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The Influence of Environmental Awareness and Lifestyle on People's Behavior to Reduce Plastic Waste

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Abstract

Creating a comfortable environment requires public awareness first so that people together build a comfortable environment for them. Therefore, Manukan Kulon Surabaya Village made a policy for its people to participate in reducing plastic waste either during activities or utilizing waste banks. The purpose of this study was to determine how environmental awareness and lifestyle influence people's behavior in reducing plastic waste. The sampling technique used was non-probability sampling technique with the number of samples in this study as many as 100 people in Manukan Kulon Village Surabaya. The data processing technique used is multiple linear regression analysis. The results of this study indicate that there is a significant and positive influence between environmental awareness and lifestyle variables on community behavior variables in reducing plastic waste partially and simultaneously.

Keywords: environmental awareness, lifestyle, community behavior, plastic waste.

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Introduction

The progression of time has made us aware that the Earth is aging and continuously undergoing transformation. Current trends and patterns in resource utilization, coupled with the rapidly changing, increasingly unequal, complex, and interconnected social structures, as well as accelerating technological advancements, have a significant impact on human–environment interactions, often in ways that are unsustainable (Radjawane et al., 2022). A flawed human perspective toward the environment leads society toward a state described as "Unsustainable for Development." This condition is characterized by an imbalance in human life arising from a tendency to exploit natural resources rather than to conserve them (Saputra, 2017). Ultimately, such circumstances contribute to environmental degradation globally, particularly in Indonesia, where environmental damage continues to escalate, resulting in phenomena such as global warming, ozone layer depletion, and environmental degradation (Hidayat et al., 2024). One pertinent example is the persistent and unresolved issue of plastic waste, despite the fact that minimizing plastic usage is considerably more effective for environmental management. Waste contributes to widespread impacts, especially in relation to environmental pollution (Hardiatmi, 2011).

The accumulation of plastic waste is pervasive across all cities and nearly every region of Indonesia. In addition to being commonly found at final disposal sites, plastic waste is also accumulated and scattered in rivers, behind marketplaces, at docks, along embankments, and ultimately in the sea. Furthermore, the beauty of coastal areas is increasingly obscured by plastic waste, most of which consists of plastic bottles, plastic bags, plastic food packaging, and related materials. Plastic remains a significant environmental issue due to its persistent nature (Nurmalasari & Mardikaningsih, 2022). Plastic is a material that is not readily degraded or decomposed by soil or water. This reality has begun to prompt shifts in community behavior, as evidenced by the adoption of environmentally friendly practices. Such shifts inevitably influence consumer needs and preferences. Individuals are increasingly selective about the products they use, preferring those that do not contribute to environmental degradation (Khayru et al., 2024). These actions also represent a form of social responsibility, underscoring the obligation of society to preserve

environmental sustainability. Accordingly, in light of the environmental challenges posed by plastic waste, it is imperative to foster community behavior aimed at reducing plastic waste, grounded in environmental awareness and lifestyle factors (Djaelani, 2021).

Within each individual, awareness encompasses attitudes, perceptions, and knowledge that serve as references for action. In this context, environmental awareness forms the foundation for the development of pro-environmental behavior. When an individual possesses environmental awareness, it can lead to a positive transformation in behavior, resulting in greater environmental concern and a commitment to ongoing environmental stewardship. According to Neolaka (2008), environmental awareness refers to a state of being in which one's consciousness is aroused in relation to a particular matter—specifically, the environment—which is reflected in the behaviors and actions exhibited by individuals. Kriswanto (2013) defines environmental awareness as a condition in which individuals within a community recognize the importance of a given space (the environment), within which living beings must be protected and conserved. Lee et al. (2012) have observed that environmentally conscious communities are willing to pay a premium for environmentally friendly products, consider environmental issues when shopping, and purchase a greater quantity of eco-friendly products. According to Azizan and Suki (2013), environmental awareness has a positive impact on the use of environmentally friendly products. Communities that utilize such products are those accustomed to a healthy lifestyle at home, in the workplace, and in their broader residential environments. Therefore, individuals' actions toward the environment are guided by their understanding of environmental problems and their underlying causes, enabling them to identify appropriate solutions.

