

# Relationship between Personal Values and Environmental Awareness Towards Littering Behavior

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## ABSTRACT

The behavior of littering can be seen from the large amount of garbage scattered everywhere. The variables predicted to influence littering behavior are personal values and environmental awareness. This study aims to predict the relationship between personal values and environmental awareness of littering behavior. The sampling technique used is accidental samples with 360 research subjects in Tampan sub-district, Pekanbaru city with respondents' age ranging from 12 to 60 years old. Data collection uses 3 scales, namely the personal value scale, the environmental awareness scale and the scale of littering behavior. The results showed that personal values predict littering behavior of -0.28 with a significance of  $p < 0.0$ . Environmental awareness variable on littering behavior is 0.06 with a significance of  $p = 0.13$ . The personal value and environment awareness variables 8% explain the behavior of littering.

**Keywords:** Personal values, environmental awareness, littering behavior, environmental pollution

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## INTRODUCTION

The behavior of throwing garbage is the behavior of throwing something that is done by someone, including any items that are not in their proper location or out of place, for example candy wrappers that are thrown away carelessly (Schultz, 2013). There are 2 terms that need to be distinguished in research on the behavior of littering. Litter is garbage or something that is thrown away, while littering is the behavior or behavior of littering (Schultz, 2013).

Garbage is basically a material that is wasted or disposed of from a source of human activity or natural processes that has no economic value, and can even have a negative economic value because handling it either to dispose of it or clean it requires substantial costs. Garbage and its management are now an urgent problem, because if it is not handled properly, it will result in a change in the environmental balance that is detrimental or unexpected so that it can pollute the environment both on land, water and air (Wibisono & Dewi, 2014).

The following are the impacts of waste on health: 1) Poor waste management will make garbage a breeding ground for disease vectors such as flies and mice; 2) The incidence of dengue fever will increase because the vector of the disease lives and multiplies in cans or used tires containing rainwater; 3) Accidents due to littering, such as injuries caused by sharp objects such as metal, glass, and so on; and 4) Psychosomatic disorders such as shortness of breath, insomnia, stress and others (Santoso, 2012).

Pekanbaru is one of the major cities in Indonesia. Data from the Ministry of Environment and Forestry (2016) states that Pekanbaru has been named a recipient of Adipura several times. In 2011 it was categorized as medium city and in 2014 it was categorized as big city. Even though he was awarded Adipura, in fact the garbage in Pekanbaru is still scattered everywhere. The behavior of

littering is still closely related to the life of the people of Pekanbaru city. Observations in the Tampan sub-district, which is the district with the largest area in the city of Pekanbaru, show that the behavior of littering does not only occur on the side of the road or in buildings intended for the public, but also in the middle of the highway. The author observes that there are car passengers on the highway who throw something through their car window, some are in the form of plastic candy packaging, there are fruit skins and fruit seeds that are eaten in the car, and there are also drivers who smoke and throw their cigarette ashes through the car window. This is also in line with research conducted by the Dutch organization VROM (2010) that 80% of humans leave a sheet of paper, objects made of tin or other objects, behind them when walking. (Ezzarrouki, 2015).

When someone chooses to care about environmental cleanliness, according to Licy (2013), awareness (awareness) for waste management can increase good waste management practices. In another study conducted by Hassan (2010), it provides an illustration that the level of knowledge, awareness and attitude towards the environment in students (UKM students) is high, but in fact practice in the field is still at an intermediate level. Ezzarrouki (2015) in his research states that awareness has a significant effect on changing the behavior of littering temporarily and immediately. Awareness (awareness) said Kamalia (2010) is one of the characteristics of altruistic behavior and is opposite to egoistic, where these two values are personal values owned by individuals. Personal value is the most important factor in distinguishing individuals who pay attention to environmental sustainability (environmentalist) and those who do not pay attention to environmental sustainability (non-environmentalist) (Ezzarrouki, 2015). The results of Kamalia *et al.* (2015) show that there is a

role for personal value in pro-environmental behavior, namely universalism and power. Schultz (2001) shows that egoistic values are positively related to self-transcendence (universalism), basic altruistic values are the same as baseline biospheric (environmental) values, altruistic values are negatively related to self-enchantment (power) and are positively related to self-transcendence (universalism). Likewise, biospheric values are negatively related to self-enhancement (power) and positively related to self-transcendence (universalism). Based on the phenomenon of littering behavior, the authors assume that there are 2 things that influence society in littering, namely; environmental awareness (environmental awareness) and personal value (personal value). Therefore, researchers are interested in seeing whether there is a relationship between environmental awareness and personal value on littering behavior in the people of Pekanbaru - Riau.

## LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

### Littering Behavior

Garbage is a piece of solid waste that is placed out of place (Geller, 1980) and single-use items that are not properly disposed of or placed in an inappropriate location (Schultz, *et al.* 2013), covering several sizes, such as cigarette butts, candy wrappers, abandoned cars, tools, and even spacecraft (Schultz *et al.* 2013). Human activities create waste, which is often left behind or left in public places (Steg & Vlek, 2009). Dropping waste on vacant land in public places instead of disposing of it properly is an act of human pollution (Ojedokun, 2015).

