Research Article

Religion and Environment: The Role of Religiosity on Pro-environmental Behavior Among University Students in Indonesia

Mochammad Sa'id*, Agung Minto Wahyu, Rani Muarifah, Nur Rohmah Hidayatul Qoyyimah, and Rakhmaditya Dewi Noorrizki

Department of Psychology, Universitas Negeri Malang, Malang, Indonesia

Abstract.

Numerous environmental problems in various countries occur as a result of human misbehavior in interacting with their environment. Therefore, to maintain balance in the relationship between humans and the natural environment, it is necessary to develop pro-environmental behavior. This study aims to investigate the role of religiosity on pro-environmental behavior. This research employed a quantitative-correlational method. The participants in this study were 205 university students aged 18-24 years who were selected by convenience sampling technique. This study used two primary instruments to measure the two research variables: Religious Commitment Inventory - 10 (RCI-10) to measure religiosity and the General Ecological Behavior Scale to measure pro-environmental behavior. The research data were analyzed using regression analysis techniques. The analysis showed that religiosity has a significant role as a predictor of pro-environmental behavior among university students. This means that the higher the level of religiosity, the higher pro-environmental behavior. These findings have practical implications for environmental conservation programs. It is important to develop pro-environmental behavior intervention programs for the community by instilling religious values that could encourage awareness, and then behavior, of environmental sustainability.

Keywords: religion, religiosity, pro-environmental behavior, environmental psychology, environment

Corresponding Author: Mochammad Sa'id; email: mochammad.said.fppsi@um.ac.id

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1. Introduction

The continuity of human life cannot be separated from its interactions with the natural environment around it. Human behavior towards the natural environment would be able to influence the condition of the natural environment, and vice versa. This reciprocal relationship between human behavior and the natural environment can be positive or negative. When humans are able to treat the environment well, the condition of the natural environment will be well preserved, therefore, it can provide positive benefits for humans. However, if humans are unable to protect nature, the natural environment will be damaged and could have a negative impact on human life itself. In order to maintain balance within the relationship between humans and the natural environment,

it is necessary to develop pro-environmental behavior. This is because numerous environmental problems occur as a result of human behavior itself [1].

Environmental issues are one of the most critical issues for all countries in the world [2, 3, 4, 5]. This global environmental crisis relates to various contaminants that pollute the atmosphere, such as plastic and microplastic waste, hazardous chemicals and synthetic materials. For example, the amount of annual plastic production in the world has increased almost 200-fold from the 1950s to 2015. This is believed to be two-thirds of the world's population [4].

Numerous attempts have been made to address environmental problems. Among them are biodegradation and biotechnology [6,7], the use of environmentally friendly and minimal waste technology [8], cybercartography [9], and Effective Modeling and Geospatial Information Framework (SEM-GSIF) [10]. However, these efforts would not be effective in stemming the increasing environmental damage caused by the increase in various pollutants that pollute the environment.

Further attempts need to be made to improve human behavior in order to become more mindful about the environment and to avoid environmental destruction. Pro-environmental behavior is a behavior that is consciously carried out to minimize the negative impact of an individual's actions on the natural and artificial world [11]. In other words, pro-environmental behavior is behavior that demonstrates a positive impact on the environment, such as changing the availability of materials or energy from the environment or changing the structure and dynamics of the ecosystem or the biosphere itself [12].

Pro-environmental behavior can be manifested in various forms, such as reducing waste production, recycling behavior, minimizing resource and energy consumption, energy conservation, and choosing eco-friendly modes of transportation [11, 13]. In detail, pro-environmental behavior can be divided into six aspects [14], specifically: energy conservation, mobility and transportation, preventing waste, recycling behavior, consumerism, and indirect behavior that leads to environmental or energy conservation. These six aspects are based on specific manifestations of pro-environmental behavior.

