

The Relationship Between Educational Level And Community Behavior With Household Waste Management In Ihung Geulumpang Village, Kuala Batee District, Aceh Barat Regency In 2022

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Article Info	ABSTRACT
Keywords: Education, Knowledge, Attitudes, Behavioral Actions, Waste	Waste management aims to reduce health and environmental impacts. Waste management consists of storage, collection and disposal. Inefficient waste management can damage the environment. In 2022, this project will examine how education influences community behavior in managing household waste in Lhung Geulumpang Village, Kuala Batee District, Southwest Aceh Regency. This research uses a descriptive quantitative cross-sectional method. This research collected data using questionnaire- based interviews from October to November 2022. The level of community education has a positive effect on waste management behavior, based on the results of bivariate analysis. The alternative hypothesis is accepted because the P value is 0.001, below 0.05.
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INTRODUCTION

Waste management basically reflects a crucial stage in efforts to maintain environmental sustainability, which can be measured by increasing the volume of waste. The significant increase in global waste volumes is a major issue, with estimates from the World Bank stating that by 2025, the amount of waste worldwide is expected to reach 2.2 billion tons. Countries in the Organization for Economic Co-operation and Development (OECD), most of which are developing countries, are the largest contributors to global waste with a volume reaching 572 million tons every year, and a per capita value ranging from 1.1 to 3.7 kilograms per person per day (OECD 2022).

The amount of waste produced in Indonesia is estimated to reach 175,000 tons every day, with the household sector being the largest contributor. According to data from the Ministry of the Environment for 2022, 42 million kilograms of waste per year comes from 194 districts and cities in Indonesia, with 86% of it being organic waste and the remaining 14% being inorganic waste (Ministry of the Environment 2023).

Aceh Province, which has a population of 5,333,733 people, is ranked sixth in the category of provinces where people do not segregate waste, with a percentage reaching 87.95%. BPS notes that every year, Aceh experiences an increase in the level of production and volume of waste, with Estimated daily waste production will reach 252 m3 in 2022,

according to the 2023 Aceh Environmental Service report.

In 2022, Southwest Aceh Regency recorded the amount of household waste at 28,533 tons per year. This is caused by a lack of public awareness of the dangerous impacts and excessive accumulation of waste, especially due to blocked culverts which can cause flooding. Therefore, an approach to the waste problem is needed so that the waste phenomenon that has occurred so far does not become a serious problem for the community, said the Southwest Aceh District Health Service in 2023.

Lhung Geulumpang Village, located in Kuala Batee District, is a settlement in Southwest Aceh Regency with most of the population living in the lowlands. Environmental conditions in these villages generally do not pay attention to cleanliness, often associated with irregular settlements. The lack of environmental awareness is reflected in community behavior, especially through the careless disposal of rubbish scattered around residential areas. Lhung Geulumpang Village, which is characterized by a pluralistic/heterogeneous society, faces challenges in waste management in line with population growth. Keeping the environment clean may not be as important as some people think. Apart from that, air pollution, river silting, and river narrowing are threats to this community. Some people also hinder groundwater processes by throwing rubbish directly into rivers; This is especially true for plastic waste, which does not break down easily and can lead to dangerous waste management practices.

Even though the community has played a role in efforts to repair and improve environmental quality, their involvement is still very limited and has not developed optimally. This is caused by the low level of community knowledge and action regarding concern for environmental cleanliness. As a result, many people tend to choose rivers or the sea as final disposal sites for their activities, for practical reasons. (Southwest Aceh District Health Service 2023)

Analyzing and explaining actions in waste management can be done through a psychological theory approach which highlights the relationship between level of education and behavior. Education is considered a crucial aspect in the formation of individual behavior, because it is from the educational process that positive behavior can be formed. Okviana (2015) stated that behavior includes all manifestations of an individual's life in interacting with the environment, from actions that are clearly visible to those that are not visible, from what is felt to what is not felt.

In line with this, the National Education System Regulation of the Republic of Indonesia Number 20 of 2003 states, "Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential." This proposition was adopted by voters in 2003. It is believed that they will have the abilities necessary for themselves, their communities, their country, and their state, as well as the necessary spiritual fortitude, self-discipline, personality, intelligence, and virtue.