Lifestyles differ from one community to another, and over time, individual lifestyles become increasingly dynamic in response to societal and technological developments. Consumer behavior, particularly regarding purchasing habits, is also subject to change, especially as advancing technology makes it increasingly convenient to acquire goods. Lifestyle refers to the ways in which individuals choose to allocate their time and financial resources, as well as how their values and preferences are reflected in their consumption choices (Solomon, 2015). According to

Sumarwan (2011), lifestyle is an individual's behavior—how one lives, spends money, and makes use of available time. Thus, lifestyle constitutes a pattern of daily living that may be interpreted or observed through one's activities, interests, and perspectives on both oneself and the environment; in this context, lifestyle pertains specifically to activities, interests, or opinions that favor environmentally friendly behavior and promote continuous environmental protection. Lifestyle influences not only needs and desires but also behavior. Moreover, lifestyle often serves as a fundamental motivational guide for purchasing decisions. Based on the foregoing, community behavior in reducing plastic waste is attributable principally to environmental awareness and lifestyle factors.

Method

The survey research method will be employed in this study using a quantitative approach. A non-probability sampling technique will be utilized, whereby 100 residents of Manukan Kulon Subdistrict, Surabaya, will be designated as research participants. Data collection will be conducted through the administration of questionnaires. The data collection instrument will incorporate a Likert scale ranging from 1 to 4. Responses obtained from the written questionnaires will subsequently be processed quantitatively using SPSS software. The analysis will then proceed with the application of classical assumption tests, t-tests, F-tests, and the coefficient of determination assessment.

The indicators for environmental awareness (X1) are based on the framework proposed by Sanchez and Lafuente (2010), which encompass: (1) general belief/values, relating to an individual's beliefs and perspectives regarding environmental conditions, including the perception of environmental degradation and efforts to establish environmental harmony; (2) personal attitudes, which pertains to an individual's disposition toward their environment, emphasizing personal values and ethics; and (3) information/knowledge, which concerns an individual's understanding of environmental issues.

The lifestyle indicators (X2), adopted from the perspective of Mowen and Minor (2002), are as follows: (1) activity, which addresses the actions undertaken by individuals, the products they purchase and use, as well as leisure time activities; (2) interest, which refers to individual preferences

and priorities; and (3) opinion, which relates to individual views and feelings in response to global, local, economic, and social issues.

The indicators of community behavior in reducing plastic waste (Y), in accordance with Kaiser et al. (2007), consist of: (1) energy conservation; (2) mobility and transportation; (3) waste avoidance; (4) recycling; (5) consumerism; and (6) conservation.

Result and Discussion

To see whether or not there are deviations in the regression model, a classic assumption test is carried out which consists of three categories. Normality test is used to test in regression, confounding variables and residuals have a normal distribution. Like Figure 1 below.

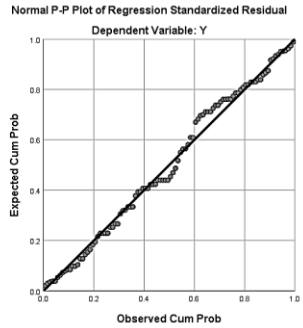

Figure 1. Normality Test
Source: SPSS Output Results

Figure 1 provides an explanation that the data distribution is normal because it forms a straight line following the diagonal.

Multicollinearity test can be detected through tolerance and VIF values. If the tolerance value is greater than 0.1 and VIF is still below 10, then it is clear that there is no problem with multicollinearity. In this study, it is proven that there is no problem because the environmental awareness and lifestyle variables have tolerance and VIF values (0.675 and 1.481).

The autocorrelation test can be seen by means of the DW (Durbin Watson) value generated from the SPSS output compared to the provisions of the DW value which must be in the interval -2 and +2. In this study, DW from SPSS output = 1.777 so it can be concluded that it is true that there is no problem for the autocorrelation test.

Table 1. t-Test and Regression Model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	28.587	3.127		9.143	.000
	X.1	3.680	.534	.573	6.897	.000
	X.2	1.496	.505	.246	2.961	.004

Source: SPSS Output Results

In Table 1 partially it can be stated that: (1) the effect given by the environmental awareness variable on community behavior is positive and significant. It is stated so because the significance value (0.000 <0.05); (2) the influence given by lifestyle variables on community behavior is positive and significant. It is stated so because the significance value (0.004 <0.05). From Table 1, the regression equation can also be written as: Y=28.587+ 3.680X1+ 1.496X2+e.

Table 2. ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2108.059	2	1054.029	58.970	.000[b]
	Residual	1733.781	97	17.874		
	Total	3841.840	99			

Source: SPSS Output Results

Based on Table 2, it is known that simultaneously the environmental awareness and lifestyle variables also have a positive and significant effect on community behavior because the F-count value is 58,970 and the significance is 0.000. This significance value is still lower than 0.05 (0.000 < 0.05).

