YANGON UNIVERSITY OF ECONOMICS
DEPARTMENT OF MANAGEMENT STUDIES
MBA PROGRAMME

ENVIRONMENTAL KNOWLEDGE, ATTITUDES AND BEHAVIORS OF STUDENTS IN DAGON UNIVERSITY

ZAR KYI THAN
MBA II – 68
MBA 24th BATCH

AUGUST, 2022

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ACADEMIC YEAR (2018 – 2023)

Supervised by:

Dr. Hla Hla Mon
Professor
Department of Management Studies
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Submitted by:

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ENVIRONMENTAL KNOWLEDGE, ATTITUDES AND BEHAVIORS OF STUDENTS IN DAGON UNIVERSITY

"A thesis is submitted to the Board of Examiners in partial fulfillment of the requirements for the degree of Master of Business Administration (MBA)"

Supervised by:

Dr. Hla Hla Mon
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2018 – 2023

ACCEPTANCE

This is to certify that the thesis entitled **"Environmental Knowledge, Attitudes and Behaviors of Students in Dagon University"** has been accepted by the Examination Board for awarding for the degree of Master of Business Administration (MBA).

Board of Examiners

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(Chairman)

Dr. Tin Tin Htwe

Rector

Yangon University of Economics

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(Supervisor) (Examiner)

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(Examiner) (Examiner)

AUGUST, 2023

ABSTRACT

The objectives of this study are to examine the effect of environmental knowledge on environmental attitude and to analyze the effect of environmental attitude on environmental behavior of students in Dagon University. This study uses two sources of data: primary and secondary data. Primary data are collected from 393 respondents by using simple random sampling method. Secondary data are gathered from textbooks, internet websites, and previous research papers. Descriptive method and multiple regressions are used to analyze the collected data. Based on the regression analysis, it is found that environmental action knowledge and effectiveness knowledge are highly significant effect on environmental attitudes. Knowledge of human-environmental system is not significant effect on attitudes. The environmental attitudes have significantly and positively effect on environmental behavior. This study revealed that students with high environmental knowledge have relatively high positive environmental attitudes. Their attitudes towards the environment have a significant effect on environmental behavior.

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LIST OF ABBREVIATIONS

DU	Dagon University
EE	Environmental Education
EIA	Environmental Impact Assessment
EPI	Environmental Performance Index
MOU	Memorandum of Understanding
OCBE	Organizational Citizenship Behavior for the Environment

CHAPTER 1

INTRODUCTION

On behalf of numerous eras, the environment has providing habitation for humans and several organisms but the insatiable needs of humans have to drive them to devise strategies for survival and adaptation. The abundant of these strategies, especially technology, have taken direct and indirect harmful consequences on the immediate environment, resulting in the degradation of the later. Consequently, the environment continues to suffer and our planet is facing serious and complex environmental issues.

The environmental concern has become an emergent topic in organization's human resource management strategy. Currently, the social responsibility, particularly the environmental responsibility has been of concern to scholars, organizations or governments. Organizational citizenship behavior for the environment is a pro-environmental unrestricted option. Scholars have pointed out that these actions are totally voluntary (Boiral & Phaille, 2012). Among the variables that have been establish to influence OCBE are self-efficacy, values, environmental self-identity, and personal environmental beliefs.

Fostering values, attitudes, and behaviors that focus on environmental conservation should be started among the younger generation. Strengthening a positive nature and attitude towards the environment at an early stage will allow for a steady and lasting impact. The expected outcome of this study, which is the formation of a sustainable model of university students' organizational citizenship behavior for the environment, can contribute to improving the existing government policy on the environment.

The role of the younger generation in achieving is a clean environment, a safe, healthy and productive environment for present and future generations. The reinforcement of organizational citizenship behavior for the environment, particularly among the younger generation, will empower the creation of an environment that guarantees social well-being, environmental sustainability, and a green economy.

