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Research Article

The Urgency of Behavioral Change Towards Environmental Sustainability: A Study of Students' Pro-Environmental Behavior at University

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Abstract

Humans cannot live without using natural resources, but consciously or unconsciously, the use of natural resources by humans damages the environment. The environmental damage that leads to a decrease in environmental quality is caused by humans, which has an impact on increasing air pollution, water contamination, soil contamination, ecosystem damage, wildlife extinction, and others. The six aspects studied are pro-environmental behavior, namely, 1) energy conservation, 2) mobility and transportation, 3) avoiding waste, 4) recycling, 5) consumerism, and 6) conservation. Because this study has a population of 4164 students, the researcher took a sample of 10% of the population. Thus, the sample taken in this study was 416 students of the Faculty of Engineering, Makassar State University. Sampling in this study used a random sampling technique because the study population was homogeneous. This study used a questionnaire instrument from the General Ecological Behavior Scale that has been adapted into Indonesian General Ecological Behavior. The scale consists of 6 aspects, 33 items, and five answer choices: (1) Never, (2) Rarely, (3) Sometimes, (4) Often, (5) Always. The data analysis technique used in this study is Confirmatory factor Analysis (CFA). CFA analysis will be processed using the AMOS 22 Program. This study shows a relationship between attitudes toward the environment and pro-environmental behavior. Individuals who have positive attitudes towards the environment can increase pro-environmental behavior.

Keywords: Pro-Environment, General Ecological Behavior, Recycling, Energy conservation, Mobility, and transportation.

1. INTRODUCTION

Concern for the environment is currently only held by a handful of individuals. Many of us still do not care about environmental problems seriously. It is common to find that handling ecological issues is still limited to rhetoric and administration, so it has not been realized in adequate real action. (Goudie, 2018; Gronwald & Wang, 2024). Even if actions are carried out, they are sometimes restricted to ceremonies carried out in certain activities and events. If this lack of concern continues, it is no different from us maintaining a time bomb that will eventually appear as an environmental disaster (Mañego et al., 2024; Ravis, 2024). This also means that we are committing ecological suicide slowly. We have experienced various environmental disasters, but these disasters have only been able to remind us for a moment. (Peña et al., 2023; Samaila & Kalgo, 2024; Valera et al., 2024) .

The human development population is increasing every day; with the increase in population, the number of needs required will increase. Such as clothing, food, and shelter. Clothing needs such as food, clothing, and so on are purchased by each person every day. Materials purchased by

humans cause garbage accumulation every day. The use of disposable goods is one of the impacts of garbage accumulation (M. Ichsan Ali, 2019; Suarlin & Ali, 2020)

The problems that arise in the environment are caused by piles of garbage that cannot be recycled and many environmental issues that hurt every living thing in the world. Using energy beyond reasonable limits will cause ecological damage; therefore, humans must be able to save energy. Reducing the use of lights during the day and using AC (Air Conditioner) can minimize environmental damage. The following ecological pollution is the increasing number of individuals who use private transportation even though the government has provided public transit, whose purpose is to reduce pollution, which is increasing daily. In Indonesia, air pollution rates are growing and have become very dangerous because they are in the eighth most deadly position globally (M. Ichsan Ali & Arfandi, 2024; Ravis, 2024; Samaila & Kalgo, 2024).

This form of environmental destruction can also occur due to waste factors. Waste can cause pollution, for example, in the form of substances, energy, living things, and other components. Waste is usually found in the activities of living things, namely humans. Human activities have the potential to produce waste. Waste can be divided into several types: industrial and household. Factory or industrial waste is the remaining production that has been thrown away or is no longer used; it can be in solids, gas, or liquids. This waste is produced from the industrialization process carried out by the factory. Household waste is waste produced by daily household activities. These activities include washing dishes, cooking, or washing clothes. The meaning of factory waste is all obsolete goods from the factory that are no longer used in the form of solids, liquids, or gases.

Environmental problems occur in terms of consumerism. A high consumer culture, continuously exploiting natural resources but not seeing the negative impacts afterward. Indonesian people shop and bring home at least three plastic bags every day. The effect is, of course, the accumulation of garbage. Indonesia produces 38 million tons of waste every year, and this is because the Indonesian people are consumerist.

