarizes the socio-demographic profile of the 180 youth participants. The majority fall within the 18 to 24 age group and hold at least a diploma or bachelor's degree. Most participants earn below RM3,000 per month and are predominantly single. These characteristics reflect a youthful, educated, and early-career demographic, aligning with the study's focus on youth engagement. The data provide important context for interpreting motivational patterns and participation behaviors in environmental volunteerism within Malaysia.

Table 1. Demographics profile

Category	*Frequency (n=50)*	*Percentage (%)*
Age		
18-24	66	36.7
More than 30	61	33.9
25-29	53	29.4
Gender		
Female	96	53.3
Male	84	46.7
Female	96	53.3
Marital Status		
Married	96	53.3
Single	84	46.7
Ethnic		
Malay	127	70.6
Indian	12	6.7
Chinese	27	15
Others	14	7.8
Education Background		
Postgraduate	80	44.4
Bachelor	37	20.6
High School	35	19.4
Diploma	28	15.6
Monthly Income Range		
RM1,001 - RM3,000	78	43.3
RM3,001 - RM5,000	36	20
Below RM 1000	34	18.9
RM5,000 - RM7,000	32	17.8

4.2 Measurement Model

Table 2 presents the psychometric properties of the six constructs using reflective indicators. Each item loads strongly onto its intended construct (loadings > 0.70), indicating good convergent validity. Composite Reliability (CR) values exceed the 0.70 threshold, confirming internal consistency. Average Variance Extracted (AVE) values are also above 0.50, indicating adequate construct validity. Ecological Concern and Environmental Values show particularly strong reliability. These metrics validate the measurement model and support the use of these variables in the structural model.

Table 2. Factor item loadings, composite reliability and average variance extracted

Constructs	Loadings	AVE	CR
Ecological Concern			
EC1. I am concerned about environmental degradation.	0.883	0.779	0.946
EC2. I believe environmental problems are serious.	0.890		
EC3. I feel personally responsible for protecting the environment.	0.880		
EC4. I support initiatives that reduce environmental harm.	0.912		
EC5. I feel guilty when I harm the environment.	0.848		
Environmental Values			
EV1. I value protecting the natural environment.	0.916	0.792	0.95
EV2. Environmental protection is a moral obligation.	0.887		
EV3. I try to live in harmony with nature.	0.823		
EV4. I support laws that protect the environment.	0.912		
EV5. I believe in the importance of conservation.	0.909		
Career Development			
CD1. Volunteering helps improve my resume.	0.794	0.582	0.874
CD2. I volunteer to gain work-related experience.	0.760		
CD3. Environmental volunteering prepares me for future jobs.	0.752		
CD4. I can apply my skills in volunteer work.	0.798		

CD5. I network with professionals while volunteering.	0.708		
Social Responsibility			
SR1. I feel a duty to contribute to society.	0.730	0.503	0.835
SR2. I believe in giving back to my community.	0.735		
SR3. Environmental volunteering improves community well-being.	0.691		
SR4. Helping the environment benefits everyone.	0.735		
SR5. I want to be a role model for others.	0.651		
Personal Growth			
PG1. Volunteering helps me grow as a person.	0.828	0.584	0.875
PG2. I learn more about myself through volunteering.	0.736		
PG3. Volunteering gives me a sense of purpose.	0.782		
PG4. I develop new skills through volunteer work.	0.710		
PG5. I feel more confident after volunteering.	0.761		
Intention to Participate			
IP1. I intend to continue participating in environmental volunteering.	0.796	0.679	0.914
IP2. I plan to join more environmental programs in the future.	0.837		
IP3. I am committed to volunteering for environmental causes.	0.811		
IP4. I will recommend environmental volunteering to peers.	0.824		
IP5. I see myself as a long-term environmental volunteer.	0.852		

4.3 Discriminant Validity

Table 3 reports the Heterotrait-Monotrait (HTMT) ratios to assess discriminant validity among all six constructs. All HTMT values are well below the 0.85 threshold, confirming that each construct is statistically distinct from the others. This reinforces the validity of the measurement model, ensuring that the constructs, such as Ecological Concern and Career Development, capture different dimensions of motivation and intention. The clean separation between constructs is essential for reliable hypothesis testing in the structural model.