Although, the level of knowledge about the environment and its associated problems has in general increased among the public, large groups of people have

become less connected with the natural environment, leading to weaker understanding and empathy for these problems. Therefore, the investigating of peoples' environmental knowledge, awareness, attitudes, and behavior towards the environmental issues could inform educational approaches for a more sustainable future. Grob (1995) conferred that environmental knowledge is essential for environmental education; Emotional investment shapes environmental awareness and attitudes. Environmental knowledge is a significant factor in leading to pro-environmental behavior. Besides, at an individual level, environmental knowledge focusing on global environmental problems closely related to pro-environmental behavior of students.

Environmental attitudes are the person's believe and the personal behaviors that are influence intentions toward on environmentally related activities (Schultz et al., 2004). The environmental attitude has affected human behavior toward the environment. Studies of attitudes toward environmental issues have begun to move away from an examination of general environmental concern and toward a more differentiated conceptualization of environmental attitude formations. Although environmental issues may cause students to feel overwhelmed, expression of environmental concerns by those students may inspire policy makers and educators to design effective strategies to address the future environmental challenges that students will face.

There can be numerous kinds of behaviors toward a certain object depending on the attitudes or views of the person toward that object. Those behaviors can be respect, love, and care or dominate, control or destroy. With such arguments, it is necessary to re-examine human attitudes towards the environment in order to solve environmental problems. The concern now is that human beings understand the environment value and particular attitude that actually influence human behavior toward environment. That is the purpose of the study, to discover out the level of understanding toward environment as well as their attitude of people toward environment and how they behave toward environment. This is to determine whether understandings and attitudes towards the environment actually influence human behavior towards the environment and which specific attitudes have a greater influence on environmental behavior.

A lot of today's environmental problems are increasingly the results of individual actions, personal consumer decisions, and the activities of small and large businesses. People have realized the linking between the environmental disaster and quality of human life. The increase of disastrous in environmental consequences is getting uncontrollable, as getting unbalance of nature. It has been argued that one of the reasons that current environmental issues exist is due to people's lack of environmental awareness, the absence of a holistic view about the inter-relations between human and the environment, and lack of understanding for the natural world and its phenomena (Biswas & Agarwal, 1992). Solution of environmental problems starts from understanding the root cause of the problem. It is true that environmental problems are caused by human actions. The human behavior is caused by attitude or views toward certain object.

1.1 Rationale of the Study

In spite of their serious role to the country's development and economic alteration, Myanmar's environmental and the ecosystems they are responsible for are under tremendous pressure. Myanmar has relied deeply on natural resource exploitation to sustain economic growth, and serious environmental issues are emergent, underlying the importance of translucent and tough Environmental Impact Assessment (EIA) system. The management of solid waste, air pollution, and the use of plastics provides are another growing challenge. Air quality is also increasingly bargained, as industrial and mining discharge, and urban waste bring new and increasing environmental health issues. Rapid urban growth in Myanmar generates additional burdens allied to solid waste generation.

Over recent decades in Myanmar, environmental hazard issues relating to over-exploitation of natural resources and pollution have increased dramatically so challenges faced impact of natural forces in business development. Hence the solution to reduce the environmental disastrous is going back to human beings themselves. Most importantly, essential revisit and study again their attitudes and their behaviors toward the environment. By pointing out the relationship between human attitudes and human behaviors toward environment, the human are expected to review again

their attitudes toward environment and hope fully changes their behavior into friendly environmental behaviors.

The perception of environmental issues, as represented by the environmental actions, attitude and knowledge of young people's understanding of environmental issues represented by attitudes and knowledge is very important. Understanding students' views on environmental issues can help create better environmental education among them. The university students are an important segment of society and warrant attention in terms of studying environmental attitudes, as they have been the leading crusaders in the modern environmental movement.

Improving environmental attitudes and environmental behaviors of this university student will definitely bring some positive effects toward the future citizenship ‘environmental attitude and behaviors. Because of their age, changing students’ attitudes is often relatively easier than changing those of older people. In addition, through inter-generational influences, students have the potential to influence younger siblings as well as adults, particularly changing their parents’ attitudes and behavior towards the environment.