A simple definition of littering by Hansmann and Scholz (2003): "the reckless and incorrect disposal of small amounts of waste". Items are discarded either actively or passively (Sibley and Liu, 2003), littering places such as parks, roads, trails, camping areas, cafes, shops or other public buildings. Is an example of an environmentally and socially unacceptable practice (Furusa, 2015).

From previous studies that have been conducted, here are some of the causes and reasons why humans litter:

1. Lazy - because the trash is far away (McGregor, 1994)
2. A view that waste is not a very important environmental issue, especially when compared to a larger environmental issue (McGregor, 1994)
3. There is a feeling that someone is paid to clean (Curnow, 1995) in a certain place (such as a stadium or cinema)
4. The type of waste to be disposed of. People are more accustomed to throwing cigarette butts carelessly than other larger objects (Community Change 2003: 8, BIEC 2005: 48)
5. Specific location and cleanliness (Community Change, 2003). People are more likely to litter on public transportation such as buses than in a hotel lobby.
6. Places that have been dirty before. The behavior of littering is more likely to occur in locations where there is already a pile of garbage or someone has thrown the samaph before there Cialdini (1991).

The behavior of disposing of one's trash is influenced by many factors such as the type of waste, level of education, time and location of the trash (Steg, 2009., Schultz, 2013, Beck, 2007, Reams, *et al.* 1986). Not limited only because of the profile of the perpetrators of littering themselves (Mokhtar, *et al.*). According to ongoing research conducted by Keep American Beautiful (2018), the following places are usually targeted for littering:

1. Roadside
2. Not on the side of the road

- a. Parks, recreation areas, picnic areas
- b. Outside the building, where usually people often finish their food or cigarettes before entering the building.
- c. Empty land
- d. Parking lot
- e. Areas where waste will be recycled or placed temporarily
- f. Place for held festivals or events
- g. A place to load goods
- h. Shopping Area
- i. Bridge or overpass
- j. Relaxing place and grocery shopping center
- k. Waterways
- l. Public transportation

### Environmental Awareness

Environmental awareness is a very abstract concept and the measurements taken have not yet reached the perfect stage (Harju-Autti, 2013). Environmental awareness is defined as a state of being aware, having knowledge, and being aware of the external environment in which people live and work, and which tend to influence the development and behavior of others (Harju-Autti, 2013). Environmental awareness is also a combination of: motivation, knowledge and skills (Partanen-Hertell, Harju-Autti, Kreft-Burman, and Pemberbon, 1999). The term environmental awareness has broad connotations. This implies not only knowledge of the environment but also the attitudes, values and skills required to solve environmental related problems. Moreover, environmental awareness is the first step that ultimately leads to the ability to behave as responsible citizens (Sengupta, Das, and Maji, 2010).

It can be concluded that environmental awareness is a condition in which individuals have knowledge of the environment and its problems, motivation to protect the environment, and the skills needed to solve environmental related problems.

There are 3 elements of environmental awareness according to (Partanen-Hertell, *et al.* 1999), namely: motivation, knowledge, skills. Furthermore, regarding the elements of environmental awareness, Kokkinen (2013) includes in more detail, namely: (a) Motivation, values, and attitudes (b) Environmental Knowledge (c) Skills and ability to act.

Dembowski and Hanmer-Lloyd (1994) also formulated 3 main components in environmental awareness which according to Ham (2016) is often used to measure environmental awareness in various studies by a large number of researchers, namely (a) Cognitive Component, (b) Affective Component, (c) Conative Component.

Based on the three elements of environmental awareness, it can be concluded that individuals with a level of environmental awareness are owned by individuals who make the environment an integral part of professional skills and choices of daily life.

Ezzrouki (2015) in an experimental study on the impact of awareness on the environment to reduce littering behavior concluded that environmental awareness has a significant effect on changes in littering behavior, even though this change is temporary. In line with this statement, Licy, *et al.* (2013) states firmly that there is no permanent solution to overcome environmental problems (including the behavior of littering), what we can reduce and control is the emergence of waste by increasing awareness of the environment and practicing it in daily life. Awareness is an important element in improving

behavior towards the environment (Hassan, 2010) despite the fact that caring for the environment is a complex task that is influenced by many other factors (Cottrell & Grafe, 1997).

### Personal Value

Values are goals across situations (multiple interests), which serve as a guiding principle in the life of a person or group (Schwartz, 1992). Allport and Vernon define values as individual basic beliefs or philosophies about what is important and not important in life (Schwartz and Cieciuch, 2016). Schwartz (1994) explains that value is a person's belief that will direct a person to make a selection or evaluation based on the degree of importance.