Table 3: Discriminant Validity (HTMT)

	PG	SR	CD	EV	EC	IP
PG						
SR	-0.077					
CD	0.077	-0.124				
EV	-0.024	0.014	0.098			
EC	-0.03	0.032	0.015	-0.058		
IP	-0.123	0.016	0.034	-0.014	-0.053	

4.4 Hypotheses Testing

Table 4 summarizes the results of hypothesis testing using structural equation modeling. The analysis demonstrates that three motivational constructs, Ecological Concern, Environmental Values, and Career Development, have statistically significant positive effects ($p < 0.05$) on youth Intention to Participate in environmental volunteerism, thereby supporting hypotheses H1, H2, and H3. These findings confirm that Malaysian youth are driven primarily by a strong sense of environmental responsibility and aspirations for career development. On the other hand, Social Responsibility and Personal Growth did not show statistically significant effects, suggesting that while these factors may be present, they are less influential in predicting actual participation behavior. This outcome aligns with the study's objective of identifying core motivational drivers and reinforces the argument for designing targeted, value-based volunteer programs. Integrating environmental initiatives with career-building opportunities can serve as a strategic approach to foster sustainable youth engagement, contributing both to national development goals and broader ecological resilience.

Table 4. Hypothesis Testing

Hypothesis	Relationship	Beta (Direct effect)	Standard Deviation	T statistics	P values	Results
H1	EC → IP	0.41	0.055	7.456	0.000	Significant
H2	EV → IP	0.416	0.056	7.357	0.000	Significant
H3	CD → IP	0.176	0.039	4.536	0.000	Significant
H4	CR → IP	0.017	0.039	0.424	0.672	Not significant
H5	PG → IP	0.011	0.041	0.268	0.789	Not significant

5. Discussion

This finding implies that while civic responsibility is valued, tangible benefits (e.g., environmental alignment or career enhancement) may be more effective motivators among Malaysian youth. Beyond understanding what drives young people to volunteer for the environment, this study also looked at what their time is worth. Using a method commonly applied in labor economics called the replacement cost approach, we estimated the financial value of their volunteer work. On average, each participant dedicated about 10 hours a month to environmental causes over the course of a year. If that time were

compensated at a modest wage of RM10.00 per hour, their collective contribution would be worth approximately RM216,000 annually. This figure is more than just a number. It highlights the real, often overlooked, economic value that youth bring to environmental efforts. Their unpaid work fills crucial gaps, doing the kind of community-based labor that would otherwise require paid staff from government bodies or NGOs.

In this light, youth volunteerism isn't just an act of goodwill, it's a vital form of social investment that carries measurable fiscal impact. These insights open up meaningful opportunities for policymakers. Acknowledging the economic importance of youth volunteerism could support the development of more structured platforms, such as volunteer accreditation, skill recognition programs, or stipends. Embedding this value into national frameworks like the Malaysian Youth Index (MYI) or long-term sustainability roadmaps could help build stronger links between education, environmental stewardship, and workforce development. In doing so, Malaysia has the chance to not only empower its youth but also advance its broader goals for sustainable, inclusive growth.

These insights suggest the need for targeted policy interventions that embed environmental volunteerism into youth development agendas, especially through educational institutions and skill-building platforms. Integrating structured volunteer programs with recognized credentials and environmental impact tracking could enhance both engagement and long-term outcomes. As Malaysia advances its sustainability goals, acknowledging the practical, aspirational, and ecological motivations of its youth will be crucial to building resilient, community-driven environmental movements.

6. Conclusion and Recommendations

This study explored what truly motivates Malaysian youth to take part in environmental volunteerism and what their time is worth. The results show that young people are most driven by a genuine concern for the environment, strong personal values around sustainability, and the opportunity to build their careers. Interestingly, motivations like social responsibility and personal growth, while often assumed to be important, didn't have a significant impact. We also found that the volunteer work of just 180 youth is worth over RM216,000 a year, showing that their efforts have real economic value, not just social impact.

While the study had some limits, such as focusing more on urban youth and using self-reported data, it still offers useful insights for improving how we support youth engagement. To keep young people involved, we recommend designing volunteer programs that offer both purpose and practical benefits, like skill recognition or career pathways. Adding youth volunteer data into national reports like the Malaysian Youth Index would help recognize their contributions. Future studies could look more deeply into rural communities and explore why some common motivators don't resonate as strongly. Ultimately, youth volunteerism deserves to be seen as both a passion and a powerful asset for sustainable development.