Furthermore, these young people will be the citizens, leaders, and policy makers in future societies and who will be the decision-makers. Consequently, the result should be used for educational purposes to improve environmental awareness of the Myanmar citizen and subsequently such awareness may lead to behavioral changes toward the environment. The possibility of study is just focusing on environmental knowledge and attitudes towards environmental behaviors. The purpose of the investigation is to raise the awareness of the university students about the real danger of changing environmental process and the fear for future generation. The ultimate aim of this study is to change attitudes and behaviors towards the environment.

Dagon University (DU) was established in 1993 which is Government University under the jurisdiction of Ministry of Education. It has now a capacity for sixty thousand students and which is an Arts and Sciences University and for the reason that this university is one of the largest one and various thematic fields than other university in Yangon. As regards the constitution of university, here are twenty departments: 12 Arts departments and 8 Science departments and various thematic

fields than other university in Yangon. As regards the constitution of university, here are twenty departments: 12 Arts departments and 8 Science departments and various thematic fields than other university in Yangon. These overlay the way for DU to collaborate with international institutions and also DU has already signed MOU with more than twenty global universities. This study research is to determine the level of understanding in environmental knowledge and attitude of Dagon University students and measure the effects of such understanding and attitude toward environmental behavior.

1.2 Objectives of the Study

This study research is intending to measure the environmental knowledge and attitude on environmental behavior of students in Dagon University. The two core objectives are progressive:

(1) To examine the effect of environmental knowledge on environmental attitude of Dagon University students.

(2) To analyze the effect of environmental attitude on environmental behavior of Dagon University students.

1.3 Scope and Method of the Study

This research focuses on the environmental knowledge and attitudes towards the behaviors of Dagon University students. There are all together 393 respondents out of twenty-three thousand students (Dagon University, Website, 2023). The sample size is calculated by using Yamane sample size formula. Sample random sampling was applied as sampling technique. Descriptive method and multiple regressions method are used to analysis the data. The questionnaire was applied as the instrument for this study. Questions were translated to Myanmar native languages which was the survey, following a Likert-scale from 1 (strongly disagree) to 5 (strongly agree). To collect primary data, the field survey was conducted the area of the university. Secondary data is collected from the various sources such as publications, reports, internet web sites and social media. Data collection is undertaken during the months of November and December of 2020.

1.4 Organization of the Study

This study is combined with five chapters. Chapter one is introduction chapter which pronounces rationale of the study, objectives of the study, scope and method of the study and organization of the study. Chapter two is regarding the theoretical background and review of environmental knowledge, attitudes, and behavior of students, discussing the characteristics of each of these three main aspects of this inquiry, the relationship that exists between them, and a number of aspects that influence their development. This chapter is literature review providing the theoretical framework underpinning this research. Chapter three consists of environmental issue in Myanmar and profile of respondents. Chapter four presents analysis on environmental knowledge, attitudes and behaviors of students in Dagon University. Finally, conclusions which describe findings, discussion, suggestions, limitations and needs for further research are included in Chapter five.

CHAPTER 2
THEORETICAL BACKGROUND

In this sector, concepts and literature review of concerning the knowledge, attitude, and behavior of students towards the environment are discussed. In addition, previous studies and conceptual framework of the study are included.

2.1 Environmental Knowledge

The environmental knowledge is one of the relevant factors that affect conservation behavior. The acquisition of factual knowledge is regarded as the classic objective of formal education (Kaiser et al., 2015). However, for coping with complex environmental issues, factual environmental knowledge alone is not sufficient to address real-life challenges.

Frick et al. (2004) suggested three specific dimensions of environmental knowledge that is ultimately relevant for conservation behavior: First, A person who understands the natural processes within ecosystems and the effect of human-nature interactions (system knowledge) is more likely to undertake pro-environmental behavior. Second, one must know what actions can be taken to address environmental problems (action-related knowledge). And third, knowing about the trade-offs and how effective one option/action versus another may be is necessary when choosing from possible options (effectiveness knowledge).