Table 3. Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.741[a]	.549	.539	4.228	1.777

Source: SPSS Output Results

Table 3 provides an explanation that the results of the determination coefficient test yield a value of 54.9%. This value signifies that the variables of environmental awareness and lifestyle have contributed 54.9% in shaping the variable of community behavior in reducing plastic waste. The remaining 45.1% indicates the presence of other independent variables that may influence community behavior in reducing plastic waste.

Based on data processing and analysis, it has been demonstrated that the variable of environmental awareness significantly affects community behavior. This research finding is further reinforced by previous studies conducted by Kollmus and Agyeman (2002), Diamantopoulos et al. (2003), and Cruz and Prabawani (2017). This implies that the greater a person's awareness of environmental issues, impacts, methods, beliefs, and attitudes regarding environmental problems, the greater the likelihood of positive actions being undertaken for the environment. Environmental awareness will guide society towards a high level of involvement when purchasing and consuming goods to show greater concern for their surroundings. This indicates the essential need to impart knowledge and foster awareness. Cultivating public awareness should aim at enabling people to understand how to sort and separate waste into organic and inorganic categories. Inorganic waste that is not mixed with organic waste does not require immediate disposal, as it does not decompose, produce odors, and can be processed further into useful items. The practice of sorting waste should ideally begin at the household level, as households are a primary source of waste generation. Although a significant portion of waste is also produced by industry, raising awareness about waste sorting at the household level can exert a broad and effective influence. The role of housewives is particularly significant, acting as the main figures responsible for this practice and serving as educators within their families. Waste sorting activities conducted by housewives will affect all family members, imparting knowledge about different types of waste and promoting the habit of sorting through the use of separate waste bins. Once the public is able to distinguish between types of waste, they will understand that inorganic waste, particularly plastic, is very difficult to decompose naturally. Consequently, the community will become increasingly aware of and comprehend the hazards associated with the accumulation of plastic waste in the environment.

Similarly, the lifestyle variable has also been shown to significantly affect community behavior. These findings are consistent with previous research conducted by Fraj and Martinez (2006) and Ali (2013). The results suggest that people's lifestyles should not only prioritize personal needs and satisfaction, but must also pay greater attention to the environment, as local environmental conditions impact health, well-being, and safety. Therefore, it is important to introduce and promote a greater understanding of the

benefits of using cloth bags for daily shopping. This can begin with demonstrations of cloth bag usage within communities, which aim to project a more exclusive and elegant image. The adoption of cloth bags as a substitute for plastic bags is not only more tidy, exclusive, and elegant, but also serves the primary purpose of reducing plastic waste. Furthermore, communities should be given the opportunity to ask questions during these demonstrations. The use of cloth packaging bags for long-term purposes can be modified and further developed. Unwearable used clothing can be repurposed, thereby supporting reuse activities that are highly beneficial for reducing plastic waste.

Conclusion

Based on the results of the research that has been conducted, researchers can formulate the following conclusions: (1) there is a significant and positive influence between environmental awareness variables on people's behavior in reducing plastic waste; (2) there is a significant and positive influence between lifestyle variables on people's behavior in reducing plastic waste; (3) there is a significant and positive influence between environmental awareness variables and lifestyle on people's behavior in reducing plastic waste.

Based on the aforementioned considerations, several recommendations are proposed as follows: (1) Change agents should serve as both educators and facilitators in raising public awareness regarding the critical importance of the environment in development and overall well-being. This advocacy may begin with the implementation of initiatives that empower communities to address plastic waste, such as significantly reducing the use of single-use plastic packaging. The adoption of reusable cloth bags as packaging materials not only fosters a healthier environment but can also be viewed as a potential source of income for local communities; (2) Concrete actions are necessary as manifestations of knowledge and the information provided, along with the relevant policies enacted. In this regard, dissemination of information must be accompanied by practical application in the field, rather than being limited to theoretical knowledge alone; (3) The public is encouraged to participate in activities or join nature enthusiast communities and organizations, as well as to purchase environmentally friendly products, thereby ensuring the continued

sustainability of the environment; (4) Future research should consider utilizing a larger sample size in order to obtain more accurate data, expanding study locations to areas with varying levels of public access to information and differing availability of facilities and infrastructure, and selecting respondents with distinct demographic characteristics.

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