

RESEARCH ARTICLE

The Impact of Social Value Orientation on Pro-environmental Behavior

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Abstract

Promoting pro-environmental behavior is a significant concern nowadays. Researchers have identified social value orientation as one of the key factors influencing pro-environmental behavior. This study aims to investigate the influence of social value orientation on pro-environmental behavior and to highlight differences based on gender. The research method used is non-experimental quantitative causality. This research was carried out in 2024 at B University in Bandung. The study participants were 378 students from B University in Bandung, selected using convenience sampling. The measurement tools used were the Triple Dominance Scale by Van Lange (1998) to assess social value orientation (SVO) tendencies and the GEB Scale by Kaiser (2020) to measure general ecological behavior, i.e., the tendency to engage in pro-environmental or non-pro-environmental behavior. Data analysis was done using JASP version 19. The results showed a significant influence of social value orientation on pro-environmental behavior with Fisher's exact test $p=0.017$ ($p<0.05$). An odds ratio of 0.084 was obtained, indicating that participants categorized as pro-social are 11.9 times more likely to engage in pro-environmental behavior than those classified as pro-self. Regarding gender differences, the chi-square test revealed no significant differences between males and females in terms of social value orientation tendencies with $\chi^2=0.056$ ($p>0.05$), as well as in terms of engaging in pro-environmental behavior, with $\chi^2=0.774$ ($p>0.05$). The conclusions of this study are that social value orientation affects pro-environmental behavior, and there was no significant difference between gender in social value orientation tendencies and pro-environmental behavior.

Keywords: Gender differences, pro-environmental behavior, social value orientation, students

Introduction

Promoting pro-environmental behavior is an essential concern nowadays, as environmental degradation poses a significant threat to the well-being of our planet and its inhabitants.¹ Individual involvement in embodying pro-environmental behavior is critical to addressing environmental challenges and ensuring our planet's and future generations' long-term health and well-being. As future leaders and decision-makers, students play a crucial role in driving sustainable change.² Researchers have identified social value orientation as a key factor influencing pro-environmental behavior, and understanding this relationship is essential for developing effective interventions to encourage environmentally responsible action.³

Pro-environmental behavior (PEB) refers to actions and decisions intended to positively

affect the natural environment, such as recycling, conserving energy resources, reducing waste, and supporting sustainable practices.⁴ Social value orientation (SVO) is an individual trait that receives significant attention in pro-social behavior research.⁵ SVO refers to how individuals prioritize their interests over others in social situations. This study investigates the influence of SVO on PEB. In addition, it aims to determine the difference in the orientation of social values based on gender and whether gender also affects PEB.

Several studies have shown that SVO influences PEB. For example, research consistently shows that individuals with a strong pro-social value orientation are more likely to engage in pro-environmental behaviors, such as recycling and conserving energy resources than those with a more selfish orientation.⁶ One study by Bhattacharya⁷ found that individuals with a

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strong pro-social value orientation were more likely to engage in pro-environmental efforts. SVO refers to an individual's preference for the distribution of outcomes between themselves and others. It can be classified into three main types: pro-social, pro-self, and individualistic.⁸ Research has shown that individuals with a pro-social orientation, who value the well-being of others and the environment, are more likely to engage in pro-environmental behaviors, such as recycling, conserving energy, and supporting environmental policies.^{9,10} Pro-social individuals are motivated by altruistic values and a sense of responsibility towards the environment and society. Value-belief norm theory suggests many variables can predict PEB, including SVO.^{11,12} Previous research has shown that attitudes towards pro-environmental activities and subjective norms about these behaviors also play an essential role in predicting pro-environmental behaviors.¹³ Individuals who prioritize pro-social values are more likely to have stronger pro-environmental beliefs and show a greater willingness to engage in a variety of pro-environmental behaviors compared to those who prioritize individual or selfish values.¹⁴ In addition, research has found a negative correlation between selfish values, traditional conservative values, and PEB.^{15,16} Overall, research shows that SVO influences PEB.¹⁴

It was found that differences in social orientation values based on gender in the context of honesty research show that females are more pro-social than males.¹⁷ There is a similarity in some previous studies; in the context of helpful behavior research, they found that females are more pro-social than males.^{18,19} There is also a difference in PEB based on gender; females will be more pro-environmental than males. Supported by some previous studies, females were significantly more engaged in PEB.^{20,21} Based on the literature reviewed, it is clear that SVO substantially impacts PEB. There are differences in SVO and PEB based on gender. In this study, the researcher aims to examine the influence of social value orientation on pro-environmental behavior and explain differences based on gender in the context of the environment.