Based on the many environmental pollution incidents explained above, people have started to do many recycling activities. The Indonesian government, primarily through the Coordinating Ministry for Maritime Affairs, is studying India's plastic waste recycling system. India uses plastic waste to make roads (Plastic Tar Road). The people of San Francisco also recycle plastic waste. San Francisco residents use plastic bottles of waste to make shoes. This action can reduce plastic pollution, which is increasing every day. An organization in DKI Jakarta also carries out another example of plastic waste recycling. The organization uses plastic waste to make household equipment. Previous researchers have also shown that people with higher levels of education will be more concerned about environmental quality and are motivated to be directly involved in preserving the environment (Lozano, 2011).

Since 1980, researchers in environmental psychology have tried to contribute to testing several theories and models that aim to predict relevant environmental behavior and identify things that can trigger humans to change pro-environmental behavior (Klöckner, 2013). Previous researchers also showed that people with higher levels of education will be more concerned about environmental quality and motivated to be directly involved in preserving the environment (Lozano, 2006). Some communities realize that garbage and something called waste can be formed and made into something useful. This behavior is responsible for protecting the environment in various areas, including resource consumption, nature conservation, the impact of climate change, and support for environmentally friendly products. This responsible behavior is the definition of pro-environmental behavior. (Schultz & Kaiser, 2012; Steg & Vlek, 2009) .

Pro-environmental behavior is a positive behavior that protects the environment in various ways. In other words, someone who utilizes waste materials for recycling or energy saving is an action of pro-environmental behavior (Kaiser et al., 2007). Scannel (2008) stated that pro-environmental behavior is an action that aims to minimize environmental damage or improve and repair ecological conditions. People are becoming aware of their environment, and many are beginning to initiate pro-environmental behavior. According to (Kaiser et al., 2007), aspects of pro-environmental behavior are energy saving, waste prevention, mobility and transportation, recycling, consumerism, and behavior that aims to preserve nature. One must also carry out pro-environmental behavior activities (Abali & Nkii, 2024; Beltran et al., 2023; Stanikzai et al., 2024).

Several studies have shown that people with high self-awareness are quicker to process information that refers to themselves and are more consistent in their self-image. In addition, they are particularly likely to see themselves as responsible for events that happen to them (causal agents). In contrast, people with high public self-awareness pay more attention to their social identity and other people's reactions to them. In addition, they tend to be more conformist, more likely to use self-presentation strategies or self-handicapping, and more interested in clothing and performance (Brigham, 1991).

Previous research on pro-environmental behavior, namely in 2016 on the Mapala Organization Piranha Faculty of Fisheries and Marine Sciences, Lambung Mangkurat University, found a significant influence of leadership role on the pro-environmental behavior of members of the Organization. Other research results state that the role of leadership influences the behavior of its members related to the arrangement and improvement of the environment, which is manifested in the form of pro-environmental-based behavior through motivational actions, explanations of environmental impacts, and the need for forms of change that are oriented pro-environmentally. The following research study will be conducted to identify pro-environmental behavioral factors in campus program sustainability. Based on the results of research with student subjects, it can be concluded that there are factors that influence pro-environmental behavior, namely subjective norms, attitudes, situational factors, perceptions of behavioral control, perceptions of consequences, and behavioral intentions. (Nanik & Astri, 2014).

2. RESEARCH METHOD

2.1 Research Design

Quantitative methods are also called traditional methods because previous researchers have used this method for a long time. Quantitative research must use numbers, starting from data collection, interpretation of data, and the results to be displayed. (Corbin et al., 2015; Elizabeth, 2016; Flick, 2022) .