Kamalia (2015) shows that there is a role for personal values in pro-environmental behavior, namely universalism and power. Rokeach (1973) argues that values give direction to a person's attitudes, beliefs and behavior, and provide guidelines for selecting the desired behavior in each individual. Therefore value affects behavior as an impact of the formation of attitudes and beliefs, so it can be said that value is a determining factor in various social behaviors. Eliason, *et al.* (2000) stated that personal value is a principle that is firmly held by a person and is used to achieve various goals to be achieved in life. Regarding the role of values, Kamalia (2012) states that values play a role as a standard that directs behavior. Values guide individuals to enter a situation and how individuals behave in that situation.

Based on the understanding of personal value that has been described previously, it can be concluded that personal value is defined as something that is believed by someone and is used as a guide to perform an action.

Schwartz (2016) summarizes 7 value characteristics that are implicitly or explicitly contained in previous studies he has done:

- a. Is a belief linked to emotion,
- b. Refers to a desired goal that motivates action,
- c. Overcoming certain actions and situations,
- d. Serves as a standard for evaluating actions, policies, people, and events, and
- e. Forming a hierarchical system that is relatively enduring with importance.
- f. The impact of values on day-to-day decisions is rarely recognized, and
- g. It is a variety of relative importance, values that compete to guide various behaviors or attitudes are the result of various relevant values.

Schwartz (1994) developed a human value typology based on previous research conducted by Rokeach's regarding the distribution of value types which concluded that there are 56 human values which are then divided into ten types of values, namely universalism, power, tradition, achievement, benevolence, hedonism, stimulation, self-direction, conformity, and security. For values that are the basis for something related to the environment, Stern and Dietz (1994) introduced 3 values that De Groot and Steg (2007) also agreed on, namely: egoistic, altruistic, and biospheric. On the other hand, Bouman, Steg, and Kiers (2018) concluded that there are 4 values that are often used and used as measurement references in environmental research, namely: biospheric, altruistic, egoistic, and hedonic.

Biospheric values are based on values for the safety of all living things (Schultz, 2000). People with biosphere values will see a phenomenon based on whether there are benefits to the environment (Stern and Dietz, 1994) and are very concerned about the environment, which has no direct connection with human life (Bouman, *et al.*, 2018).

The results of research conducted by Schultz (2000) reveal that the main focus of this value is: the earth, marine life, birds and animals.

Altruistic values are values that reflect attention to welfare and fair treatment of all humans (Bouman, *et al.*, 2018). People who have altruistic values will see a phenomenon based on whether there are benefits to human groups, such as society, ethnicity, country, or humans as a whole (Stern and Dietz, 1994; Schultz, 2000). Schultz (2000) details from the results of his research that individuals with this value will be very concerned about the following: the people in my community, children, everyone, and my children.

Egoistic values are values based on where individuals prioritize their own interests above the interests of other people or other living things (Schultz, 2000) focusing on the advantages and disadvantages of the choices a person has made regarding their wealth, strength, and achievements (Bouman, *et al.*, 2015) so that this gives a tendency for someone to protect the environment if it affects him, or choose not to care about the environment if he feels the costs to be incurred are considered high (Stern & Dietz, 1994). People with egotistical values will be very selfish, such as the following things: my health, my future, my lifestyle, myself, and my prosperity (Schultz, 2000).

Hedonic values are values that focus on achieving or seeking pleasure, feeling happy and reducing effort (Bouman, *et al.*, 2018). Obviously the main purpose of this value really is pleasure or fulfillment of individual satisfaction (Schwartz, 1992).

In human life, values act as standards that guide behavior. Values guide individuals to enter a situation and how individuals behave in that situation. Rokeach (1973) argues that values give direction to a person's attitudes, beliefs and behavior, and provide guidelines for selecting the desired behavior in each individual. Therefore value affects behavior as an impact of the formation of attitudes and beliefs, so it can be said that value is a determining factor in various social behaviors.

In this study, researchers focused on the values contained in individuals, then these values would be associated with environmental awareness and littering behavior in the Tampan sub-district community in Pekanbaru City.

Various studies argue that environmental problems are rooted in the values held by humans (Dunlap, R. E., Grieneeks, J. K., & Rokeach, M., 1983). The values held by an individual will undoubtedly affect how he or she has awareness of environmental problems (Nordlund & Garvill, 2002), plays an important role in explaining certain beliefs and behaviors and can be used as predictors for various variables of attitude and behavioral intention (Stern, 2000; Stern. & Dietz, 1994). Stern and Dietz (1994) further explain that certain value orientations can encourage individuals to actively seek information about objects or functions that are considered to reinforce available information. Likewise, of course, for everything related to environmental protection.

In an environmental study (ESB), it is stated that people who prioritize collective or prosocial values have stronger pro-environmental beliefs and are more willing to engage in various types of activities that care more about the environment than people. -people who prioritize individual values or proself. (Cameron, Brown, & Chapman, 1998; Gärling *et al.*, 2003; Joireman *et al.*, 2001; Joireman, Van Lange, Kuhlman, Van Vugt, & Shelley, 1997; Van Vugt, Meertens, & Van Lange, 1995).

