

The Relationship of Personal Norms on Pro-Environmental Behaviour among Residents in Johor

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Abstract: The environment plays a vital role in supporting all life forms, including humans, animals, and plants, highlighting its global significance. However, the gap between awareness and action in pro-environmental behavior (PEB) presents a challenge. This study aims to examine the connection between personal norms and PEB in Skudai, Johor Bahru, addressing the limited involvement in environmental initiatives and the difference between values and actions. Conducted in residential areas, the research involves 381 randomly selected residents. Survey questionnaires are used and analyzed with IBM SPSS 26 software. The study emphasizes the advantages of strong personal norms for pro-environmental conduct, underscoring the need to close the awareness-action gap. The findings shed light on the relationship between personal norms and PEB, especially in developed nations. Notably, individuals often behave differently from their values, indicating a need for effective personal norms for environmental responsibility. This highlights the importance of fostering these norms. In conclusion, the research stresses the importance of strengthening personal norms to promote pro-environmental behavior. Addressing the gap between awareness and action is crucial for encouraging sustainable practices and environmental well-being.

Keywords: Personal Norms, Pro-Environmental Behavior, Awareness-Action Gap

1. Introduction

Environmental behavior holds immense importance in maintaining a healthy environment. As environmental issues such as pollution, resource depletion, and climate change escalate, human behavior emerges as a key factor (Ari & Yilmaz, 2017). Pro-environmental behavior (PEB), encompassing actions aimed at safeguarding the environment, plays a critical role in addressing these

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concerns (Steg & Vlek, 2009). Particularly, personal norms, shaped by beliefs and attitudes, influence PEB. Despite the pivotal role of personal norms, research in this area remains limited. This study aims to explore the relationship between personal norms and PEB, specifically among residents of Skudai, Johor Bahru. The significance of understanding this relationship becomes more pronounced considering the increasing environmental challenges that arise from human actions.

In recent years, the global environmental crisis has gained momentum (Willuweit, 2009). The urgent need for pro-environmental behavior is evident from the escalating problems of pollution, resource depletion, and health issues caused by environmental hazards (Brusseau *et al.*, 2019). Pro-environmental actions, such as using public transportation and recycling, are essential to mitigate these problems (Vicente-Molina *et al.*, 2013). However, even in societies aware of environmental concerns, a gap often exists between awareness and action (Jamilah Ahmad *et al.*, 2011). Pro-environmental behavior tends to be more prevalent in developed countries (Hansmann *et al.*, 2020). Human actions frequently diverge from their values, reflecting a deficit in strong personal norms for environmental responsibility (Geng *et al.*, 2017).

This study examines a series of significant inquiries that revolve around the correlation between personal norms and pro-environmental behavior (PEB) among the residents of Skudai, Johor Bahru. The research aims to comprehend the level of personal norms among the residents, while also assessing the extent of pro-environmental behavior within this community. Through this exploration, the study aims to establish a clear link between personal norms and pro-environmental behavior among the residents.

The research objectives established for this study seek to comprehensively investigate the connection between personal norms and pro-environmental behavior (PEB) in the context of Skudai, Johor Bahru. By evaluating the level of personal norms among the residents, the study aims to reveal their underlying beliefs and attitudes towards environmental responsibility. Furthermore, it involves evaluating the degree of pro-environmental behavior demonstrated by the residents, thus providing insights into the practical actions taken to safeguard the environment. Ultimately, the study strives to shed light on the relationship between personal norms and pro-environmental behavior, offering valuable insights into how individual beliefs influence their actual environmental actions within the community.

This research specifically targets Skudai Kanan residents and encompasses areas such as Bandar Baru Uda, Taman Skudai Kanan, and Tampoi. The focus on personal norms and PEB aligns with the goal of improving environmental behavior and reducing pollution, particularly considering past environmental incidents in the region. The outcomes of this research will raise awareness among residents about the benefits of strong personal norms for pro-environmental behavior. It will also aid other researchers interested in similar topics, contributing to discussions on personal norms, pro-environmental behavior, and sustainability. Ultimately, this study strives to motivate positive environmental actions and mitigate pollution issues.

2. Literature Review

Environmental behavior, crucial for maintaining a healthy ecosystem, has gained substantial attention due to escalating global environmental challenges. With issues like pollution, climate change, and resource depletion on the rise, understanding the human role in these concerns has become pivotal (Ari & Yilmaz, 2017). Notably, personal norms, a self-expectation of specific actions driven by moral duty, have emerged as a significant aspect (Schwartz, 1977). This literature review examines the relationship between personal norms and pro-environmental behavior (PEB) within the context of Skudai, Johor Bahru.