Methods

This study is a non-experimental quantitative

casualty research, which aims to determine the influence of one variable on other variables.²² The sampling technique used was convenience sampling. This research was conducted from May 2024 to September 2024 at Bandung, B University. The target population of this study consists of active students enrolled in various study programs at B University. Participants were recruited by distributing a survey link presented as a Google Form. This form included informed consent and two measurement tools in the form of questionnaires: the three-dominance social value orientations, which assess individuals' SVO tendencies, and the General Ecological Behavior scale, which evaluates whether individuals tend to engage in pro-environmental or non-pro-environmental behavior. The questionnaire collected demographic information such as age, gender, religion, ethnicity, and study program. The survey link was shared via social media groups and course groups at B University.

The participants were students from various study programs at B University in Bandung, totaling 378 people. Most participants were female (72%) and male (28%).

This study used two questionnaire-measuring tools: the Triple-dominance scale and the General Ecological Behavior measuring tools. A demographic questionnaire was also used to collect participant information, including gender, age, religion, ethnicity, and study program. SVO is measured by the Triple-dominance scale developed by Van Lange in 1997, which consists of 9 items, including three dominant social value orientations: pro-social, individualistic, and competitive. The SVO reliability using the Cronbach's alpha method is 0.883. Each item consists of 3 answer choices that represent the three dominant SVOs. Each participant was asked to choose the most appropriate answer for each item. This measuring tool has undergone an adaptation process using back translation techniques and expert judgment. An example item would be "participants choose between three options: (i) 500 points to themselves (I), 500 points to others (You) (i.e. cooperative choice), (ii) 560 points to themselves, 300 points to others (i.e., individualistic choice), or (iii) 490 points to themselves and 90 points to others (i.e., competitive choice)."

PEB was measured using the General Ecological Behavior (GEB) developed by Florian

G. Kaiser in German and English,²³ which was then adapted into Indonesian with a reliability of 0.739 using the Cronbach's alpha method. The GEB scale is a reliable and valid tool for assessing an individual's commitment to PEB. It has been developed using the Rasch model to ascertain unidimensional and probabilistic measures of PEB.²⁴ The GEB scale has been used in a variety of contexts, such as assessing adolescent environmental preferences, measuring environmental attitudes and behaviors in children, and capturing ecological lifestyles.²⁵⁻²⁷

The GEB scale has also been used in cross-cultural applications, demonstrating its versatility and applicability in various cultural settings.²⁸ Only 32 of the 50 GEB scale items are used for this study. It is intended to focus on more relevant and valid ecological behaviors, increasing its sensitivity and alignment with pro-environmental attitudes.^{29,30} The GEB scale has option answers ranging from 1 (never) to 5 (always) and 0 (choosing not to answer). GEB-32 has one example: "I am a vegetarian."

Data analysis was carried out with the help of the JASP version 19 program. JASP was used to analyze the descriptive demographics of participants, testing the influence of SVO on PEB and the influence of gender on SVO and PEB. The data from the measurement of SVO is categorical, consisting of the proself (coding: 1) and pro-social (coding: 2) categories. The data from the measurement of the GEB scale is also in the form of categorical data, namely the pro-environmental (coding: 1) and non-pro-environmental (coding: 2) categories. Because the data obtained from the two measuring tools is categorical (nominal), the statistical analysis techniques used are the chi-square test and Fisher's exact test. In addition, an analysis of odd's ratio was also carried out to compare the relative chances of a specific outcome.

Results

Table 1 shows more female participants (72%) than males (28%). Most participants were 19 years old (38%), with the average age of participants being 19.79 years and the standard deviation being 1.31. Most participants are Muslim (99%) compared to other religions. The most studied programs were psychology (63%) and Sundanese participants (78%), more than other ethnic groups.

Table 1 Demographic Data

Characteristics	n=378 (%)
Gender	
Female	273 (72)
Male	105 (28)
Age (years)	
<18	6 (2)
18	45 (12)
19	143 (38)
20	92 (24)
21	49 (13)
22	28 (7)
>22	15 (4)
Religion	
Islam	375 (99)
Protestant	1 (0.3)
Catholic	1 (0.3)
Others	1 (0.3)
Major	
Psychology	238 (63)
Faculty of Religion	81 (21)
Law	31 (8)
Economics and Business	15 (4)
Others (Mathematics and Natural Sciences, Engineering, Communication Sciences, and Medicine)	12 (3)
Ethnicity	
Sundanese	296 (78)
Javanese	54 (14)
Others (Minang, Bugis and Batak)	28 (7)

Table 2 shows that participants are generally more likely to be oriented towards social pro-self values than pro-social, namely 245 people or 65% of participants. It indicates that in the context of social orientation values, more participants tend to be oriented towards their interests rather than the interests of others or the common good; in PEB, more participants are classified as non-pro-environment compared to pro-environmental ones. This condition is also seen in the context of gender. Female participants, compared to males, were more pro-self and not pro-environmental.