Based on the literature review above, there are 3 hypotheses proposed in this study:

1. There is a relationship between environmental awareness and personal values with littering behavior
2. There is a relationship between environmental awareness and littering behavior
3. There is a relationship between personal values and littering behavior.

**RESEARCH METHOD**

This study uses a quantitative method of SEM (Structural Equation Modeling) analysis with WarpPLS, connecting personal values and environmental awareness of littering behavior. The flow in this research can be described as follows:

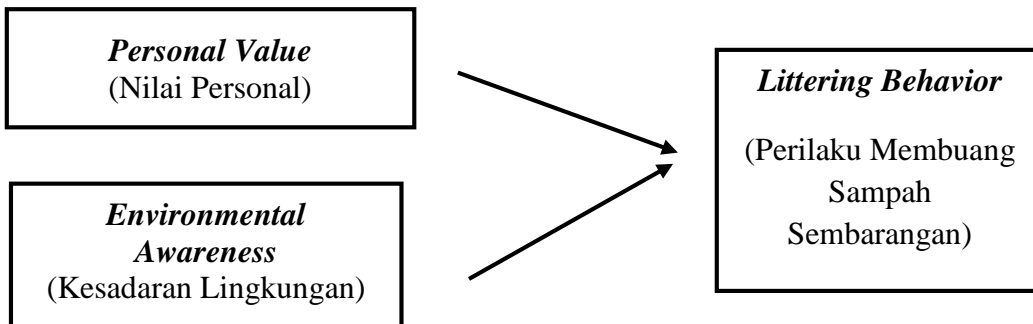


Figure 1. Research model

**Research variable**

The variables used in this study are as follows:

Predictor / Exogenous Latent Variable (X1): Environmental Awareness

Predictor Latent Variable / exogenous (X2): Personal Value (Personal Value)

Latent variable criterion / endogenous (Y): Littering Behavior

**Operational definition**

The operational definitions of the variables examined in this study are as follows:

Table 1. Operational Concept

No.	Variable	Definition	How to Measure	Measuring instrument	Measure Results	Measure Scale
1.	Environmental Awareness	Respondents' answers regarding their knowledge of the environment and its problems, motivation to protect the environment, and skills needed to solve environmental related problems.	Researcher Scale	Scale I (Aitem 1-13)	Strongly Disagree = 1 to Strongly Agree = 5 (for favorite items)  Strongly Disagree = 5 to Strongly Agree = 1 (for Unfavorable Items)	Ordinal
2.	Personal Value	The respondent's answer is about something he believes in and is used as a guide for doing an action.	Research Scale	Scale II (1-15)	1 Doesn't look like me at all to 6 = Very similar to me	Ordinal
3.	Disposing of Garbage Behavior	Respondents' answers regarding the behavior of disposing or placing trash not in the trash.	Research Scale	Scale III (1-7)	Almost Always = 5 to Never = 1 (Favorable Items)  Almost Always = 5 to Never = 1 (For Unfavorable items)	

**Population and Sample**

The population of this study were 269,062 people who live in Tampan District, Pekanbaru City. Sampling in this study using the Slovin formula (Sevilla *et al.*, 1993) amounted to 400 people.

The sampling technique used in this research is accidental, the person concerned meets the requirements or is appropriate as a source of data needed in the study. .



**Method of collecting data.**

There are several methods of data collection, namely interviews, surveys, observations, and documentary studies.

**Thinking Framework and Hypotheses**

Garbage is the remains of human daily activities and / or natural processes in solid form. Garbage can also be interpreted as goods or objects that are no longer useful and are not in their place. Garbage that is not put in its place is the result of littering behavior, which according to Schultz (2013) often creates important problems for the environment, society, and aesthetics (beauty). The following are important problems caused by waste according to Keep American Beautiful (2017): Garbage can have a negative impact on human health and safety and the environment, garbage can damage beauty and reduce the quality of human life, scattered garbage also affects the economy when cleaning garbage from a the area requires a lot of funds and time. Given the many problems that result from waste, it is not surprising that a large amount of previous research has focused on the reasons why people throw garbage and how to prevent it (Schultz, 2013). In this study, the behavior of disposing of waste is associated with environmental awareness and personal values. The main theory in this study refers to the theory of environmental awareness by Harju-Autti (2013) and Partanen-Hertell, *et al* (2017) while personal values refers to Schwartz's theory (1992, 1994, 2016) and for littering behavior refers to the theory. Hansmann and Scholz (2003). Environmental awareness can be defined as a state of being aware, having knowledge, and being aware of the external environment in which people live and work, and which tend to influence the development and behavior of others (Harju-Autti, 2013). Kokkinen (2013) states that environmental awareness has several elements, namely: (a) motivation, values, and attitudes; (b) Environmental Knowledge; (c) Skill and ability to act. Values are trans-situational goals, very important, that serve as guidelines in the life of a person or group (Schwartz, 1992). It is someone's belief that will lead someone to make a