2.1 Personal Norms and their Influence

Personal norms encompass the motivation to take responsibility for nature and the environment (Schwartz, 1977). Shaped by attitudes, behaviors, beliefs, and values, personal norms play a central role in determining individuals' environmental actions (de Groot & Steg, 2008). Notably, individuals with high awareness of the consequences of their actions tend to engage more in pro-environmental behavior (Onwezen *et al.*, 2013). This awareness is rooted in their attitudes and perceived behavioral control (Park & Ha, 2014), reflecting how a good impact can drive actions, such as recycling materials or using eco-friendly alternatives.

2.2 Value Identify Personal Norm Model

The Value Identify Personal Norm (VIP) model, introduced by Van der Werff and Steg (2016), introduces the biospheric value (BV), environmental self-identity (ESI), and personal norm (PN) as key elements influencing pro-environmental behavior (PEB). The BV reflects determination for pro-environmental actions, ESI connects to the sense of responsibility towards others, and PN signifies moral obligations, which motivate individuals to engage in PEB (van der Werff & Steg, 2016; Harland *et al.*, 1999).

2.3 Understanding Pro-Environmental Behavior

Pro-environmental behavior (PEB) encompasses actions aimed at avoiding harm and safeguarding the environment (Steg & Vlek, 2009). It involves various dimensions, including individual intentions, public behavior, and active involvement in environmental causes (Kothe *et al.*, 2019; Ünal *et al.*, 2019). PEB exemplifies both individual initiatives, like recycling or using energy-saving practices, and collective actions, such as supporting environmental policies.

2.4 Awareness of Pro-Environmental Behavior in Malaysia

Promoting sustainable environmental practices necessitates a heightened focus on raising awareness about pro-environmental behavior, a premise well-established by Ahmad *et al.* (2011). While Malaysia has shown a gradual increase in environmental awareness, it remains behind developed nations in this regard (Ahmad *et al.*, 2011). Notably, the propagation of environmental consciousness has been facilitated by collaborative initiatives involving environmental non-governmental organizations (NGOs), corporations, and financial institutions. This synergy has been instrumental in orchestrating pro-environmental activities, contributing to the cultivation of a pervasive culture of environmental mindfulness.

2.5 The Relationship between Personal Norms and Pro-Environmental Behavior

Research on the relationship between personal norms and pro-environmental behavior has shown that individuals with strong personal norms exhibit a higher inclination towards pro-environmental actions. Recent studies confirm a moderate yet significant positive relationship between personal norms and pro-environmental behavior (De Groot *et al.*, 2021). This relationship underlines the impact of personal norms on motivating individuals to engage in actions that benefit the environment.

3. Research Methodology

3.1 Research Design

A quantitative research design is employed to comprehensively investigate the relationship between personal norms and pro-environmental behavior. This design allows for the collection of structured numerical data that can be statistically analyzed to draw meaningful conclusions.

3.2 Population and Sampling

The target population for this research comprises residents of Skudai Kanan, Johor Bahru, estimated to be around 58,788 individuals. In consideration of the population size and research feasibility, the study adopts a systematic random sampling technique. This technique ensures a representative sample by randomly selecting 381 respondents based on Kerrie Morgan's Table, providing statistical significance and reliability.

3.3 Research Instrument

The primary tool for data collection in this study is a structured questionnaire, designed to gather comprehensive insights into personal norms and pro-environmental behavior among the respondents. The questionnaire is divided into two distinct sections to capture relevant information.

This section aims to collect essential demographic information from the respondents. It includes questions related to gender, age, occupation, marital status, and the duration of residency in Skudai Kanan. These demographic details provide context and enable a comprehensive understanding of the respondent's background.

The second section delves into the heart of the study, focusing on personal norms and pro-environmental behavior. Respondents will be asked to assess their personal norms and pro-environmental behavior using a Likert Scale, ranging from "Never" to "Always." This scale quantifies the extent to which their personal norms align with pro-environmental behavior. This section aims to capture the relationship between personal beliefs and actual behavioral choices in environmental conservation.

3.4 Data Analysis

The collected data will undergo a comprehensive analysis to unveil meaningful patterns and relationships between personal norms and pro-environmental behavior. Descriptive statistics will be employed to generate frequency counts and percentages, providing an overview of respondents' demographic characteristics. To ascertain the strength and direction of the linear relationship between personal norms and pro-environmental behavior, Pearson's correlation coefficient analysis will be conducted. Prior to applying parametric tests, the normality of data distribution will be assessed using the Kolmogorov-Smirnov and Shapiro-Wilk tests. These assessments ensure the validity of assuming normality for further analyses.