One of the efforts to change human behavior to be more concerned about the environment is to involve religiosity. As a psychological concept, religiosity can be comprehended from two dimensions: religious affiliation and religious commitment [15]. Religious affiliation is a religious identification of an individual or his/her integration within a religious group. Meanwhile, religious commitment is the extent to which

individuals adhere to religious values, beliefs, and practices and us [16]. Religiosity and pro-environmental behavior are closely related. Theoretically, religiosity is one of the variables that is very likely to be related and paradoxically serves as a significant predictor of pro-environmental behavior. This is because the religious teachings that are believed, practiced and internalized by individuals can affect their way of thinking, behaving, and taking a decision in almost every stage of life aspects they maintained [15]. Diverse religious teachings–including animism belief, which is often referred to as primitive religion–emphasize the importance of maintaining and harmonizing the environment manifested by a positive individual behavior [17]. Therefore, the values contained in religion have the potential to be developed as a cognitive scheme for individuals to behave and take an action towards the environment, which in this case is directed at pro-environmental behavior [18].

The close relationship between religiosity and pro-environmental behavior is in line with the VBN (values-beliefs-norms) theory which is widely used as a theoretical basis in predicting individual envir[19]. The theory elaborates that individual behavior towards the environment, including pro-environmental behavior, is closely related and influenced by the values, beliefs, and norms they have [19]. Empirical research also confirms a correlation between the two notions [13, 20].

There has been numerous research on the relationship between religiosity and pro-environmental behavior. However, there is still limited research that begins from the discipline of psychology, compared to other disciplines such as anthropology, theology, and ecology [21]. In addition, the participants in the previous studies are adults [22, 19, 23]. Only a few of the previous studies have examined university students [24, 25, 26]. Based on the explanation above, this study was conducted to further investigate the relationship between religiosity and pro-environmental behavior among university students in Indonesia.

2. Literature Review

Pro-environmental behavior is a behavior that is consciously carried out to minimize the negative impact of an individual's actions on the natural and artificial world [11]. In other words, pro-environmental behavior is behavior that demonstrates a positive impact on the environment, such as changing the availability of materials or energy from the environment or changing the structure and dynamics of the ecosystem or the biosphere itself [12].

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One of the efforts to change human behavior to be more concerned about the environment is to involve religiosity. As a psychological concept, religiosity can be comprehended from two dimensions: religious affiliation and religious commitment [15]. Religious affiliation is a religious identification of an individual or his/her integration within a religious group. Meanwhile, religious commitment is the extent to which individuals adhere to religious values, beliefs, and practices and use them in their daily lives [16].

Religiosity and pro-environmental behavior are closely related. Theoretically, religiosity is one of the variables that is very likely to be related and paradoxically serves as a significant predictor of pro-environmental behavior. This is because the religious teachings that are believed, practiced and internalized by individuals can affect their way of thinking, behaving, and taking a decision in almost every stage of life aspects they maintained [15]. Diverse religious teachings–including animism belief, which is often referred to as primitive religion–emphasize the importance of maintaining and harmonizing the environment manifested by a positive individual behavior [18]. Therefore, the values contained in religion have the potential to be developed as a cognitive scheme for individuals to behave and take an action towards the environment, which in this case is directed at pro-environmental behavior [17].

The close relationship between religiosity and pro-environmental behavior is in line with the VBN (values-beliefs-norms) theory which is widely used as a theoretical basis in predicting individual environmental behavior [19]. The theory elaborates that individual behavior towards the environment, including pro-environmental behavior, is closely related and influenced by the values, beliefs, and norms they have [19]. Empirical research also confirms a correlation between the two notions [13, 20].

3. Method

This research was correlational quantitative research. This research was conducted to further understand and investigate the relationship between religiosity and pro-environmental behavior, specifically regarding the role of religiosity as a predictor of pro-environmental behavior.

The participants of this study were university students in Indonesia aged 18-24 years. The number of participants in this study was 205 university students who were selected by convenience sampling technique.

This study employed two instruments to measure the two research variables. First, to measure religiosity, the researchers used the Religious Commitment Inventory - 10 (RCI-10) [16] which has been adapted into Indonesian. This scale enquires the participant's religious commitment, consisting of ten items with five answer choices: (1) Untrue of me, (2) Fairly true of me, (3) True enough of me, (4) Mostly true of me, (5) Very true of me. The results of trials with 52 participants showed that the ten items of the adapted scale were reliable with reliability coefficient of 0.883.