selection or evaluation based on the degree of importance (Schwartz, 1994). Regarding the relationship between values and behavior, Rokeach (1973) argues that values give direction to a person's attitudes, beliefs and behavior, and provides guidelines for selecting the desired behavior in each individual. The behavior that is used as a variable in this study is the behavior of littering, which is defined by Hansmann and Scholz, (2003, p. 753) as: "reckless and wrong disposal of a small amount of waste". Items are discarded both actively and passively (Sibley and Liu, 2003), littering places such as parks, roads, trails, camping sites, cafes, shops or other public buildings which according to Furusa (2015) is an example of environmentally unacceptable behavior and social. How environmental awareness and values influence behavior (actions) are then related to one another, according to Partanen-Hertell *et al* (1999) when a person's environmental awareness meets an external physical or practical stimulus, he or she may realize that there is potential for environmentally friendly action. If his worldview and values (personal values) support eco-friendly action, he is motivated to make green choices. Based on the individual's knowledge and skills, and according to the available opportunities for action, this motivation can manifest in environmentally friendly actions or choices in one's personal or professional life. From the description above, it can be concluded that environmental awareness and personal values influence the behavior of littering.

**RESULTS AND DISCUSSION****Overview of Research Respondents**

Of the 400 questionnaires distributed, there were questionnaires whose answers were incomplete, so that they failed to become respondents who would be continued in data processing, respondents who had complete answers were 360 people with an illustration in the table as follows:

a. Respondents based on Age.

**Table 2.** Subjects by Age

Age	Total	Percentage (%)
<20	53	14,7%
20-30	206	57,2%
31-40	54	15%
41-50	28	7,8%
51-60	1	0,3%
Not Writing	18	5%
<b>Total</b>	<b>360</b>	<b>100%</b>

Based on table 4.1 above, it can be seen that when viewed from age, the highest number of subjects is in the age range between 20-30 years, namely 206 people (57.2%), then at the age of 31-40 there are 54 people (15%), in the age range < 20 years as many as 53 people (14.7%), in the age

range 41-50 as many as 28 people (7.8%), in the age range 51-60 as many as 1 person (0.3%), and subjects who chose not to write down their age were 18 people ( 5%).

b. Respondents Based on Gender

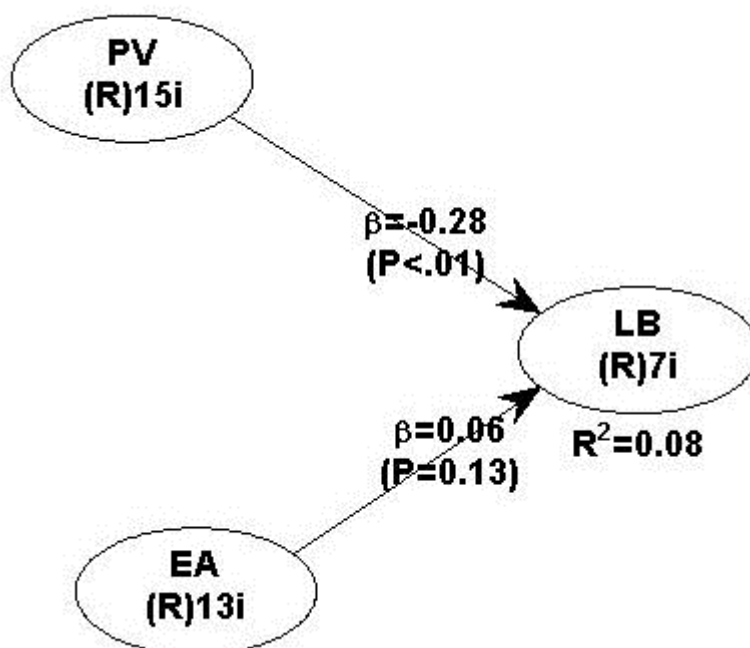
**Table 3.** Subjects Based on Gender

Gender	Total	Percentage(%)
Male	109	30,3%
Women	251	69,7%
<b>Total</b>	<b>360</b>	<b>100%</b>

Based on table 4.2, subjects based on gender, it is found that the female sex research subjects are more than the male research subjects. The number of research subjects was female as many as 251 subjects (69.7%) and male gender as many as 109 subjects (30.3%).

**Model**

Based on the results of SEM data processing with warpPLS, the following model is obtained:



**Figure 2. The relationship between personal values and environmental awareness on littering behavior (Source: processed data)**

R-squared shows the proportion of response variables that can be explained by predictor variables. From the results of the output above, the R-squared is 0.08, meaning that the contribution of the influence of personal value (X1) and environment awareness (X2) to Y is 8%, most of which determine the behavior of disposing of garbage are other variables that have not been studied in this model.

The effect of personal value (X1) on littering behavior (Y) is -0.28 which is significant (p < 0.01), while the effect of environment awareness (X2) on Y is 0.06 with p = 0.13.