There is a correlation between a person's level of education and their level of understanding about waste management. Not only does the amount of formal education have a significant influence in this context, but also, non-formal education, which includes

things like socialization and training, also plays an important role. A person's level of knowledge and behavior regarding waste management can be influenced by their participation in outreach and training activities. There is a gap between those who are involved in these activities and those who do not participate in these activities. Apart from that, informal education provided by parents from an early age is also another factor that contributes to the formation of knowledge and behavior related to waste management systems.

When it comes to initiatives to improve environmental conditions, education is an important component. Through the education process, individuals can have a better understanding and become more aware of the dangers posed by waste to the environment, especially the impact of pollution on health. Yuniarti (2018) emphasized that with a higher level of education, a person is more likely to gain a deeper understanding of various types of waste and the possible risks associated with them.

Education is not the only factor that is closely related to waste management; Human behavior, which can be divided into three categories—knowledge, attitudes, and actions—is also closely related to waste management. A person's understanding of things through their senses, such as the eyes and nose, allows them to gain knowledge. Knowledge is a product of human senses. Behavioral patterns, tendencies, or willingness to adapt to conditioned social input are examples of attitudes. The development of human attitudes can be influenced by various elements, including personal experiences, culture, important people, mass media, educational institutions, religious organizations, and emotional considerations. All actions carried out by both individuals and social groups are considered human actions. In terms of the environment, for example, actions that do not support environmental cleanliness can have a negative impact on the ecosystem. An example is the accumulation of rubbish, which due to a lack of awareness of the dangers associated with rubbish, can become a breeding ground for unwanted forms of growth. As stated by Doyle Paul Johnson (2016), the level of information a person has in relation to waste management is influenced by their level of education.

Based on data collected in the field, it was found that the community in Lhung Geulumpang Village, located in Kuala Batee District, Southwest Aceh Regency, faces quite significant problems with household waste. Lhung Geulumpang Village is facing social and critical problems related to waste, which require immediate attention. The absence of Temporary Waste Disposal Sites (TPS) is the main cause of various community behavior in managing household waste. As a result of the absence of TPS in Lhung Geulumpang Village, the community is encouraged to carry out various kinds of behavior, including the following: burning rubbish, digging holes in the ground as a place to dispose of rubbish which is then filled in, throwing rubbish on the river bank, and even throwing rubbish in front of houses. which can result in blockage of water flow.

METHOD

Research methods

Using pre-made or custom-made questionnaires, this approach requires recording variables through observation and measurement. Aiming at household waste management in Lhung Geulumpang Village, Kuala Batee District, Southwest Aceh Regency, this technique seeks to analyze the relationship between education level and community behavior.

Population and Sample

The research population was one hundred residents of Lhung Geulumpang Village, Kuala Batee District, Southwest Aceh Regency. The researcher decided to use a saturated sampling strategy to determine the sample because only 100 participants were needed. With saturated sampling methodology, everyone in the population is included in the research sample.

Method of collecting data

To collect the data needed in this research, the data collection method involves observation and interviews. Observation is a daily observation activity using the five main senses, especially direct visual observation at the location and using the researcher's own eyes. The use of a questionnaire is a list of questions prepared with a series of questions related to the research objectives, and delivered to all respondents in the sample, covering the entire sample taken. Apart from that, documentation is also an important aspect in this research, where data collection is based on subject behavior, researcher experience, and can be trusted by the public. The function of documentation is to complement and integrate main data obtained through observation and interviews. The types of documentation used include various forms such as photos, autobiographies, personal letters, diaries, memoirs, quotations, government and private documents, folklore, cassette recordings, microfilm, notes, compact discs, server data/flash drives, as well as stored documents. as data on the web, and so on.

Data analysis

In the data analysis process, bivariate and univariate analysis are used to implement strategies. The purpose of univariate analysis is to characterize research variables by displaying their distribution in frequency format. Frequency tables display the results of this procedure, which attempts to measure the percentage of the variable under study. The hypothesis is tested using bivariate analysis which shows the relationship between independent and dependent variables. Since the data are categorical, the Chi-Square test (χ^2) was used for statistical purposes. Checking the actual frequency against the predicted frequency is the idea underlying the Chi-Square test. The χ^2 value and p value (significance) are generated from the results of the Chi-Square statistical test which is used to evaluate the relationship between the two variables.

RESULTS AND DISCUSSION

Univariate Analysis

Evaluation of research results was carried out using univariate analysis to identify the

frequency distribution pattern of each research variable, and through bivariate analysis to evaluate the relationship between the independent variables and the dependent variable.