3.5 Reliability Test

To ensure the reliability of the questionnaire items measuring personal norms and pro-environmental behavior, Cronbach's alpha coefficient analysis is employed.

4. Results and Discussion

4.1 Response Rate

The study's focus was on the residents of Skudai, Johor Bahru, and the selected sample size for this research consisted of 381 respondents. However, the study received responses from a total of 200 participants, yielding a response rate of 52.49%. This response rate indicates a moderate level of engagement from the participants in addressing the research questions.

4.2 Reliability Test

The reliability of the data collected through the questionnaire was assessed using Cronbach's Alpha. Table 1 presents the results of the reliability test for both the independent and dependent

variables. For the independent variable, "Personal norms," the Cronbach's Alpha value was calculated to be 0.839, indicating a high level of internal consistency among the four measured items. Similarly, for the dependent variable, "Pro-environmental behaviour," the Cronbach's Alpha value was 0.914, which also signifies a high degree of internal consistency among the 17 measured items. These reliability values provide confidence in the consistency of the data gathered for the study.

Table 1. Results of reliability test of data

Variables	Cronbach's Alpha	Item
Independent Variable: Personal norms	0.839	4
Dependent Variable: Pro-environmental behaviour	0.914	17

4.3 Descriptive Analysis

Table 2 presents the demographic distribution of the respondents in terms of gender.

Table 2: Respondent's demographic

Item	Frequency	Percentage (%)
Gender		
Male	88	44.0
Female	112	56.0
Total	200	100.0
Age (Years)		
Less than 20	6	3.0
20 - 30	183	91.5
30 - 40	9	4.5
40 - 50	2	1.0
Total	200	100.0
Daily Activity		
Only work	86	43.0
Study and work	33	16.5
Only study	81	40.5
Total	200	100.0

Among the 200 participants, 56% were female, and 44% were male, indicating a balanced representation of both genders in the study. Further analysis was conducted to explore respondents' age, and daily activities.

Most participants, 91.5%, fell within the 20 - 30 years age range, signifying a relatively young sample. Notably, 43% of participants were engaged solely in work, 16.5% combined work and study, and 40.5% were solely engaged in studying. This distribution reflects the diverse activities of the respondents.

4.4 Descriptive Analysis (Variables)

The analysis of personal norms, as displayed in Table 3, reveals that residents hold a high level of personal norms aligned with pro-environmental behavior. The mean scores, ranging from 3.80 to 3.90, signify a strong sense of obligation to conserve energy, resources, and promote environmental well-being.

Table 3. Analysis of mean and standard deviation of respondent's personal norms

Items	Mean	Std. Deviation	Level
I feel an obligation to save energy where possible	3.83	0.888	High
I should do what I can to conserve natural resources	3.80	0.858	High
I feel I must do something to help future generations	3.90	0.893	High
I feel a strong personal obligation to use energy wisely	3.85	0.952	High
Total Average	3.85	0.898	High

Table 4 portrays the pro-environmental behavior of residents. The analysis of mean and standard deviation scores showcases varying degrees of pro-environmental behavior. The analysis of pro-environmental behaviors among respondents revealed varying levels of involvement in different sustainable practices. Notably, participants consistently demonstrated a strong inclination to turn off lights when not in use, practice economical driving, and choose eco-friendly products. Moreover, the habit of conserving water by turning off the tap while brushing teeth was widely observed.

Table 4. Analysis of mean and standard deviation of respondent's pro environmental behaviour

Items	Mean	Std. Deviation	Level
Turn off lights you're not using	4.37	0.910	High
Drive economically (e.g., braking or accelerating gently)	3.86	1.061	High
Walk, cycle or take public transport for short journeys (i.e., trips of less than 3 miles)	3.31	1.175	Medium
Use an alternative to travelling (e.g., shopping online)	3.99	1.002	High
Share a car journey with someone else	3.73	1.098	High
Cut down on the amount you fly	3.57	1.004	Medium
Buy environmentally-friendly products	3.75	0.923	High
Eat food which is organic, locally-grown or in season	3.52	0.967	Medium
Avoid eating meat	2.53	1.236	Medium
Buy products with less packaging	3.29	1.059	Medium
Recycle	3.60	1.051	Medium
Reuse or repair items instead of throwing them away	3.59	1.023	Medium
Compost your kitchen waste	3.36	1.060	Medium
Save water by taking shorter showers	3.57	1.171	Medium
Turn off the tap while you brush your teeth	3.92	1.183	High
Write to your MP about an environmental issue	2.84	1.275	High
Take part in a protest about an environmental issue	2.94	1.344	High
Total Average	3.51	1.091	Medium