**Table 4. Model Test**

Model fit and quality indices
Average path coefficient (APC)=0.167, P<0.001
Average R-squared (ARS)=0.081, P=0.025
Average adjusted R-squared (AARS)=0.077, P=0.031
Average block VIF (AVIF)=1.001, acceptable if <= 5, ideally <= 3.3
Average full collinearity VIF (AFVIF)=1.047, acceptable if <= 5, ideally <= 3.3
Tenenhaus GoF (GoF)=0.172, small >= 0.1, medium >= 0.25, large >= 0.36
Sympson's paradox ratio (SPR)=1.000, acceptable if >= 0.7, ideally = 1
R-squared contribution ratio (RSCR)=1.000, acceptable if >= 0.9, ideally = 1
Statistical suppression ratio (SSR)=1.000, acceptable if >= 0.7
Nonlinear bivariate causality direction ratio (NLBCDR)=0.500, acceptable if >= 0.7

From the results of data processing, the Average Path Coefficient (APC) value is 0.167 and the Average R-Squared (ARS) is 0.081. Both are significant because the p-value is <0.05, where the APC p-value is <0.001 and ARS is

0.025. The Average Variance Inflation Factor (AVIF) value of 1.001 is also acceptable.

**Table 5. Path Coefficient, P values, R square, reliability**

Path coefficients and P values		
Path coefficients		
EA	LB	PV
LB	0.057	-0.278
P values		
EA	LB	PV
LB	0.126	<0.001
Standard errors for path coefficients		
EA	LB	PV
LB	0.050	0.048

Latent variable coefficients		
R-squared coefficients		
EA	LB	PV
	0.081	
Adjusted R-squared coefficients.		
EA	LB	PV
	0.077	
Composite reliability coefficients		
EA	LB	PV
0.865	0.839	0.864
Cronbach's alpha coefficients		
EA	LB	PV
0.830	0.776	0.832
Average variances extracted.		
EA	LB	PV
0.338	0.448	0.309
Full collinearity VIFs		
EA	LB	PV
1.001	1.070	1.071
Q-squared coefficients		
EA	LB	PV
	0.087	
Minimum and maximum values		
EA	LB	PV
-2.874	-1.120	-5.077
1.900	5.169	1.821
Medians (top) and modes (bottom)		
EA	LB	PV
0.039	-0.299	0.098
1.900	-0.818	0.273
Skewness (top) and exc. kurtosis (bottom) coefficients		
EA	LB	PV
-0.413	1.389	-0.853
-0.107	3.262	1.415
Indirect and total effects		
Total effects		
EA	LB	PV
LB	0.057	-0.278
Number of paths for total effects		
EA	LB	PV
LB	1	1
P values for total effects		
EA	LB	PV
LB	0.126	<0.001
Standard errors for total effects		
EA	LB	PV
LB	0.050	0.048
Effect sizes for total effects		
EA	LB	PV
LB	0.004	0.077

Source: Processed data

The composite reliability value and Cronbach's alpha value were used to determine the reliability of the research

instrument. From the results above, the composite reliability personal value and environment awareness

values are greater than 0.7, and Cronbach's alpha is greater than 0.6. This means that personal value and environment awareness are reliable.

Full collinearity VIF is the result of full collinearity testing which includes vertical and lateral multicollinearity. Lateral collinearity is the collinearity between the predictor latent variables. From the output, all variables are free from collinearity problems because the value is <3.3.

Based on the hypothesis testing that has been carried out using SEM analysis, the results show that there is a significant negative relationship between personal value and littering behavior. This shows that the higher the personal value, the lower the littering behavior, and vice versa, the lower the personal value, then the higher the behavior of littering.

The results of research on the relationship between environmental awareness and littering behavior are based on research by Ezzarrouki (2015) that awareness has a significant effect on changing littering behavior temporally and slowly. Mbu's research (2015) states that environmental awareness has a significant effect on how a person's attitude in managing the waste they produce daily.

If it is related to the behavior of littering, then someone with high environmental awareness is someone who understands what problems are happening in the environment related to garbage, they have the urge to solve these problems according to their abilities and skills. In line with that, in a study conducted by Sivamoorthy (2013) it was found that there is a gap between a person's understanding of environmental awareness and how that person practices environmental awareness in everyday life. This means that a person may have a high level of awareness, but not necessarily a low level of littering behavior. If we look at the categorization of the subjects in this study, it was found that the environmental awareness of the majority of subjects was in the high category (68%) and the behavior of throwing garbage was in the very low category with a percentage of 75.3%.

The phenomenon of why there can be a gap between understanding of environmental awareness and the practical form of environmental awareness, in this case the behavior of littering can be explained through a scheme put forward by Harju-Autti (2011) that environmental awareness when it gets an external stimulus from individuals to do good in the environment, it will cause the individual to have the possibility to have an idea or opportunity to take action to protect the environment, if the individual adheres to the value or values of good environmental preservation, a strong impetus will be born from the individual to protect the environment, and in the end the individual will always increase its concern for environmental protection.