Table 1 Frequency Distribution of Community Characteristics in Lhung Geulumpang Village, Kuala Batee District, Southwest Aceh Regency

No	Variable	N	%
Education			
1	Low (no school, elementary school, middle school)	63	63
	High (Graduated high school or above)	37	37
Knowledge			
2	Good	25	25
	K. OK	75	75
Attitude			
3	Positive	33	33
	Negative	77	77
Action			
4	Good	12	12
	K. OK	88	88
Waste Management Behavior			
5	Good	16	16
	K. OK	84	84
Amount		100	100

Source: Primary data (processed in 2022)

In this context, “education” means the extent to which study participants have completed their formal education. About 63% of study participants had a low level of education (no school, elementary school, junior high school), while about 37% had completed high school, according to the data shown in the table regarding formal education levels. The majority of research participants showed less supportive behavior in terms of waste management, according to data obtained from Lhung Geulumpang Village in Southwest Aceh Regency, Kuala Batee District, as shown in the table. More precisely, 75% of survey participants lacked understanding, 77% showed an attitude that was less supportive of waste management, and 67% were involved in activities that did not contribute to the creation of a clean environment through waste. However, only a quarter of the individuals who took part in the study actually demonstrated good behavior.

A person's "attitude" toward an issue is the sum total of the ideas and beliefs they have about the issue. Research findings reveal that only about a third of Lhung Geulumpang residents view waste management positively, while the other three quarters have an unfavorable view. Because the majority of the population are sailors, their careless attitude towards environmental cleanliness is one of the contributing factors.

Actions are described as components that influence community involvement, both components that determine community involvement in waste management and elements

that are believed to influence community involvement. This study found that although 12 percent of activities supported waste management, 88 percent showed less supportive behavior. Lack of public awareness and concern for preserving nature is one of the elements that contributes to this crisis.

The waste management program in Lhung Geulumpang Village, Southwest Aceh Regency, Kuala Batee District, aims to utilize the waste potential of the local community and limit the amount of waste disposed of at the Final Disposal Site (TPA). The second point is that only 16 people, or around 16% of the total respondents, managed their waste effectively based on data collected from Lhung Geulumpang Village, Kuala Batee District, Southwest Aceh Regency. On the other hand, a less than ideal approach to waste management was shown by around 84 respondents, or around 84%. Current conditions indicate that Lhung Geulumpang Village, located in Kuala Batee District, Southwest Aceh Regency, is at risk of experiencing a buildup of waste.

Bivariate Analysis

As written in the respondent's medical record. The frequency distribution can be seen from the table below:

Tabell 2 Relationship of education and behavior withwaste management

Education	Good		Not good		P value	OR (CI 95%)
	f	%	f	%		
Good	27	43	26	70	0,000	0.140 (0.21 - 0.431)
Not good	36	57	11	30		
Qtotal	63	100	37	100		
Knowledge						
Good	3	12	70	93	0,000	5,000 (0.660 –37,852)
Not good	22	88	5	7		
Qtotal	25	100	75	100		
Attitude						
Positive	3	12	70	93	0,000	5,000 (0.660 –37,852)
Negative	22	40	5	7		
Qtotal	25	100	75	100		
Nope						
Good	3	12	70	90	0,000	6,000 (0.881 –33,252)
Not good	19	88	8	10		
Qtotal	22	100	78	100		

Statistical studies show that there is a significant relationship between low levels of education and waste management methods in Lhung Geulumpang Village, Southwest Aceh Regency, with a p-value of less than 0.05 and a significance value of 0.001. Therefore, it makes sense to think of an alternative hypothesis (Ha). A risk level approximately 0.660 times higher than for those with a higher level of education was associated with poor waste management, thus indicating a strong correlation between the level of education and this

problem.

In Lung Geulumpang Village, there is a real correlation between community behavior and waste management practices, which is indicated by the acceptance of the alternative hypothesis (H_a). Statistical test results with a p value of less than 0.05 support this conclusion. Based on the interpretation of the results of the bivariate analysis between education and community behavior, the possibility of less positive behavior in waste management is greater in groups with higher education. Compared with those with less education, this risk was almost 66 times higher.

The results of the Chi-Square test, the data shows that there is a positive relationship between public knowledge and waste management. The P value is 0.000, which is lower than the significance threshold of 0.05, which means the alternative hypothesis (H_a) can be accepted. Based on the Odds Ratio (OR) value of 5,000, it can be concluded that there is a relationship between community actions and household waste management in Lung Geulumpang Village. Interpretation of the results of the bivariate analysis between community knowledge and action shows that the risk of poor community behavior in waste management is around fifty times greater than that of communities with good knowledge.