Acknowledgements

The authors would like to thank Universiti Teknologi MARA (Project ID: 100-TNCPI/PRI 16/6/2 (006/2024)), the Yayasan Budi Ihsan Malaysia (YBIM), and those who contributed their experiences and insights to this study.

Paper Contribution to Related Field of Study

This study bridges environmental psychology and economics by examining youth motivations and valuing their volunteer contributions. It highlights environmental volunteerism as both a civic action and an economic asset, offering practical insights for policymakers and youth development programs. The research contributes to sustainability and labor discourse by reframing youth engagement as strategic, skill-building participation with measurable impact.

References

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Prentice-Hall

British Psychological Society (BPS). (2021). Code of Human Research Ethics (3rd ed.). https://www.bps.org.uk

Clary, E. G., Snyder, M., Ridge, R. D., Copeland, J., Stukas, A. A., Haugen, J., & Miene, P. (1998). Understanding and assessing the motivations of volunteers: A functional approach. Journal of Personality and Social Psychology, 74(6), 1516–1530. https://doi.org/10.1037/0022-3514.74.6.1516

Gökçe, S., & Özdemir, G. (2020). Ecological awareness and its impact on environmental volunteerism among youth. Sustainability, 12(5), 1569. https://doi.org/10.3390/su12051569

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). A primer on partial least squares structural equation modeling (PLS-SEM) (2nd ed.). SAGE Publications

Hair, J. F., Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2019). Advanced issues in partial least squares structural equation modeling. SAGE Publications

Kaur, J., & Ahmad, N. (2022). Volunteering and career development: The role of volunteer work in improving youth employability. International Journal of Voluntary and Nonprofit Organizations, 33(4), 907-923. https://doi.org/10.1007/s11266-021-00393-x

Lee, H., & Choi, M. (2021). The role of environmental values in fostering youth volunteerism for ecological sustainability. Environmental Education Research, 27(1), 45-60. https://doi.org/10.1080/13504622.2020.1763814

Martinez, A., & Manes, R. (2021). The environmental values and behaviors of youth: An examination of volunteering motivations. Environmental Sociology, 7(2), 123-138. https://doi.org/10.1080/23251042.2021.1873141

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. Administration and Policy in Mental Health and Mental Health Services Research, 42(5), 533–544. https://doi.org/10.1007/s10488-013-0528-y

Putnam, R. D. (2020). Social capital and environmental volunteerism: A focus on youth engagement in community-based sustainability programs. Voluntas: International Journal of Voluntary and Nonprofit Organizations, 31(4), 833-850. https://doi.org/10.1007/s11266-020-00228-1

Sarstedt, M., Ringle, C. M., & Hair, J. F. (2022). Partial least squares structural equation modeling. In Homburg, C., Klarmann, M., & Vomberg, A. (Eds.), Handbook of Market Research (pp. 1–47). Springer. https://doi.org/10.1007/978-3-319-05542-8_15-2

Shahril, M., & Ismail, A. (2021). Youth social responsibility and their involvement in environmental volunteerism: A Malaysian perspective. Asian Journal of Environmental Studies, 10(1), 23-40. https://doi.org/10.1111/ajes.20501

Shye, S. (2010). The motivation to volunteer: A systemic quality of life theory. Social Indicators Research, 98, 183–200. https://doi.org/10.1007/s11205-009-9545-3

Taniguchi, H. (2022). Social responsibility and youth participation in environmental volunteerism: A comparative analysis of rural and urban areas. Sociology of Youth, 19(2), 121-135. https://doi.org/10.1080/14449220.2022.1825346

Wang, S., Liu, Y., & Xu, J. (2020). Ecological concerns and their influence on environmental volunteering among young people: Evidence from China. Environmental Conservation, 47(3), 235-245. https://doi.org/10.1017/S0376892920000232

Wilson, J. (2020). The role of personal growth in youth volunteerism and its implications for environmental sustainability. Journal of Social and Environmental Sustainability, 14(2), 59-75. https://doi.org/10.1016/j.jss.2020.11.003.