From the explanation above about how environmental awareness and personal values can ultimately influence the behavior of littering. A person will decide not to litter starting when there is stimulation which may be in the form of knowledge that littering is bad behavior and damaging to the environment, that stimulation causes the individual to finally have an idea or initiative to protect the environment and not litter, then if the individual It has a value or values related to environmental preservation and this value is dominant so that the individual will give birth to a strong urge not to litter, then when there is an opportunity to protect the environment or not littering, the individual will be consistent in littering. in its place,

then until finally the individual will always take care to avoid littering.

Altruistic value has a relationship with how someone behaves in an environmentally friendly manner (Kim & Stepchenkova, 2019). This is in line with Schwartz (1970) in Ojea & Loureiro (2007) that altruistic values are the most important values in shaping attitudes towards the environment. People with altruistic values usually have the belief and belief that protecting the environment is something that really needs to be done (De Groot and Steg, 2007).

A person who has altruistic values according to Scultz (2000) assesses environmental problems on the basis of benefits for others, be it individuals, the environment, social networks, the country, or the entire human race. Altruistic values are the mother of universalism values that emphasize equality and welfare for others and the environment (Hansla, 2008). The results of research conducted by Kamalia (2015) state that the values that have the most role in pro-environmental behavior are the values of universalism and power.

### CONCLUSION

1. There is a negative relationship between personal values and littering behavior of 0.28 with  $p < 0.01$ . This shows that the proposed hypothesis is accepted. This means that the more a person has high personal values, the behavior of littering will be low, and vice versa, the lower the personal value a person has, the higher the behavior of littering.
2. The relationship between environmental awareness and littering behavior is 0.06 with  $p = 0.13$ . In this case there is a gap between understanding of environmental awareness and the practical form of environmental awareness.
3. Personal value and environmental awareness variables are able to explain the behavior of littering 0.08 or 8%. Meanwhile, 92% of littering behavior is influenced by other variables.

### RECOMMENDATION

For further research on the behavior of littering, other variables can be added such as external factors in the form of facilities, government regulations, and so on that support the behavior of not littering and paying attention to what scale to use, this is because the three variables above have a tendency high social desirability.

### REFERENCE

1. Azwar, S. (2013). *Metode Penelitian*. (Ed revisi). Malang: UMM Press.
2. Badan Pusat Statistik. (2013). *Indikator Peduli Lingkungan Hidup*. Jakarta : Badan Pusat Statistik.
3. Badan Pusat Statistik. (2016). *Statistik Lingkungan Hidup Indonesia 2016*. Jakarta.
4. Bouman, Thijs, Linda Steg, Henk A.L. Kiers. (2018). Measuring Values in Environmental Research: A Test of an Environmental Portait Value Questionnaire. *Frontiers in Psychology*, Vol. 9, No.564.
5. Bronfman, C.,Nicolas, dkk. (2015). Understanding Attitudes and Pro-Environmental Behaviors in a Chilean Community. *Sustainability*, ISSN 2071-1050.
6. De Groot, J.I.M, Steg L. (2007). Value Orientations and Environmental beliefs in Five Countries: validity of An Instrument to Measure Egoistic, Altruistic, and Biospheric Value Orientation. *Journal of Cross-Cultural Psychology*, 38, 318-332.