Environmental knowledge can assist individuals to effectively and successfully cope with real-life everyday environmental challenges through appropriate environmental action. Conscious environmental action requires not only that an individual possesses a high overall environmental knowledge level, but a profound knowledge integration as well in terms of merging the various knowledge dimensions, which is known as knowledge convergence. This knowledge convergence tends to increase with the environmental knowledge level and plays an important role in encouraging appropriate action towards environmental preservation and / or conservation (Frick et al., 2004).

2.1.1 Human Environmental System Knowledge

Systems knowledge describes basic scientific knowledge (Frick et al., 2004). This knowledge refers the natural characteristics of environmental and ecological systems regarding to the relationships of ecosystems, the interaction of organisms and reasons for environmental problems (Kaiser et al., 2008). It also includes human-environment relationships such as causes of environmental problems due to human development systems on pro-environmental behaviors. The people educated with this type of knowledge should be able to understand why carbon dioxide is a problem, where groundwater comes from, why ozone is a problem, and how long it will take for complete regeneration of the ozone layer after all ozone-destroying emissions are eliminated.

By considering the types of environmental knowledge systems, environmental problems caused by environmental and ecological systems and their functions (geo-environmental knowledge) and human development systems (human-environmental system knowledge) were developed. Environmental courses are taught. Political ecology and sustainable development, on the other hand, are concepts related to the knowledge of the human environmental system. Knowledge issues related to knowledge of geo-environmental systems are basic knowledge of environment and ecology and current environmental conditions.

2.1.2 Environmental Action Knowledge

Action-related knowledge refers to knowledge of potential behavioral options which might lead to a specific conservation goal. This specific knowledge dimension can also cover a range of behavioral alternatives, including the knowledge needed to carry them out correctly (Kaiser & Fuhrer, 2003). Action knowledge is concerned with behavioral choices and environmental action processes that can reduce the environmental problems we face. People educated with this knowledge should be able to understand the types of actions that potentially solve environmental problems on pro-environmental behavior.

Analyzing the impact of different types of environmental knowledge on behavior, that action-related knowledge influences pro-environmental behavior the most in comparison to other types of environmental knowledge. The people who

know about behavior outcomes are more confident and inclined to behave accordingly. Thus, evidence suggests that functional knowledge that enables individuals to make concrete and informed decisions translates more easily into behavior.

2.1.3 Effectiveness Knowledge

Effectiveness knowledge is relevant for choosing behavioral alternatives. Because it is involves understanding the relative effectiveness of different behaviors and their potential for protecting the environment (Kaiser & Fuhrer, 2003). The effectiveness knowledge is the environmental knowledge dimension which is most often missing in environmental education (Roczen et al., 2004).

Effectiveness knowledge addresses the relative conversational effectiveness that is associated with a particular behavior. With the knowledge's of efficiency, the focus of functional knowledge has expanded from simply knowing how to save to knowing how to maximize environmental benefits.

2.2 Environmental Attitudes

This section reviews the literature on environmental attitudes of students and how they connect with environmental knowledge and behavior. Attitude is defined as a mental attitude expressed by a degree of approval or disapproval of a particular organization (Eagly & Chaiken, 1993). Commonly, environmental attitudes refer to general feelings toward ecology and the environment, feelings and concern for specific environmental issues, and to solve environmental problems. Having these feelings is affected by personal opinion, which can be developed through personal life experiences and education.

The pro-environmental attitudes are defined as people's predispositions, relatively durable and relatively organized, to pay attention to, be concerned about, and, ultimately, to act in the name of environmental protection (Corraliza & Berenguer, 2000). This study therefore uses 'pro-environmental attitudes' to mean those attitudes which may lead to pro-environmental actions.

Therefore, in order to more fully understand environmental attitudes, it is necessary to go beyond environmental concern and examine the underlying bases for environmental feelings. Finally, biosphere attitudes center on the inherent value of the natural environment. Humans should not harm nature because we are a part of nature, species have a right to continue, and nature has intrinsic rights broader than mere species survival. Thus, two students could be equally concerned about environmental issues, but have fundamentally different attitudes.