2.2 Population and Sample

Population is a generalization area consisting of subjects with specific qualities and characteristics determined by researchers to be studied and then conclusions drawn. Population is not just humans; it can also be organizations, animals, human works, and other objects that can produce data desired by researchers. A population whose number of individuals can be known is called a finite population (limited population). In contrast, the number of individuals whose number cannot be estimated is an infinite population (unlimited population). The number of students at a college is called a finite population because the number of students can be counted. Meanwhile, the number of fish in the sea is called an infinite population because the number of fish in the ocean is not specific, and we will have difficulty counting the number. Thus, the population in this study is classified as a finite population, a population with a limited number of individuals. The population in this study were students of the Faculty of Engineering who studied at Makassar State University. According to the documentation of the data obtained, the number of students in the faculty of engineering was 4164 people.

The sample is part of the number and characteristics possessed by the population. The sample taken must truly represent (represent) the population so that the objectives of this study can answer the formulation of the research problem. A sample is said to be representative if the characteristics of the sample are the same as the characteristics of the population. Because the research analysis is based on sample data, and the conclusions will be applied to the population, it is essential to obtain a representative sample. For this reason, appropriate sampling techniques are needed. According to (Suharsimi, 2006) If the number of research subjects is less than 100, it is better to take all of them so that the research is a population study. However, if the number of subjects is large, it can be taken between 10% - 15% or 20% - 25% or more, depending on:

a. The researcher's ability depends on the available time, energy, and funds.

b. The breadth and narrowness of the observation area of each subject because this affects the amount of data.
c. The size of the risk borne by the researcher.

Since this study has a population of 4164 students, the researcher took a sample of 10% of the population. Thus, the sample taken in this study was 400 students of the engineering faculty of Makassar State University. Sampling in this study used a random sampling technique because the study population is homogeneous. Thus, the desired sample can be taken randomly. As for seeing the condition that the average student is no longer very active in lectures, the random sampling used by the researcher is simple. That is, the researcher takes samples without discrimination and gives equal rights to each subject to get the opportunity to be selected as a sample.

2.3 Research Instruments

Instruments are used in research to obtain data from the field or sources that will be researched. According to (Hair et al., 2014) The scale often used in compiling questionnaires is ordinal, usually called a Likert scale. The Likert scale is a scale that contains five levels of answer preferences. In this study, data processing and analysis were carried out quantitatively, where data were obtained by distributing questionnaires and drawing conclusions by summarizing the answers from respondents. After the questionnaire was distributed, the research instrument was created to transform and analyze quantitative data using the statistical methods applied. In making the questionnaire, the researcher used a Likert scale, and the scoring was odd between 1 to 5 categories as follows:

Table 1. Categories and Scores (Likert Scale)

Category	Score
Strongly Agree/Strongly Know/Always (Very Often)	5
Agree/Know/Often	4
Less agree/Don't know/ Sometimes	3
Disagree/Don't Know/Rarely	2
Strongly Disagree/Strongly Don't Know/Never	1

Table 2. General Ecological Instruments Behavior Scale (Kaiser et al., 2007)

Variables	Indicator
Energy Conservation	energy-efficient after one day of wearing (KE1)
	I will turn off the lights if I am the last person to leave the room (KE2)
	I left the electrical appliances on (KE3)
	When staying at a hotel, I change my towels every day (KE4)
Mobility and Transportation	I ride a bicycle, use public transportation, or walk to go to school or do activities (MT1)
	I go to work using a private car/motorcycle (MT2)
	I walk or ride a bicycle to go to nearby areas (15-minute journey) (MT3)
Waste Prevention	I bought a canned drink (MT1)
	I accepted the plastic bag offered by the cashier (MT2)
	When I go on a trip, I bring drinks in disposable packaging (MT3)
	When we party, we use plastic cutlery and paper cups (MT4)
Recycling	I collect and recycle waste paper (DU1)

Variables	Indicator
	I throw the empty glass bottles into the recycling bin (DU2)
	I separate the waste according to its type (DU3)
	I keep the gift wrap (DU4)
Behavior towards Conservation	I tried to persuade my parents to buy an energy-efficient car (PK1)
	I donated some money to an environmental organization (PK2)
	I read books, publications, and others about environmental issues (PK3)
	I study environmental issues through media (PK4)