7. Dembkowski, S., Hanmer-Lloyd, S. (1994), "The Environmental Value-Attitude-System Model: A Framework to Guide the Understanding of Environmentally-Conscious Consumer Behaviour", *Journal of Marketing Management*, Vol. 10, No. 7, pp. 593-603.
8. Eliason, B. Clair MD., Clare Guse, MS., Mark S. Gottlieb, & Arch Fam Med. (2000). Personal Values of Family Physicians, Practice Satisfaction, and Service to the Underserved. *Psychology and Culture* 9 (3), 228-232
9. Ezzarrouki, Abderrahim. (2015). The Impact of Awareness on Reducing Littering Behavior in Public Places. *Journal of Littering and Awareness*.
10. Effendi, Sofian dan Tukiran. (2012). Metode Penelitian Survei. Jakarta: LP3ES.
11. Furusa, Routendo. (2015). *Literature Review on Littering : A Study Exploring Littering Behavior and Identifying strategies to Crub Littering*. UCT Knowledge CO-OP.
12. Geller, E. S. (1980). Applications of behavioral analysis for litter control. In D.Glenwick& L. Jason (Eds.), *Behavioral community psychology: Progress and prospects* (pp. 254-283). New York, NY:Praeger.
13. Ham, Marijia, Dajana Mrcela, Martina Horvat. (2015). Insights For Measuring Environmental Awareness. *Econviews*, 159-176.
14. Hansmann, R. and R. W. Scholz (2003). A Two-Step Informational Strategy for Reducing Littering Behavior in a Cinema, *Environment and Behavior*. 35:752-762.
15. Hansla, Andre., Amelie, G., Asgeir, J., and Garling, T. (2008). The relationships between awareness of consequences, environmental concern, and value orientations. *Journal of Environmental Psychology* 28, 1-9.
16. Harju-Autti, P. (2013). Measuring Environmental Awareness in 19 States in India. *Universal Journal of Environmental Research and Technology*. Volume 3, Issue 5: 544-554.
17. Hassan, Arbaat, Norshariani Abd Rahman, dan Sharifah Intan Sharina Syed *Abdullah*. The level of environmental awareness, attitudes, and practice among UKM students. Universiti Kebangsaan Malaysia.
18. <https://kbbi.web.id/lingkung>. Diakses 2017 12-12-00.06
19. <https://kbbi.web.id/sadar> Diakses 2017 12-12-00.29
20. <http://www.dictionary.com/browse/awareness?s=t> - Accessed on 2017 12-12- 00.02.
21. <http://www.dictionary.com/browse/environment?s=t> Accessed in 2017 12-12- 00.02.
22. Kamalia, dan Aryanto. (2015). Peran Nilai Personal terhadap Perilaku Pro-Lingkungan pada Pendaki Gunung. Depok : Universitas Indonesia.
23. Kementerian Lingkungan Hidup. (2016). Statistik Lingkungan Hidup Indonesia 2016. Jakarta.
24. Keep American Beautiful. (2017). Litter Abatement Curriculum.
25. Licy, Raghavan Vivek, Kamath Saritha, T.K. Anies, dan C.T.Josphina. (2013). Awareness, Attitude, and Practice of School Students towards Houshold Waste management. *Journal of Environtment*, Vol.02, Issue 06, pp. 147-150.
26. Maloney, M. P., Ward, M. P. (1973), "Ecology: Let's Hear from the People. An Objective Scale for the Measurement of Ecological Attitudes and Knowledge", *American Psychologist*, Vol. 28, No. 7, pp. 583-586.
27. Mbu, Akpo David. (2015). The Influence of Environmental Awareness on Human Attitudes to Solid Waste Management in Boki Looocal Government Area of Cross River State. *Journal of Pollution Effect and Control*, vol.3, issue, 3.
28. Meeker, F.L. (1997). Acomparisonof Table-littering behavior in two settings : A casefor Contextual research strategy. *Journal of Environmental Psychology*, 17, 59-68.
29. Partanen-Hertell M, Harju-Autti P, Kreft-Burman K & Pemberton D. (1999). *Raising Environmental Awareness in The Baltic Sea Area*. Finland: The Finnish Environment Institute.
30. Rokeach, M. 1973. *The Nature of Human Values*. New York : The Free Press
31. Santoso, Slamet. Makalah : Dampak Negatif Sampah Terfiadap Lingkungan Dan Upaya Mengatasinya
32. Schultz, P.W. (2000). Empathizing with Nature: The Effects of Perspective Taking on Concern for Environmental Issues. *Journal of Social Issues*, Vol. 56, No. 3, pp. 391.
33. Schultz, P.W. (2001). The sturcture or environtmental concern for it self, other people and the biosphere. *Journal of Environmental Psychology*, 21, 327-339.
34. Schultz, P. W., Bator, R. J., Large, L. B., Bruni, C. M., & Tabanico, J. J. (2013). *Littering in context: Personal and environmental predictors of littering behaviour*. *Environment and Behaviour*, 45, 35-59.
35. Schwartz, Shalom H dan Jan Cieciuch. Values. *OUP UNCORRECTED PROOF-FIRSTPROOFS*. 01 Mar 2016.
36. Schwartz, S. H. (1992). Universals in the content and structure of values: theoretical advances and empirical tests in 20 countries. *Advances in experimental social psychology* (vol. 25, pp. 1- 65). London: Academic Press.
37. Schwartz, S. H. (1994). Are there universal aspects in the structure and contents of human values? *Journal of Social Issues*, 50, 19- 45.
38. Sengupta, Mardhumala, Jayanti Das, Pintu Kumar Maji. (2010). Environmental Awareness and Environment Related Behavior of Twelfth Grade Students in Kalkota: Effects of Stream and gender. *Anwesa*, vol.5: 1-8.
39. Setiadi, Amos. (2010). Perilaku Pro Lingkungan Pada Permukiman Perkotaan Studi Kasus Pengelolaan Sampah di Kampung Sukunan-Yogyakarta. (studi banding sektor persampahan untuk penyusunan dokumen perencanaan spasial di kecamatan Pundong Kabupaten Bantul, Yogyakarta).
40. Stern, P. C., &Dietz, T. (1994). Thevaluebasisofenvirontmentalconcern. *Journalof Soci allIssues*, 50, 65-84.
41. Sugiyono. (2014). Metode Penelitian Kuantitatif Kualitatif dan R&D. Bandung: Alfabeta.
42. Sugiyono. (2008). Metode penelitian bisnis(Pendekatan kuantitatif, kualitatif). Bandung: CV Alfabeta.
43. Wibisono, Arif Fajar Dan Piana Dewi. (2014). Sosialisasi Bahaya Membuang Sampah Sembarangan Dan Menentukan Lokasi Tpa Di Dusun Deles Desa Jagonayan Kecamatan Ngablak. *Jurnal Inovasi Dan Kewirausahaan Volume 3 No. 1, Januari 2014 Halaman 21-27*.