In another view, Kaiser et al. (1999) categorized two basic types of environmental attitudes that influence environmental behavior: attitudes towards the environment and attitudes towards ecological behavior. In general, attitudes towards the environment refer to environmental concern. Environmental concern can be seen as taking either a multiple or a single component approach, that is, concern for either the environment in general or particular aspects of environment. Attitudes towards environmental behavior are highly linked with intention to act (Ajzen & Fishbein, 2000).

2.2.1 Attitude Towards Environment

The research reported here investigated the environmental attitudes of students, with regard to the value of nature as well as the responsibilities and duties that humans have in respect to the environment and to future generations. Understanding students' environmental attitudes may give insights into strategies to improve environmental problem.

However, attitudes towards the environment do not necessarily correlate with environmental behaviors, as behaviors are influenced by variables including resources, opportunity and perceived social approval (Prabawa Sear & Baudains, 2011). The variables to be present measured are anthropocentric attitudes, human domination of nature, human use of nature, ecological concerns, attitudes towards population growth policy, and conservation policies, environmental activism and individual conservation behaviors.

Environmental anthropocentrism attitude is valuing nature because of material or physical benefits it can provide for humans. The humans are considered to be the most important thing in the universe or on the planet. Anthropocentric attitude

suggests that humans have greater inherent value than other species. The human beings the way they treat the nature because any kind of treatment can affect anthropological beings (Kortenkamp & Moore, 2001). This plea deserves our attention because when people view the environment as a mere instrumental value, because it leads to manipulative behaviors of the environment.

Human dominance over nature attitude means nature is influenced by culture because all of us are raised within certain culture and therefore our views toward nature are different. The job of humans is to serve, preserve the land so that plants survive and thrive, not do dominate or exploit it. They claim to be the ruler of the animal kingdom because they believe they are not animals.

Eco-centrism attitude is a term used in ecological study to denote a nature centered, not human centered as proposed by anthropocentric. All of the species, including human are a product of long evolutionary process and are inter-related in their life processes (Nelson, 1998). In other words, other non-human natures benefit human life where humans cannot survive. Definitely, humans and non-human nature are interrelated and dependent on each other.

2.2.2 Attitude Towards Ecological Behavior

Undeniably, our attitude towards using nature depends on our perception of nature. People accept anthropocentric view toward nature that the existence of nature is for the fulfillment of human needs. By accepting such concepts, human justify using nature for human needs. Only by adopting an eco-centric view of the environment do we need to respect the environment as having equal value to humans, so that the environment cannot be used arbitrarily.

Most of the time, economic growth or profit becomes the main goal of a country or company to develop nature. Therefore, one can imagine the impact of this concept on nature, which can only serve as an object for economic growth and profit. Such concept leads to environmental degradation and this was started during the industrialization era.

Nowadays, energy consumption rapidly increased. The word conservation policy refers to an act of supervision of rivers, forest, and other natural resources in order to preserve and protect them through prudent management. The focus is on

protecting the natural environment because natural resources are essential for the sustainability of future generations and a healthy climate.

The primary goal of the conservation policy is to pursue policies and measures that can help to improve the effectiveness and mitigates its harmful side-effects. These policies regulate natural resources important for environmental protection; it is concerned with conservation and management. These policies should be under the jurisdiction of the government, so the government has the right to enforce them. The issue of conservation policy is not just a response to climate change, but an environmental ethic.

The issue of conservation policy is not just a response to climate change, but an environmental ethic. It is our obligation is to maintain the health of the natural world, its fisheries, habitats and biological diversity because by maintaining its health will benefit human health in return. A final point is the attitude towards population growth policies in relation to ecological behavior. The correlation between population growth and environmental degradation is perfect. People need more resources. Problems arise when food becomes scarce and the population grows.

Natural resources will be depleted (Abun & Racoma, 2017). Governments are responsible for ensuring the sustainability of natural resources through policy formulation. Population growth policy is suitable part of the natural resources management because population growth and its dissemination have important roles to play in the sustainability of the world's vast resources.

The several effects of population growth on our environment and they are: generation of waste, threat to biodiversity, strain on forest, urbanization, industrialization, land degradation, transport development, climatic change, productivity, and technology. The relationship between population growth and environmental degradation is clear. Because of these concerns, the population needs to be regulated in order to sustain future generations.