However, participation levels differed for other behaviors, such as using alternative transportation modes, carpooling, and limiting air travel, indicating moderate levels of adoption. Similarly, respondents showed a mix of adherence to practices like consuming locally sourced, organic food, recycling, and reusing items. Engagement in more proactive actions, like communicating with political representatives and joining environmental protests, displayed a high mean score, yet also showed greater variability. Overall, participants displayed a moderate level of commitment to pro-environmental behavior, suggesting a need for focused efforts to encourage a more consistent embrace of sustainable actions across a wider spectrum of behaviors.

4.5 Normality Test

The normality of the data distribution was assessed through two statistical tests: the Kolmogorov-Smirnov test and the Shapiro-Wilk test. For the variable "Pro-Environmental Behaviour," the Kolmogorov-Smirnov test yielded a statistic of 0.058 with a corresponding significance value of 0.200*, indicating a p-value greater than 0.05. Similarly, the Shapiro-Wilk test produced a statistic of 0.991

with a significance value of 0.230. This implies that the data is normally distributed, as both tests suggest no significant deviation from a normal distribution. These results suggest that the assumption of normality is met for the variable "Pro-Environmental Behaviour," enabling the utilization of parametric statistical tests for subsequent analyses.

Table 5. Result of normality test for pro-environmental behaviour

	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pro-Environmental Behaviour	0.058	200	0.200*	0.991	200	0.230

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

4.6 Correlations Analysis

Based on Table 6, the correlation analysis revealed a statistically significant positive correlation between "Personal Norms" and "Pro-environmental Behaviour" among the participants. The Pearson correlation coefficient between these two variables was found to be 0.572**, with a p-value of 0.000 (2-tailed). This indicates a moderate positive correlation between personal norms and pro-environmental behavior.

Table 6. Results of correlation Analysis

		Personal Norms	Pro-environmental Behaviour
Personal Norms	Pearson Correlation	1	0.572**
	Sig. (2-tailed)		0.000
	N	200	200
Pro-Environmental Behaviour	Pearson Correlation	0.572**	1
	Sig. (2-tailed)	0.000	
	N	200	200

**. Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficient value of 0.572** suggests that as personal norms increase, there is a tendency for pro-environmental behavior to also increase. The significance level of 0.000 indicates that this correlation is highly unlikely to have occurred by chance. Therefore, the results support the hypothesis that there is a significant relationship between personal norms and pro-environmental behavior. The analysis suggests that individuals with stronger personal norms towards environmental concerns are more likely to engage in pro-environmental behaviors.

Overall, the findings of this study provide valuable insights into how personal norms influence pro-environmental behavior among residents in Skudai, Johor Bahru. The analysis of personal norms indicates that participants hold strong personal values related to environmental conservation. This is evident from the high mean scores for statements such as "I feel an obligation to save energy where possible" and "I feel I must do something to help future generations," demonstrating their intrinsic motivations for eco-friendly actions.

Regarding pro-environmental behavior, the analysis reveals a mixed pattern of involvement. Participants show high engagement in behaviors like "Turn off lights you're not using," "Drive economically," and "Use an alternative to traveling," reflecting their readiness to adopt energy-saving practices. However, behaviors such as "Avoid eating meat" and "Take part in a protest about an

environmental issue" have lower mean scores, suggesting areas where participants may be less inclined to make significant lifestyle changes or engage in public advocacy.

The correlation analysis underscores the importance of personal norms in shaping pro-environmental behavior. The moderate positive correlation observed between personal norms and pro-environmental behavior indicates that individuals with stronger personal norms are more likely to embrace eco-conscious actions. This highlights how personal beliefs play a role in influencing behavioral choices that contribute to environmental sustainability.

5. Conclusion

In conclusion, this study reveals how personal norms impact pro-environmental behavior among residents in Skudai, Johor Bahru. The high level of personal norms demonstrates participants' strong values associated with environmental care. While engagement in different pro-environmental behaviors varies, the correlation analysis confirms the positive relationship between personal norms and pro-environmental behavior. This emphasizes the need to cultivate and promote robust personal norms to encourage sustainable practices and foster a greener community. The insights gained from this study enhance our understanding of the factors influencing eco-friendly behavior and have practical implications for developing targeted strategies to promote such actions among individuals.

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