Pro-environmental behavior using the *General Ecological Behavior Scale (Kaiser, Oerke & Bogner 2007) has been adapted into Indonesian General Ecological* Behavior. The scale consists of 6 aspects, 33 items, and five answer choices: (1) Never, (2) Rarely, (3) Sometimes, (4) Often, (5) Always. 6 aspects of the Pro-Environmental Behavior Scale, namely energy conservation behavior with an example item "I turn off the room lights if I am the last person to leave the room," recycling behavior with an example item "I collect and recycle paper," consumer behavior with an example item "When I shop, I buy environmentally friendly products," transportation with an example item "I choose a vacation close to my home," waste avoidance with an example item "I try to repair an object rather than buy a new one," and social behavior towards conservation with an example item "I grow my fruits or vegetables." The higher the subject's score on the Pro-Environmental Behavior Scale, the more positive the subject's behavior towards the environment. Internal consistency Pro-Environmental Behavior The scale is $\alpha = 0.801$.

2.4 Data Analysis Techniques

Based on the measurement scale, the scale of this study is an interval scale. An interval scale results from measurements in which the measurement assumes the same units of measurement. A measurement scale is an agreement used as a reference to determine the interval length in a research measuring instrument. With a measurement scale, the value of the variable measured by a particular instrument can be expressed in numbers to make the results more accurate, efficient, and communicative. (Jobson, 1991) .

In quantitative research, the next step is to analyze the data after collecting all the necessary data sources. The data analysis technique used in this study is the confirmatory factor *analysis* technique. *Factor Analysis* = CFA). Confirmatory factor analysis is an analysis that aims to find several indicator variables that form variables that are not directly measurable based on theoretical foundations. (Byrne, 2016; Long, 1998; Wood, 2008) . CFA analysis will be processed using the AMOS 22 Program.

3. RESULT AND DISCUSSION

3.1. Description Analysis

Variables Conservation Energy: Study This using 400 samples. The results analysis done with the SPSS 23 Program obtained a mean value of 18.1370, median of 20.0000, std. Deviation of 1.87493, skewness of -0.913, kurtosis of 1.241, minimum value of 16.00, and maximum of 24.00. Normal skewness and kurtosis values range between +2 and -2 (George & Mallery, 2016; Morgan et al., 2011). From the results, it can be concluded that the variable is normally distributed.

Table 3. Distribution of Participation Levels Conservation Energy

	Frequency	Percent	Cumulative Percent
Always / Very Often	86.00	21.50	21.50

	Frequency	Percent	Cumulative Percent
Often	134.00	33.50	55.00
Sometimes	114.00	28.50	83.50
Seldom	45.00	11.25	94.75
Never	21.00	5.25	100.00
Total	400.00	100.00	

The table above shows distribution analysis descriptive Participation Level Conservation Energy consisting of the above five levels category from No Once until always / very often from the analysis of the results obtained mark for level category No Once obtained results by 5.25% (21 of 400 respondents). Category level seldom obtained results by 11.25% (45 out of 400 respondents). Category level sometimes obtained results by 28.50% (114 out of 400 respondents). Category-level results % often obtained by 33.50% (134 out of 400 respondents). The level category always / very often obtained results of 21.50% (86 out of 400 respondents). From the results, it can be concluded that most respondents on variables Participation Level Conservation Energy Study This is at the level category often with a percentage of 33.50%.

Variables Mobility and Transportation: Study This using 400 samples. The results analysis done with the SPSS 23 Program obtained a mean value of 18.3800, a median of 17.0000, std. Deviation of 1.84754, skewness of -1.375, kurtosis of -1.443, minimum value of 14.00, and maximum of 22.00. Normal skewness and kurtosis values range between +2 and -2 (George & Mallery, 2016; Morgan et al., 2011). From the results, it can be concluded that the variable is normally distributed.

Table 4. Distribution of Mobility and Transportation Levels Respondents

	Frequency	*Percent*	*Cumulative Percent*
Always / Very Often	43.00	10.75	10.75
Often	89.00	22.25	33.00
Sometimes	125.00	31.25	64.25
Seldom	98.00	24.50	88.75
Never	45.00	11.25	100.00
Total	400.00	100.00	

The table above shows a distribution analysis of descriptive Mobility and Transportation Levels. Respondents of the above five levels category from No Once until always / very often. From the study of the results, the mark for level category No Once was obtained by 11.25% (45 out of 400 respondents). Category level seldom obtained results by 24.50% (98 out of 400 respondents). Category level sometimes obtained results by 31.25% (125 out of 400 respondents). Category level often obtained results by 22.25% (89 out of 400 respondents). The level category always / very often obtained results of 10.75% (43 out of 400 respondents). From the results, it can be concluded that most of the mobility and transportation level respondents are in the level category, sometimes with a percentage of 31.25%.