2.3. Environmental Behaviors

The next segment, reviews the literature on environmental behavior of students. Environmental decisions and behaviors are influenced by environmental knowledge and attitudes (Kollumuss & Agyeman, 2002). A large number of problems

threaten the environment problems are rooted in human behavior, and will need to be managed, in part, by changing the relevant behaviors so as to reduce environmental impacts (Steg & Vlek, 2009).

The term behavior is mostly intuitively understood and most psychological and sociological research into behavior has not suggested definitions of the term (Eilam & Trop, 2012). However, in the context of this study, human understand the term to mean any positive response to an existing environmental problem, and those who implement the response see it as beneficial to the environment.

In other words, human behavior is about human act. Human act is deliberate act with a certain motive and purpose in mind. Thus, environmental behavior refers to how humans respond to environmental problems. Thus, environmental behavior refers to how humans respond to environmental problems. Global warming simply points to the fact that human activities are shaping the world's climate.

The origin is not something outside of humanity. Human beings are to blame. According to those fundamental values, attitudes, beliefs and intentions are contributing factors to predicting our behaviors toward the environment. This argument emphasizes that solving global climate and environmental problems is no more than solving human attitudes and behaviors toward the environment. The most releases of greenhouse gases are driven by consumption of goods and services by individuals, households and organizations, and the manufacturing, transport and waste disposal that underpins that consumption (Rosa & Thomas, 2010).

2.3.1. Environmental Movement Activism

Environmental groups advocate sustainable management of resources and stewardship of the environment through public policy and changes in individual behavior in dealing with the environment. Environmental protection is not only wise and beneficial for future generations, but also a clean, safe and beautiful environment as part of a higher standard of living. It also includes demands for a safe and beautiful environment. The concern of environmental movement is not just about protection which is focusing on the intelligent and efficient use of natural resources for future generation but it is also demanding on a clean, safe, and stunning environment as part of developed standard of living.

Largely environmental movement depends on the financial resources which may come from individual person or government budget. Montague (2012) lamented that environmental movement is not winning and it is because of failed policies of environmental founders. The founders have favored top-down elite strategies and have neglected to support a robust grassroots infrastructure. Such strategy is change and that is not imposed from above, but great change should start from the grassroots.

2.3.2. Personal Conservation Behavior

As natural resources become scarcer and the climate warms, conservation behaviors become increasingly important. By practicing this behavior, we can protect the environment in the long run. Most people recognize that our actions play an important role in creating and solving environmental challenges. This effort is only possible if people understand the importance of the environment and the dangers of climate change to human life and the natural environment and the life within them. Education and communication play an important role in creating a sustainable future.

It is undeniable that human activities are direct causes of threats to wildlife species and habitats. Protecting the planet's biodiversity requires understanding how our actions affect the environment and the organisms within it, and identifying and implementing sustainable practices and behaviors that benefit people and the nature around them. (Abun & Racoma, 2017). Raising people's awareness of the impact of human behavior on the environment can help them understand the need to change their behavior to protect natural resources.

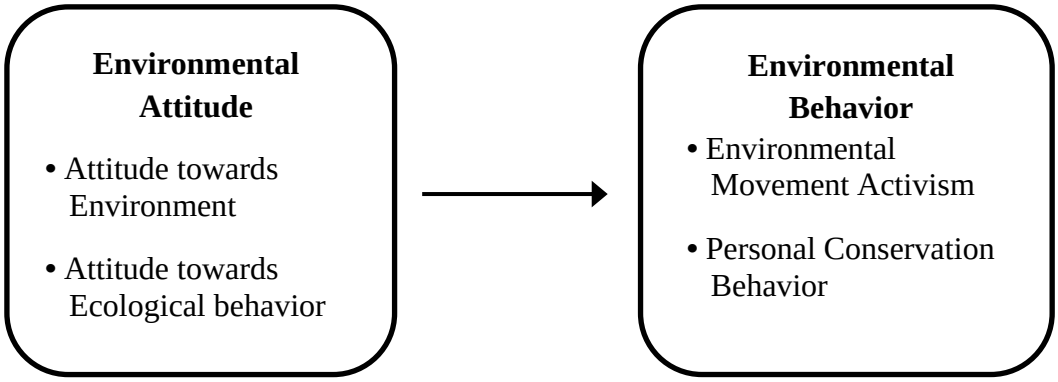
2.4 Previous Studies

This study based on two previous research papers. The first one is “Environmental Attitudes and Environmental Behaviors of Catholic Colleges’ Employees in Ilocos Sur, Philippines”.