Second, to measure pro-environmental behavior, the researchers used the General Ecological Behavior Scale [14] which has been adapted into Indonesian. This scale consists of 33 items with five answer choices: (1) Never, (2) Rarely, (3) Sometimes, (4) Often, (5) Always. The results of trials with 52 participants showed that 21 of the 33 adapted scale items were reliable with reliability coefficient of 0.804.

In addition to the two main instruments above, the researcher asked four questions to confirm the demographic information of the participants. The four questions included sex, age, ethnic identity, and religious affiliation (Muslim, Protestant, Catholic, Hindu, Buddhist, Confucian, or Other).

The data in this study were analyzed in three ways. First, demographic data which included ethnicity, religion, age and gender. This data was analyzed by means of percentage presentation. Second was descriptive data of each variable. This data was analyzed using descriptive statistics. Third was an independent sample t test to analyze the correlation between demographic information and religiosity and pro-environmental behavior. Fourth was hypothesis testing to investigate the role of religiosity as a predictor of pro-environmental behavior using regression analysis techniques.

4. Result and Discussion

The demographic characteristics of the research participants indicated that of the 205 research participants, most of them were Javanese (87.8%) and Moslem (97.1%). In terms of age, the majority of the research participants were between 18-20 years old (65.4%). In addition, based on sex, the majority of the participants in this study were women (72.2%).

TABLE 1: The demographic characteristics of research participants.

Demographic Characteristics	Total (N=205)	
	Frequency	Percentage
Ethnic group		
Javanese	180	87,8%
Sundanese	2	1,0%
Betawis	2	1,0%
Chinese Indonesian	1	0,5%
Batak	1	0,5%
Madurese	7	3,4%
Balinese	2	1,0%
Other	10	4,8%
Religion		
Moslem	199	97,1%
Catholic	4	1,9%
Hindus	1	0,5%
Others	1	0,5%
Age range		
18-20 years old	134	65,4%
21-23 years old	71	34,6%
Sex		
Male	57	27,8%
Female	148	72,2%

Based on the results of the descriptive empirical analysis on the religiosity variable, the maximum score was 50 and the minimum score was 15. The empirical mean for this religiosity variable was (x = 37.62); higher than the hypothetical mean value of (μ = 30). This shows that the level of participant religiosity is classified in the high category. On the other hand, the empirical standard deviation value on the religiosity variable was (α

= 6.48); lower than the hypothetical standard deviation value of (α = 6.67). This shows that the religiosity of research participants has relatively low variations.

Based on the results of the descriptive empirical analysis on the pro-environmental behavior variable, the maximum score was 88 and the minimum score was 35. The empirical mean for the pro-environmental behavior variable was (x = 61.41); higher than the hypothetical mean value of (μ = 60). This shows that the level of the participants' pro-environmental behavior is classified in the high category. On the other hand, the value of the empirical standard deviation on the pro-environmental behavior variable was (α = 8.28); lower than the hypothetical standard deviation value of (α = 13.33). This shows that the pro-environmental behavior of research participants has a relatively low variation.

Table 2: The hypothetical average and variable empirical average results.

Variable	Hypothetical Average				Empirical Average				Category
	Max	Min	μ	A	Max	Min	X	A	
Religiosity	50	10	30	6,67	50	15	37,62	6,48	High
Pro-environmental behavior	100	20	60	13,33	88	35	61,41	8,28	High

Annotation : Max = maximum score; Min = minimum score; μ = hypothetical average; x = empirical average; α = standard deviation.

This study also tries to look at the differences in the religiosity and pro-environmental behavior of the respondents from the demographic aspect, namely gender and age. When viewed from the gender, there is no significant difference between male and female respondents in terms of religiosity and pro-environmental behavior. Meanwhile, when viewed from the age group, there is a significant difference between the age group 18-20 years old and 21-24 years old in terms of religiosity. Respondents who were in the age range of 21-24 years old had higher religiosity than those in the age range of 18-20 years old. However, in terms of pro-environmental behavior, there is no significant difference between the two age groups.

