



Environmental Attitude and Behaviour among Students: Incorporating the Green Concept in Learning Outcome Based

Siti Norashikin Bashirun

Corresponding Author

sitinorashikin3639@uitm.edu.my

Faculty of Business and Management,

Universiti Teknologi MARA (UITM), Melaka Campus

Masliza Mohd Razali

Faculty of Business and Management,

Universiti Teknologi MARA (UITM), Melaka Campus

Afrah Hayati Abdul Rahman

Faculty of Business and Management,

Universiti Teknologi MARA (UITM), Melaka Campus

ABSTRACT

The adoption of green behaviour is critical to reduce the environmental impacts. In response to demands for environmental sustainability, the Higher Education Institution (HEI) is promoting green campus development more aggressively. Guided by Social Cognitive Theory (SCT), this paper aims to identify student's environmental attitude and behaviour towards green concepts. Data was collected through an online survey among 116 students. The findings revealed recycling behavior was at low level, whereas students' energy conservation was at high level practices. These findings are based on the notion that embedding "green office" topics in course syllabus might increase knowledge and further influence behavioural change regarding green behavior among university students. The findings could contribute to the development of a long-term green nation by incorporating environmental sustainability into learning outcomes based on a curriculum framework as the university students are expected to be the most informed and aware about environmental issues.

Keywords: Green Behaviour, Environmental Attitude, Environmental Sustainability, Social Cognitive Theory, SDG

INTRODUCTION

Climate change and the environment are the most concerning issues globally. Although many education and awareness programs are being steered, environmental problems are on the rise. Statistics from SWCorp Malaysia in 2020 highlighted that Malaysians generated about 38000 tons of solid waste per day and involved RM 2.0 billion a year for its management. This is a critical indicator that the community needs to take seriously, particularly when it comes to the organizations within Higher Education Institution (HEI). It is believed that younger people with

higher levels of education tend to have more concerned on the environmental issues. As a result, they are more likely to be aware of potential harm caused by neglect of the environment and more familiar with green behavior.

The HEI, through its Education for Sustainable Development (ESD), plays a vital role in shaping students' values and behaviours towards environmental sustainability. Students, as the next generation, will be critical not only in achieving SDG 2030 agenda but also in ensuring its sustainability. Numerous scholars stated that environmental problems are the most important current global issues and the greatest challenge for future civilizations [1][2][3][4]. In Malaysia, the government strives to minimize the environmental problems. In response to that, in the Twelfth Malaysia Plan (2021 - 2025), the policy has been outlined to pursue green growth for sustainability and resilience that represent a commitment to the environment. Besides, environmental sustainability fits the current government policies on pursuing sustainable development goals (SDG) mainly objective 11 (Sustainable Cities and Communities) and goal 13 (Climate action) which has become the main agenda of ASEAN Vision 2025. Nevertheless, the commitment by the government alone would not be sufficient, hence long-term commitment must be involved from all businesses, stakeholders, and society including the HEI. Accordingly, [5] stated that higher education positively impacted the green behaviour in creating more awareness on environmental concern and increasing knowledge through the education system.

Therefore, HEI plays a significant role in encouraging students to participate in green behaviour because students are the agent of change and might influence their friends, family, and society. Recycling, carpooling or using public transportation, using energy-efficient appliances, and making environmentally conscious purchases are all examples of green behaviour that university students can embrace in their daily lives. [6][7] confirmed that universities have a special role in fostering green behaviour, as they may contribute significantly to the environmental education and awareness to the students. However, [8] argued that the integration of education for sustainable development is still in an early phase in most higher education institutions. It is believed that adopting the green behavior process is possible through the influence of the university's current conditions.

Scholars refer to environmental behavior interchangeably for example green behaviour, pro-environmental behaviour and environmentally friendly. Research on students' environmental attitude and behaviour has been studied in various contexts. For example, waste separation behaviour in campus [9], recycling intention in Higher Education [10], student's environmental awareness [11], student pro-environmental behavior [12][13] and waste separation behaviour among students [9]. However, research on environmental attitude and behavior among students through learning outcome based is still limited mainly in Malaysia. Guided by the Social Cognitive Theory (SCT), this study aims to achieve objectives on identifying the environmental attitude and behavior on green concept by integrating in learning outcome based (embedded "green office movement" topic in the syllabus).

LITERATURE REVIEW

Green in Learning Outcome Based

Green behavior is an activity that generally reduces negative effects to the environment. According to [14], age and years of education influenced environmental attitudes. Meanwhile,

[15] stated environmental attitudes are also influenced by external or contextual factors such as laws and regulations, technology, or advertising. Furthermore, [16], delineated green behavior with attitude and social norm which emphasized on social consequences of performing or not performing environmentally-friendly behavior. The environmental attitude and behavior among educational institutions was found to be related with social norm and influenced towards environmentally responsible [6]. [17] highlighted that attitude change would not directly influence behavioural change. The reason could be that people might be affected by other factors such as social, cultural, and economic factors that would determine how they choose to support environmentally-friendly behavior. Moreover, time and lack of support are reported to be one of the obstacles towards pro-environmental behaviour among students [18]. Thus, incorporating green concepts in learning outcome may enhance students' green behaviour [19].