The alternative hypothesis (H_a) is accepted because the Chi-square test produces a P value of 0.000, lower than the significance level of 0.05. This shows that in Lung Geulumpang Village, Southwest Aceh Regency, there is a correlation between thought patterns and actions regarding waste disposal. An odds ratio (OR) value of 0.660 indicates that the risk of bad waste management behavior is potentially 66 times greater than the risk of people who have a good attitude towards waste management. This can be understood because the OR value is 0.660.

So the alternative hypothesis (H_a) can be accepted because the P value of 0.000 is less than 0.05 as shown by the Chi-square calculation results. In waste management in Lung Geulumpang Village, this shows that there is a connection between actions and behavior. The risk of poor waste management behavior is 88 times higher than the risk of excellent waste management behavior, based on an odds ratio (OR) value of 0.881. The statistically substantial OR value proves this.

The relationship between education and waste management behavior in Lung Geulumpang Village, Kuala Batee District, Southwest Aceh Regency.

In Lung Geulumpang Village, Kuala Batee District, West Aceh Regency, the results of the Chi-Square test show that there is a significant relationship between education level and waste management behavior. The P value of 0.001 is lower than 0.05 so the alternative hypothesis (H_a) can be accepted. With an Odds Ratio (OR) value of 0.660, it can be concluded that there is a correlation between the level of community education and waste management practices in the village, with a risk of around 66 percent. These findings indicate that the majority of the people of Lung Geulumpang Village have a low level of formal education, namely less than or equal to 6 years. Furthermore, through the results of Chi-square calculations with a P Value of 0.000, which is smaller than 0.05, the alternative hypothesis (H_a) is accepted, indicating that there is a relationship between waste

management actions and behavior in Lhung Geulumpang Village. With an Odds Ratio (OR) value of 0.881, it can be interpreted that bad actions are 88 times higher risk than people who have good behavior in waste management.

This understanding is in line with findings in research by Yulianto, B. (2021), who stated that the level of education plays a crucial role in shaping people's way of thinking and understanding regarding waste sorting practices. Individuals with low levels of education tend to have a lack of awareness of the importance of waste sorting because they do not understand the benefits. Furthermore, the concept emphasized by Creswell (2014) shows that the level of education has a significant impact on a person's mindset and knowledge. Individuals with a higher level of education are more likely to have broader knowledge and more positive behavior regarding environmental conservation. Apart from that, education also includes non-formal dimensions such as socialization, counseling and training, which can increase awareness and promote positive behavior regarding waste management.

The Relationship between Knowledge and Waste Management Behavior in Lhung Geulumpang Village, Kuala Batee District, Southwest Aceh Regency

The Chi-Square test shows that in Lhung Geulumpang Village, Kuala Batee District, Southwest Aceh Regency, there is a positive relationship between community awareness and waste management methods. Since the P value is less than 0.05 (0.000), we can accept H_a as an alternative hypothesis. An Odds Ratio (OR) of 5,000 units shows a statistically significant positive correlation between the level of awareness of village communities and their ability to dispose of household waste correctly.

Mutiara's research (2022) supports this conclusion, stating that formal education and personal experience are means of acquiring human knowledge. One way to learn more about waste management is to earn a bachelor's degree. Notoatmodjo (2017), who argues that elements such as education, information, and culture impact knowledge, also supports this idea. A higher level of education can also make it easier to acquire new knowledge and complete new activities better, according to Slamet (2018). How much information the public has regarding the procedures and benefits of waste management influences their understanding of domestic waste management. In Lhung Geulumpang Village, Kuala Batee District, most people have not received sufficient counseling or socialization regarding how to dispose of waste correctly and in an environmentally friendly manner. As a result, education regarding the practices and benefits of waste management is very lacking.