Variables Prevention Waste: Study This using 400 samples. The results analysis done with the SPSS 23 Program obtained a mean value of 18.9200, a median of 18.0000, std. Deviation of 1.61259, skewness of -0.487, kurtosis of -0.465, minimum value of 13.00, and maximum of 21.00. Normal skewness and kurtosis values range between +2 and -2 (George & Mallery, 2016; Morgan et al., 2011). From the results, it can be concluded that the variable is normally distributed.

Table 5. Distribution of Participation Levels Prevention Waste

	Frequency	*Percent*	*Cumulative Percent*
Always / Very Often	34.00	8.50	8.50
Often	63.00	15.75	24.25
Sometimes	127.00	31.75	56.00
Seldom	98.00	24.50	80.50
Never	78.00	19.50	100.00
Total	400.00	100.00	

The table above shows a distribution analysis of descriptive Participation Level Prevention Waste, consisting of the five levels, from No Once until Always / Very Often. From the study of the results, the mark for level category No Once was obtained by 19.50% (78 out of 400 respondents). Category level seldom obtained results by 24.50% (98 out of 400 respondents). Category level sometimes obtained results by 31.75% (127 of 400 respondents). Category level often obtained results by 15.75% (63 out of 400 respondents). The level category always / very often obtained results of 8.50% (34 out of 400 respondents). From the results, it can be concluded that the majority of respondents on variables Participation Level Prevention Waste Study This is at the level category sometimes with a percentage of 31.75%.

Recycling Variables: Study This using 400 samples. The results analysis with the SPSS 23 Program obtained a mean value of 18.2200, median of 18.0000, std. Deviation of 1.55398, skewness of 1.371, kurtosis of 1.230, minimum value of 15.00, and maximum of 22.00. Normal skewness and kurtosis values range between +2 and -2 (George & Mallery, 2016; Morgan et al., 2011). From the results, it can be concluded that the variable is normally distributed.

Table 6. Distribution of Recycling Participation Levels Respondents

	Frequency	*Percent*	*Cumulative Percent*
Always / Very Often	60.00	15.00	15.00
Often	78.00	19.50	34.50
Sometimes	132.00	33.00	67.50
Seldom	112.00	28.00	95.50
Never	18.00	4.50	100.00
Total	400.00	100.00	

The table above shows distribution analysis descriptive Recycling Participation Rate Respondents consisting of the above five levels category from No Once until Always / Very Often. From the analysis of the results, the mark for level category No Once was obtained by 4.50% (18 out of 400 respondents). Category level seldom obtained results by 28.00% (112 out of 400 respondents). Category level sometimes obtained results by 33.00% (132 of 400 respondents). Category level often obtained results by 19.50% (78 out of 400 respondents). The level category always / very often obtained results of 15.00% (60 out of 400 respondents). From the results, it can be concluded that the majority of respondents on variables Recycling Participation Rate Respondents Study This be at the level category sometimes with a percentage of 33.00%.

Variables Consumerism: Study This using 400 samples. The results analysis with the SPSS 23 Program obtained a mean value of 18.3400, median of 19.0000, std. Deviation of 1.29735, skewness of 0.817, kurtosis of 1.398, minimum value of 14.00, and maximum of 23.00. Normal skewness and

kurtosis values range between +2 and -2 (George & Mallery, 2016; Morgan et al., 2011). From the results, it can be concluded that the variable is normally distributed.