Environmental Attitude and Behaviour

Recycling:

Recycling is one of the most accessible green behaviours and regularly being studied by previous scholars in various contexts [20][21][22]. Although recycling campaigns and activities are widely publicized, community implementation has not yet reached a satisfactory level. Previous study found that recycling behaviour was at a low level among youngsters [23]. Moreover, a study by [10] revealed that students who do not recycle may experience feelings of guilt and incorrectness. It also shows that people with high motivation and positive moral norms have a positive attitude and effort toward recycling when compared to people with low self-motivation. Accordingly, the different patterns in personality might influence the degree of intention to recycle among adolescents [22]. This will affect people's beliefs and attitudes towards recycling behaviour.

Energy Conservation:

[12] defines energy conservation as related activities to save energy or purchase energy captured in a cleaner way. Meanwhile, [24] revealed that environmental behavior helps improve the image of organisations and benefits organizations directly by conserving resources and energy for cost reduction and indirectly by preserving the natural environment for organizational sustainability. An earlier study on environmental behavior was conducted on individual households, focusing on energy efficiency and green decision making [25]. Their result shows that openness to experience and extraversion have significant effects on energy-efficient behaviour in residential areas.

Water Consumption:

Water consumption refers to the conscious and responsible use of water resources in a sustainable manner [32]. It involves adopting practises that minimize water waste and promote conservation, such as reporting water leakage [15]. Additionally, understanding water conservation will provide valuable insights into effective strategies for fostering sustainable water use.

Transportation:

Transportation and mobility are examples of green behaviours that demonstrate efforts to reduce carbon emissions, such as using public transport, riding bikes, or walking to reach a minimum distance on campus. Accordingly, the norm activation process is significant on

consumer's eco-innovation and portrays a positive change in green direction in order to increase the eco-friendly transportation [26]. For example, a campaign of "World Saver" adopted the value in promoting public transportation that encourages people to use buses instead of cars [27].

Product Consumption:

Product consumption has a significant impact on green behaviour, as it can help reduce the environmental footprint. Consumption of products designed and produced with sustainability in mind, such as those made from recycled materials, reusable or biodegradable, and those with minimal packaging, helps reduce the negative impact of our environment [28]. The production of non-sustainable products, such as single-use plastics, can lead to increased carbon emissions and pollution. Typically, the eco-friendly products are slightly more expensive. Students, as future generations with environmental knowledge, might be willing to pay more for environmentally friendly products [20]. However, there are discrepancies between consumers' favourable opinions of green products and their actual purchasing behaviour [28].

Theoretical Basis

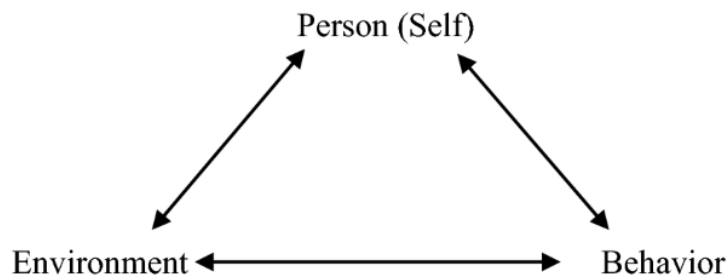


Figure 1: Social Cognitive Theory (Bandura, 1986)

As shown in Figure 1, among them, person (cognitive) refers to attitude, environment refers to learning outcomes-based and behaviour refers to green practises. This theory is based on the assumption that both individual elements, the social and physical environment influence behaviour [29]. According to the theory, people are not just passive observers of their own bodies as they navigate environmental events. They are active agents of their own experience [30]. Attitude refers to how a person thinks about something or acts towards it. It is an internal factor that initiates people to engage in green behaviour [11]. Social Cognitive Theory (SCT) has been widely used and validated for explaining human behaviour in numerous domains, including marketing, social physiology, and management. Originally developed in social psychology, SCT has received limited attention within the green behaviour field, with only few studies in environmental sustainability referencing the theory [31][32] and in green marketing [33][34]. [32] argued that the SCT model is still incomplete in exploring sustainable consumption behaviour. Hence, previous scholars recommend using SCT to study the green behaviour phenomenon [35][36][33][31]. As such, drawing on SCT, we propose that students' attitudes and behaviours toward sustainable practices can impact the effectiveness of green initiatives by integrating learning outcomes-based in the curriculum syllabus.