Table 3 shows the results of the chi-square test $\chi^2=0.056$ ($p>0.05$), showing no significant difference in SVO based on gender. This means that gender does not influence the orientation of pro-self or pro-social social values.

Table 4 shows the result of Fisher's exact

Table 2 Contingency

Gender		Social		Environmental	
		Proself	Pro-social	Pro-environmental	Non-pro-environmental
Male	Count	169	104	8	265
	Expected count	176.944	96.056	7.222	265.778
Female	Count	76	29	2	103
	Expected count	68.056	36.944	2.778	102.222
Total	Count	245	133	10	368
	Expected count	245	133	10	368

Table 3 Chi-square of Social Value Orientation based on Gender

	Value	df	p
χ^2	3.649	1	0.056
n	378		

Table 4 Fisher's Exact Test of Pro-environmental Behavior based on Gender

	Value	df	p
χ^2	0.31	1	0.578
n	378		

test $p=0.578$ ($p>0.05$), which means there is no gender difference in PEB. So, pro-environmental or non-pro-environmental behavior is not influenced by gender.

Table 5 shows that the majority of participants who are oriented towards pro-self social values show a tendency to behave non-pro-environmentally. As many as 235 participants (95%) are self-oriented. The same results were also found in participants who were oriented towards pro-social social values, where all participants, or 133 who were prosocially oriented, showed non-pro-environmental behavior.

Table 6 shows the results of SVO proven to influence PEB significantly, $p=0.017$ ($p<0.05$). It means that the tendency of participants to

Table 5 Contingency of Chi-Square for Social Value Orientation and Pro-environmental Behavior

		Non-pro-environmental	Pro-environmental	Total
		Proself	Count	235
	Expected count	238.519	6.481	245
Pro-social	Count	133	0	133
	Expected count	129.481	3.519	133
Total	Count	368	10	378
	Expected count	368	10	378

Table 6 Fisher's Exact Test for Social Value Orientation Influence on Pro-environmental Behavior

	Odds Ratio	95% CI		p
		Lower	Upper	
Odds ratio	0.084	0.005	1.445	
Fisher's exact test	0	0	0.805	0.017

have an SVO has a meaningful influence on their propensity to behave pro-environmental or non-pro-environmental. The odds ratio value of 0.084 ($1/0.084=11.90$) revealed that pro-social participants were 11.9 times more likely to behave pro-environmental than pro-self value-oriented participants.

Discussion

This study proves that SVO significantly affects PEB. There is a significant difference between individuals with a tendency to orient pro-social values and those with a tendency to orient pro-social values in choosing non-pro and pro-environmental behaviors. Individuals with a pro-social value orientation were 11.9 times more likely to behave pro-environmental than individuals with a pro-self. Following previous research by Curtin and Jia,⁶ pro-social social values-oriented individuals are more likely to engage or tend to behave pro-environmentally. This is supported by the study of Bhattacharya⁷ and Zibenberg et al.,¹⁰ which states that individuals with a pro-social value orientation are more likely to engage in PEB. According to the two previous studies, this condition occurs because people oriented to pro-social social values are motivated by altruistic values and a sense of responsibility towards the environment and society.

This study found no influence of gender on SVO or PEB. This finding differs from research conducted by Grosch and Rau,¹⁷ which states that females are more pro-social than males. Similarly, some research has found that females are significantly more likely to engage in PEB.^{20,21} For further study, other determinants can be considered to improve PEB for individuals with an SVO of self, such as the demographics of participants who vary in age, religion, study program, university, and ethnicity.

The study had limitations. First is the use of self-report measuring tools, so there is a possibility of bias in the answers. Thus, additional data collection methods are needed using interviews or focus group discussions so that they can provide richer insights into the reasons behind the findings obtained. Second, this study only involves students at one university, so the following research study can include more universities and faculties so that the participants are more varied. Then, this study uses non-

probability sampling, so the recommendation for the following research is to use probabilistic sampling. Then, it is necessary to analyze the background of participants other than gender to provide interventions and make more specific policies.

Conclusion

This study's conclusions are that social value orientation affects pro-environmental behavior and that there is no significant difference between genders in social value orientation tendencies and pro-environmental behavior.

Conflict of Interest

The author states that there is no conflict of interest. The funders have no role in the research design, data collection, analysis, interpretation, script writing, or decision to publish the results.

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