Table 7. Distribution of Consumerism Levels Respondents

	Frequency	*Percent*	*Cumulative Percent*
Always / Very Often	114.00	28.50	28.50
Often	123.00	30.75	59.25
Sometimes	97.00	24.25	83.50
Seldom	45.00	11.25	94.75
Never	21.00	5.25	100.00
Total	400.00	100.00	

The table above shows a distribution analysis of the descriptive level of consumerism respondents consisting of the five levels, from No Once to Always / Very Often. From the study of the results, the mark for level category No Once was obtained by 5.25% (21 of 400 respondents). Category level seldom obtained results by 11.25% (45 out of 400 respondents). Category level sometimes obtained results by 24.25% (97 out of 400 respondents). Category level often obtained results by 30.75% (123 out of 400 respondents). The level category always / very often obtained results of 28.50% (114 out of 400 respondents). From the results, it can be concluded that most respondents are on the Consumerism Level variable. Respondents study This is at the level category often with a percentage of 30.75%.

Variables Behavior to Conservation: Study This using 400 samples. The results analysis with the SPSS 23 Program obtained a mean value of 18.3400, median of 18.0000, std. Deviation of 1.08563, skewness of 1.034, kurtosis of 1.325, a minimum value of 16.00, and a maximum of 23.00. Normal skewness and kurtosis values range between +2 and -2 (George & Mallery, 2016; Morgan et al., 2011). From the results, it can be concluded that the variable is normally distributed.

Table 8. Behavior Level to Conservation

	Frequency	Percent	Cumulative Percent
Always / Very Often	23.00	5.75	5.75
Often	50.00	12.50	18.25
Sometimes	109.00	27.25	45.50
Seldom	153.00	38.25	83.75
Never	65.00	16.25	100.00
Total	400.00	100.00	

The table above shows distribution analysis descriptive level behavior Respond to conservation consisting of above five levels category from No Once until always / very often from the analysis of the results obtained mark for level category No Once obtained results by 16.25% (65 out of 400 respondents). Category level seldom obtained results by 38.25% (153 of 400 respondents). Category level sometimes obtained results by 27.25% (109 of 400 respondents). Category-level results were often obtained by 12.50% (50 out of 400 respondents). The level category always / very often obtained results of 5.75% (23 out of 400 respondents). From the results, it can be concluded that the majority of respondents on variables behavior to conservation study This is at the level category seldom with a percentage of 38.25%.

3.2. Confirmatory Factor Analysis (CFA)

Then, quantitative data analysis in the study used Confirmatory Factor Analysis (CFA) to look for several variable indicators that form variables that are not measurable directly based on the foundation theory. Thus, CFA can, it is said, have two focus studies: (1) whether conceptualized indicators are dimensionally, precisely, and consistent and (2) what is dominant to form the construct being studied.