Proposed Framework



Figure 2: Environmental attitude and behaviour

RESEARCH METHODOLOGY

The present study is descriptive in nature. The research strategy used is a survey, as it fits with the deductive research approach. The study included 116 students from semester 5 of the Diploma in Office Management and Technology, who participated via an online survey (Google Form). This group of students was selected because a topic related to environmental sustainability (the Green Office Movement) was included in their syllabus. The item measurements were adapted from [37][38]. The questionnaire consisted of four parts: 1) Demographic 2) Environmental attitudes and practises 3) Green behaviour and 4) Perception on green office topic. The responses were given on a scale ranging from 1 (never) to 5 (almost always). There are five environmental attitude and behaviour dimensions, namely recycling, energy consumption, water consumption, transportation, and responsible consumption of products. One question was given to identify the student's perceptions on green office topics that are embedded in one of their syllabuses. The data is recorded and analysed using Microsoft Excel 2019.

FINDING AND DISCUSSION

The results show that only 9.5% of students reported engaging in recycling activities at home, while 66.4% rarely practised it. Despite frequent recycling campaigns, implementation of this behaviour remains low [39][40]. This aligns with the speculation of [41] that despite students' knowledge about recycling, their practises remain low. The reason behind this could be that students are more likely to recycle when recycling bins are easily accessible on campus, as it is convenient for them. But if there are no easily accessible recycling, students are most likely to discard the recyclable materials in a trash can. For energy conservation, 74.1% of students always practise switching off lights when leaving home. This indicates a high level of awareness and practise regarding energy consumption, likely due to the desire to reduce electricity costs as they are aware of the direct implication of this behavior. This result is consistent with [12] who found that students demonstrate concern for energy conservation. Students show a moderate level of practise on water consumption, whereby only 53.4% concern on turn off the water taps. This is due to the perception that water is readily available and less expensive as compared to the electricity bills. Regarding transportation, only 7.8% student agreed with the statement "I choose to walk instead of using a car whenever possible" and 36.2% rarely chose public transport. As for responsible consumption of products, 52.6% agreed to bring their own water bottle, while 41.4% brought their own reusable shopping bag. This could be influenced by the charge on plastic bags implemented by many shopping malls nowadays.

Table 1: Environmental Attitudes and Behavior Dimensions

Dimension	Frequency	Percentage
Recycling: I practise recycling at home.	11	9.5%
Energy conservation: I switch off the light when leaving home.	85	74.1%
Water consumption: I turn off the taps.	62	53.4%
Transportation: I choose to walk instead of using a car whenever possible. I rarely choose public transport.	9 42	7.8% 36.2%
Product Consumption: I bring my own water bottle. I bring my own reusable shopping bag.	61 48	52.6% 41.4%

Table 2: Environmental Attitudes and Behavior

Environmental attitude and behaviour	Mean Score
Recycling	3.3
Energy conservation	3.3
Water consumption	3.6
Transportation	3.3
Responsible consumption of products	3.5
Green behaviour and participation	2.9

A mean score from table 2 implies that average response among students and suggests a moderate level of environmental attitude and behaviour or agreement with all related statements. Moreover, a mean score of 2.9 generally suggests that students demonstrate somewhat low level of engagement in greens behaviour. Overall, participation in green behaviour practices shows that 36.2% of the students engage in sharing environmental knowledge with their friends and family. Meanwhile, students show less interest in participating in virtual environmental sustainability seminars conducted by the university as the result indicates only 31.6% of students participating in them. However, 50.8% of the students have the intention to participate in environmentally-friendly activities, such as those related to energy and water consumption. The results of the study found that students had positive perceptions on incorporating the topic of “green office movement” into the syllabus. Most of the students agree that initiatives related to environmental sustainability in the curriculum help them to develop a deeper understanding of these issues. The students also agreed that learning about the “green office” topic is one of the ways to foster appreciation for the environment and build intentions to practice sustainability in future workplaces. Few of the students responded that learning about this topic could increase their morale and physical well-being. As highlighted by [19][42][43] green education programs are necessary to facilitate green behavior among students that could lead the behaviour in future workplace.

CONCLUSION

Students in Higher Education Institutions (HEI) are future leaders who will play a key role in shaping the organizations towards achieving environmental sustainability. The results of this research may contribute to the efforts on increasing the awareness and green practices among

students. Due to moderate level of environmental attitude and behaviour, thus the integration of “green office” topic in the course syllabus can be an effective measure to improve the green consciousness and green literacy, especially for students studying non-environmental subjects [20]. This will expand student’s understanding of global environmental challenges and provides a lens through which students can examine broader sustainability issues. Moreover, by embedding the “green office” in a course syllabus, educators may inspire students to become positive change agents, both within their future workplace environments and their communities. It also cultivates a sense of environmental responsibility and equips students with the knowledge and skills needed to promote environmental sustainability in their future careers. In future, studies should be conducted on bigger population and from multi sources in university to generalize the findings.

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