The relationship between attitudes and waste management behavior in Lhung Geulumpang Village, Kuala Batee District, Southwest Aceh Regency

The alternative hypothesis (H_a) is accepted based on the results of the Chi-Square calculation, because the P value is $0.000 < 0.05$. Lhung Geulumpang Village, Kuala Batee District, Southwest Aceh Regency is home to individuals who are serious about waste management and act based on their beliefs. A 66- fold increase in the likelihood of bad behavior in waste management is associated with negative attitudes, according to an Odds Ratio (OR) value of 0.660. A person's attitude can be described as how his thoughts and views are structured in relation to a particular thing or situation, which in turn influences his

reactions or behavior. In line with other research showing that information influences attitudes, this research shows that a strong understanding of waste management lays the foundation for positive attitudes towards actual waste management. Attitude can be interpreted as an individual's response or responses to a stimulus or object they receive (Soekidjo, 2018). Attitude itself does not include concrete actions, but rather is a predisposition or tendency towards certain practices or actions. Behavior or action, basically, is a manifestation of an attitude, manifested in the form of overt action or overt behavior (Bimo Walgito, 2021). To translate attitudes into concrete actions, supporting facilities are needed, such as waste facilities.

According to Ahmadi (2019), it is the experiences of those closest to us, such as parents, siblings and neighbors, or our own personal experiences that shape our perspective. According to this theory, a person's environment is the main factor in the creation and evolution of a person's attitudes, not the other way around. According to Ahmadi (2019), a person's behavior is greatly influenced by the surrounding environment, including his relationship with family and neighbors. It is important to note that there is a low correlation between attitudes and practices, and this can be explained by the understanding that attitudes are tendencies to act. This concept is reinforced by Krech and Crutchfield who state that a person's practices or actions will be influenced or motivated by the attitudes they have (Bimo Walgito, 2021).

Relationship between actions and waste management behavior in Lhung Geulumpang Village, Kuala Batee District, Southwest Aceh Regency

The quality of respondents' involvement in waste management actions is still low. When asked how many individuals they think actively contribute to keeping the environment clean and beautiful, the majority of respondents answered very few. In this context, actions are described as markers or predictions of how actively the community participates in waste management. When people change their behavior and thought patterns to become more environmentally conscious, they are more likely to be involved in waste management.

If people in general are good at protecting the environment, then they will be more likely to be involved in waste management. The tendency and readiness to adapt to a conditioned environment is a component of attitude, namely the tendency or reaction to social cues. A person's upbringing, cultural norms, influential peers, the media, formal and informal educational and religious systems, and even their emotions may all play a role in shaping their views and behavior. So, it is important to focus on and improve people's attitudes and behavior towards the environment if we want to see more community involvement in waste management.

The findings from this research provide an explanation for why people keep their houses tidy, but their yards are still not clean. The condition of the yard around the house and the air ducts which are still clogged with rubbish are clear indicators of this. The respondent's argument is that everyone must be aware that maintaining the neatness of their house and yard is their obligation. If someone's yard is dirty, it will cause discomfort so

it is cleaned frequently. Aspects of isolation, such as the cleanliness of the house and yard, are well maintained. Because it is more convenient, some respondents use paper or plastic to wrap their food. Another reason is the ease of disposing of used plastic or paper food containers after eating. In Lhung Geulumpang Village, Kuala Batee District, Southwest Aceh Regency, there are still very few community services. Community service to the environment does sometimes occur, but not too often.

Community service is carried out every month in Lhung Geulumpang Village, Kuala Batee District, Southwest Aceh Regency. However, this is not always the case; Sometimes it is only done in the days leading up to Eid al-Fitr celebrations or on certain days. The reason behind this rarity is that environmental cleanliness is very dependent on personal responsibility. Because most people's work is fishing, so that is where they spend most of their time. The idea put forward by Pambudi, YS, and Sudaryantingsih, C. (2017) that behavior is a character, tendency, or willingness to adapt to socially conditioned input is also in line with this. Emotional variables, formal and informal influences, cultural norms, role models, media, schools, and religious organizations all play a role in shaping public opinion. There is a strong correlation between the actions of village residents and their level of knowledge about waste management in Loli Tasiburi Village, Banawa District, Donggala Regency, according to other research.

CONCLUSION

Based on the findings of statistical tests carried out in 2022 in Lhung Geulumpang Village, Kuala Batee District, Southwest Aceh Regency, it can be concluded that there is a positive relationship between the level of community education and waste management behavior. We accept the alternative hypothesis (H_a) because the P value of 0.001 is less than 0.05. On the other hand, the KAB index shows that there is a relationship between community actions and waste management in Lhung Geulumpang Village. Public awareness and waste management are positively correlated ($P = 0.000$, $p < 0.05$), so H_a is accepted. Statistical analysis carried out in Lhung Geulumpang Village shows that there is an inverse relationship between community perceptions and waste management behavior. Statistical analysis also revealed that there was an inverse relationship between community activities and waste management behavior in Lhung Geulumpang Village.

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