According to Figure (2.1), the study aims to assess and determine the relationship between human attitude and human behavior toward the environment. The population of the study was taken from the employees of these two colleges run by the religious congregations or organizations. Since the population of the study is

small. Therefore, the total enumeration was used in which all employees of the four colleges were taken as the respondents of the study. Total enumeration was taken based on the judgment of the researcher to meet the objective of the study.

Figure 2.1 Conceptual Framework of Abun & Racoma



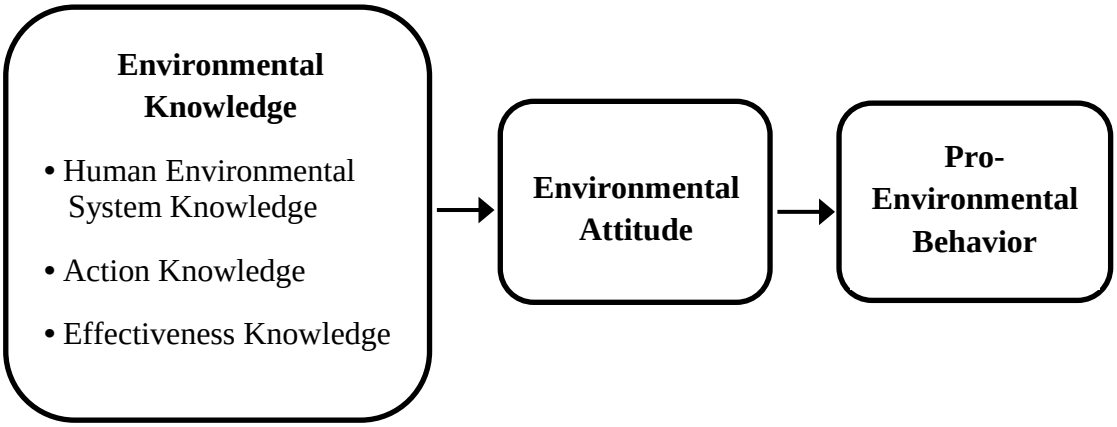
Source: Abun & Racoma, 2017

This learning investigated that there was a significant correction between environmental attitude affect the environmental behavior. Such significant correlation indicates that environmental attitude affects the environmental behavior of employees. In addition, also it was found that there was a significant correlation between attitude toward ecological behavior and environmental behavior. Such significant positive correlation concludes that attitude toward ecological behavior influences the environmental behavior.

The second paper is "Roles of Environmental System Knowledge in Promoting University Student, Environmental Attitudes and Pro-Environmental Behaviors".

Conferring to Figure (2.2), this study aims to investigate the role of environmental knowledge in promoting pro-environmental behaviors. And also this study investigate whether environmental system knowledge contributes to university students' environmental attitudes and pro-environmental behaviors by comparing levels of environmental attitudes and pro-environmental behaviors reported by university students who were captivating environmental course and who were not taking the development.

Figure 2.2 Conceptual Framework of Janmaimool & Khajohnmane



Source: Janmaimool & Khajohnmanee, 2019

This study confirms a significant role of environmental knowledge and formal environmental education in fostering students' environmental attitudes and promoting indirect impact pro-environmental behaviors. Therefore, it could be suggested that both formal and informal environmental education should be provided in order to promote students' engagement in direct impact pro-environmental behaviors. This conclusion is that different types of environmental knowledge contributed to different types of environmental behavior.