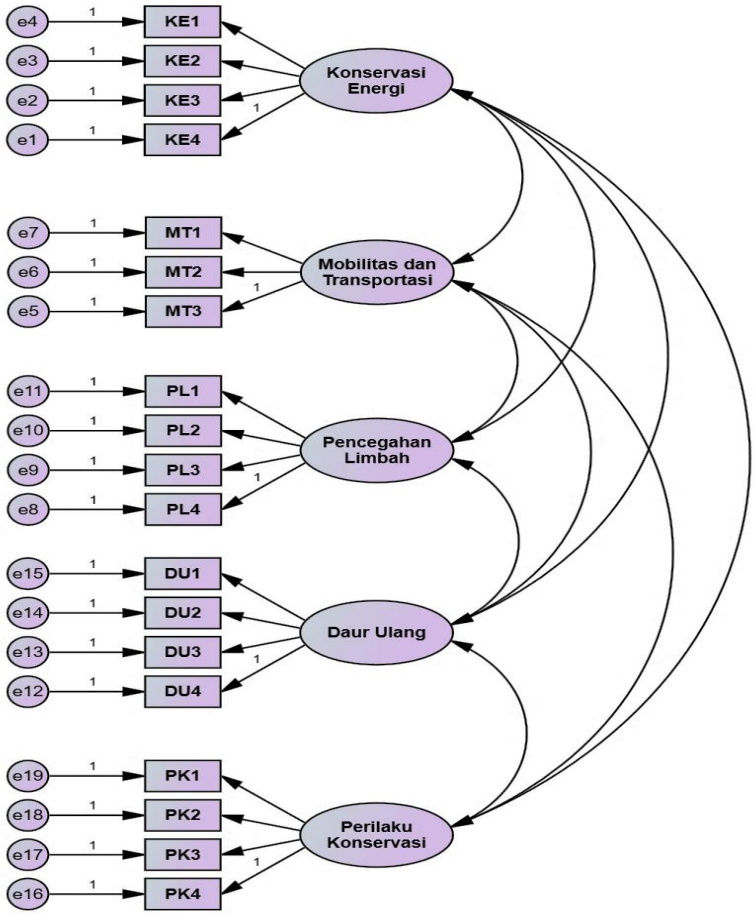

Figure 1. CFA Research Model

The goodness of Fit is an indication comparison between the models specified with *matrix covariance* between indicator or *observed variables*. If the resulting Goodness *of Fit* a model is good (fit), then the model is recommended, and vice versa. If The resulting Goodness of Fit a model is bad (not fit), then the model must be rejected or modified. Overall, there are three types of *Goodness of Fit* as follows:

Table 9. Criteria Goodness *of* Fit

Goodness of Fit	Cut Off Value	Value	Results
Probability (p)	≥ 0.050	1.128	Fit
Chi-Square (CMIN/DF)	< 2,000	0.014	Fit
Goodness of Fit Indices (GFI)	> 0.900	0.984	Fit
Root Mean Square Error of Approximation (RMSEA)	< 0.080	0.001	Fit
Tucker Lewis Index (TLI)	> 0.900	1,387	Fit

Goodness of Fit	Cut Off Value	Value	Results
Comparative Fit Index (CFI)	> 0.900	1.002	Fit
Incremental Fit Index (IFI)	> 0.900	1.156	Fit
Parsimony Normed Fit Indices (PNFI)	> 0.500	0.518	Fit
Parsimony Competitive Fit Indices (PCFI)	> 0.500	0.815	Fit

Table 10. Regression Weights

Construction		Variable	Estimate	S.E.	CR	P
KE1	<---	Conservation Energy	0.754	0.228	3.307	0.003
KE2	<---	Conservation Energy	0.452	0.324	1.395	0.432
THE 3RD	<---	Conservation Energy	0.243	0.244	0.996	0.462
KE4	<---	Conservation Energy	0.523	0.143	3,657	0.000
MT1	<---	Mobility and Transportation	0.635	0.536	1.185	0.324
MT2	<---	Mobility and Transportation	0.525	0.635	0.827	0.776
MT3	<---	Mobility and Transportation	0.238	0.342	0.696	0.832
MT4	<---	Mobility and Transportation	0.462	0.762	0.606	0.947
PL1	<---	Prevention Waste	0.763	0.655	1.165	0.158
PL2	<---	Prevention Waste	0.434	0.281	1,544	0.134
PL3	<---	Prevention Waste	0.338	0.433	0.781	0.734
PL4	<---	Prevention Waste	0.583	0.221	2,638	0.012
DU1	<---	Recycling	0.573	0.215	2,665	0.011
DU2	<---	Recycling	0.752	0.452	1,664	0.131
DU3	<---	Recycling	0.717	0.471	1,522	0.162
DU4	<---	Recycling	0.665	0.443	1,501	0.172
PK1	<---	Behavior to Conservation	0.586	0.213	2,751	0.001
PK2	<---	Behavior to Conservation	0.678	0.931	0.728	0.857
PK3	<---	Behavior to Conservation	0.481	0.817	0.589	0.853
PK4	<---	Behavior to Conservation	0.586	0.661	0.887	0.984

Table 11. The connection between the variable and the indicator (Loading *Factor)*

Latent Construct		Latent Variable	Estimate
KE1	<---	Conservation Energy	0.609
KE2	<---	Conservation Energy	0.479
THE 3RD	<---	Conservation Energy	0.480
KE4	<---	Conservation Energy	0.261
MT1	<---	Mobility and Transportation	0.559
MT2	<---	Mobility and Transportation	0.190