Table 3: The results of independent sample t test.

Variable	Male	Female	p value	Age 18-20	Age 21-24	p value
	Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)	
Religiosity	38.30 (7.514)	37.36 (6.050)	0.354	36.63 (6.594)	39.48 (5.879)	0.003
Pro-environmental Behavior	60.33 (8.262)	61.83 (8.272)	0.247	60.63 (8.076)	62.90 (8.501)	0.061

The results of the regression analysis show that the regression significance value between the independent variable and the dependent variable was 0.000. This value is less than the probability value of 0.05. It can be interpreted that religiosity has a significant role as a predictor of pro-environmental behavior among university students. Religiosity affects pro-environmental behavior variables positively. This means that the higher the level of religiosity an individual internalizes, the higher his/her pro-environmental behavior will be constructed.

Table 4: The results of regression analysis.

Variable	B	Sig	R Square	Remark
Religiosity	48,748	0,000	0,070	H1 was accepted
Pro-environmental Behavior	0,337			

The coefficient of determination in the table indicated that the R Square value was 0.070. This means that religiosity encompasses the ability to predict pro-environmental behavior in university students by 7%, while the remaining 93% was influenced by other variables which were not examined in this study.

This study seeks to investigate the predictive role of religiosity on pro-environmental behavior among university students. The results of this study indicate that religiosity has a significant role as a predictor of pro-environmental behavior among university students. The higher the level of individual's religiosity, the higher the pro-environmental behavior that is demonstrated by the individual.

Theoretically, pro-environmental behavior demonstrated by the individual cannot be separated from the religiosity he/she manifests. This is because the religious teachings that are believed, practiced and internalized by individuals can affect their way of thinking, behaving, and taking a decision in almost every stage of life aspects they maintained [15]. Diverse religious teachings–including animism belief, which is often referred to as primitive religion–emphasize the importance of maintaining and harmonizing the environment manifested by a positive individual behavior [18]. Therefore, the values contained in religion have the potential to be developed as a cognitive scheme for individuals to behave and take an action towards the environment, which in this case is directed to pro-environmental behavior [17].

The results of this study are also in line with several previous research results. In general, religiosity plays an important factor that encourages individuals to behave pro-environmentally [19]. Religiosity is one of the important factors that determine the

choice of products consumed by an individual [27, 24, 25]. The higher an individual's religiosity, the more likely he/she is to choose and consume environmentally friendly products. Religiosity is also an important factor that mediates the impact of an individual's attitudes, values, concerns, and knowledge about the environment on the intention of pro-environmental consumption behavior [22].

The results of this study also emphasize the important role of personal values possessed by individuals in the tendency to behave in a pro-environmental manner. This is in line with the VBN (values-beliefs-norms) theory which is widely used as a theoretical basis in predicting individual environmental behavior [19]. Individual behavior towards the environment, including pro-environmental behavior, is closely related and influenced by its values, beliefs and norms. Empirical evidence shows that the values, beliefs, and norms possessed by individuals will influence their behavior towards the environment [13, 20].

Previous research results have also confirmed that certain values that an individual believes in environmental issues would have an influence on their intention to demonstrate pro-environmental consumption behavior [27, 22, 28]. When the values believed by these individuals support environmental sustainability, these values would encourage individuals to choose pro-environmental products. Vice versa, if these values conflict with environmental conservation efforts, then these values would encourage individuals to demonstrate consumption behavior that is not pro-environment.

This study has proven empirically that religiosity plays as a significant predictor of pro-environmental behavior, specifically among university students. However, this study has not revealed what kind of religiosity has a positive effect on increasing pro-environmental behavior. Further research on particular notions of religiosity that affect pro-environmental behavior is important for understanding and finding more specific religious beliefs that affect the increase or decrease in pro-environmental behavior [21].

In the future, the environmental preservation program should be directed at a pro-environmental behavior development program for the community by instilling religious values that could encourage individual's concern of environmental sustainability. For future research, it is important to investigate further about what kind of religiosity notion that has an effect on increasing or decreasing pro-environmental behavior.

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