Latent Construct		Latent Variable	Estimate
MT3	<---	Mobility and Transportation	0.227
MT4	<---	Mobility and Transportation	0.995
PL1	<---	Prevention Waste	0.203
PL2	<---	Prevention Waste	0.458
PL3	<---	Prevention Waste	0.919
PL4	<---	Prevention Waste	0.138
DU1	<---	Recycling	0.392
DU2	<---	Recycling	0.957
DU3	<---	Recycling	0.379
DU4	<---	Recycling	0.134
PK1	<---	Behavior to Conservation	0.268
PK2	<---	Behavior to Conservation	0.765
PK3	<---	Behavior to Conservation	0.463
PK4	<---	Behavior to Conservation	0.752

Various types of things can influence pro-environmental behavior. Attachment factor place has a positive influence on pro-environmental behavior; relationships are positive because individuals who are active In socializing and doing activities in place residence tend more value place residence. In other words, no individual has an environmentally damaged place of residence. (Valera et al., 2024) . Medium (Junot et al., 2017) Find that positivity relates to pro-environmental behavior because individuals with atmosphere-positive hearts tend To expand their attention to the world, so they are pushed to be aware of conditions of nature and problems in the environment, which leads to the emergence of behavior positive to the environment. On the other hand, the height of education and knowledge about the environment also become important factors in increasing pro-environmental behavior, where more individuals are educated and more aware of saving consumption energy to arrange or save expenditure so that arranging finances manifests with pro-environmental behavior. (Meyer, 2015) Currently, in context, knowledge about the environment can play an essential role in increasing pro-environmental behavior because individuals who know the environment tend to change their behavior and can reduce the use of energy. (Muhammad Ichsan Ali et al., 2021; Ichsan Ali et al., 2019; Pothitou et al., 2016)

Apart from the various factors mentioned, a factor that is also significant in influencing environmental behavior is attention to the environment or attitude toward the environment. Terms of concern environment and attitude to environment considered same by various researcher (Dunlap & Van Liere, 1978; Gronwald & Wang, 2024; Valera et al., 2024) Various researchers have revealed that attitude toward the environment positively impacts pro-environmental behavior. (Rhead et al., 2015) . Attitude toward the environment is a tendency for psychological expression to evaluate perception from belief about the environment naturally, including factors affecting quality, such as the level of like / dislike. However, there are inconsistent results in studies on attitudes to the environment and pro-environmental behavior, where several studies found no connection between attitudes to the environment and pro-environmental behavior. (Osman et al., 2014; Udoinyang, 2024) .

Essential variables in pro-environmental behavior. Another environment is personality. A study found that the agreeableness personality dimension positively relates to a pro-social behavior environment. Individuals with high agreeableness can work together, are patient, and are gentle. (Pavalache-Ilie & Cazan, 2018) . Individuals with high agreeableness also tend to be obedient and very caring. Towards the well-being of his family and friends. According to (Fenton & Gustafsson, 2017) Individuals with high agreeableness are also generous and disciplined. High Agreeableness is

also related to a high level of individual empathy, which also increases support for the environment; on the other hand, individuals with low agreeableness lack concern for different individuals' welfare. (Ashton et al., 1998). It can be concluded that Individuals with high agreeableness tend to be cooperative, patient, weak, gentle, obedient, generous, disciplined, highly empathetic, and caring for other individuals and their families. From the findings of previous studies, it was found that there was a positive relationship between agreeableness and pro-environmental behavior. Still, there was inconsistency in the survey results between attitudes towards the environment and pro-environmental behavior, so this study aimed to determine the relationship between attitudes towards the environment and pro-environmental behavior moderated by agreeableness.

4. CONCLUSION

The result of the study is the connection between attitude to the environment and pro-environmental behavior. Individuals who have the attitude to a favorable climate can increase pro-environmental behavior. The second result reveals that agreeableness failed to moderate the connection between attitude to the environment and environmental behavior. This can be because of the connection between agreeableness and pro-environmental behavior in previously inconsistent studies. Another reason is that agreeableness traits tend to be more likely to behave prosocially than to the environment; that study reveals that more variables are suitable and proven to moderate the connection between them, like attention self and awareness self.

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