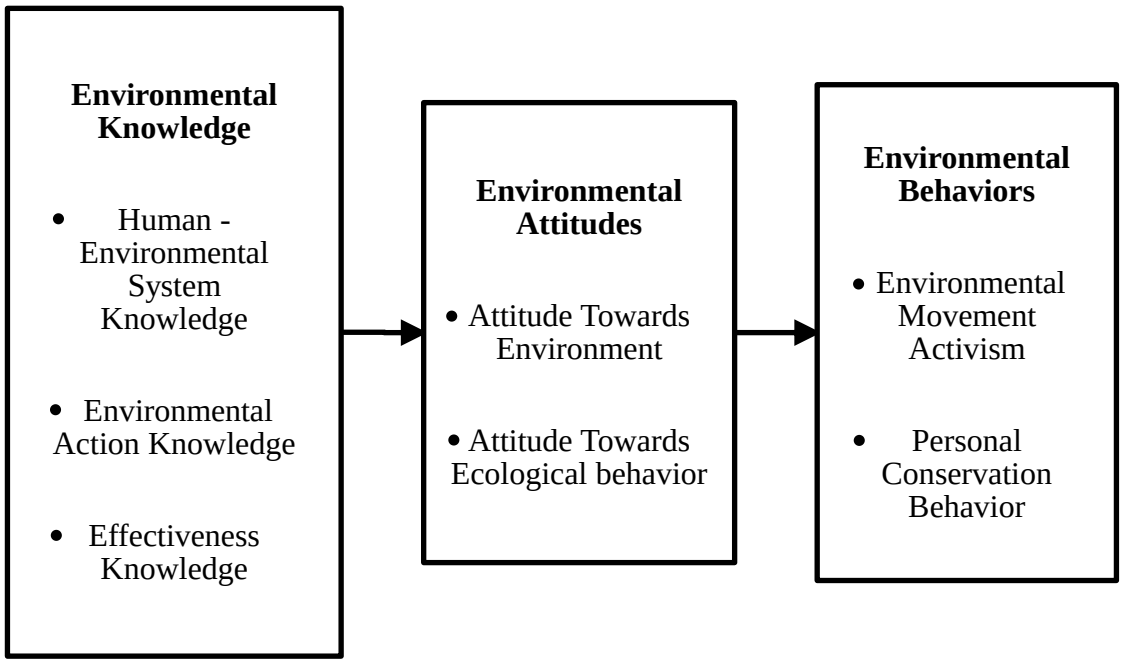
2.5 Conceptual Framework of the Study

According to the previous studies, the conceptual framework for this research study is based on combination of the theoretical reviews and previous research. This section has discussed students' environmental knowledge, attitudes, and behavior, and the interactions between these. The concept of the study revolves in the paradigm where independent variable is environmental knowledge and environmental attitude and behaviors are dependent variable.

Firstly, the study would measure environmental knowledge including human environment system knowledge, environmental action knowledge and effectiveness knowledge. Second, it will measure environmental attitude including attitude toward environment and attitude toward ecological behavior. Furthermore, while its

dependent variable is human behavior and which is classified into environmental movement activism and personal conservation behavior.

Figure 2.3 Conceptual Framework of the Study



Source: Own Compilation, 2023

This study extends the existing body of knowledge on environmental behaviors by indicatively investigating the common effects of knowledge of environmental consequences, sustainability, norms about environmentalism, and environment attachment on environmental behaviors. In addition, this research paper intends to examine the effect of environmental knowledge on the environmental attitude and to analyze the effect of environmental attitude on environmental behavior of Dagon university student.

CHAPTER 3

ENVIRONMENTAL ISSUES IN MYANMAR AND PROFILE OF RESPONDENTS

In this chapter, environmental issues in Myanmar comprising environmental conservation, environmental education. As well, demographic profiles of respondents and reliability test are presented.

3.1 Environmental Issues in Myanmar

Myanmar's natural resources have traditionally played a major economic role to their country economy, and yet these are also possibly under threat from over exploitation and miss management, particularly and mostly commercial teak exports, oil, and rubies and so on. Between 1990 and 2015, the area covered by forest was estimated at 10 million hectares, decreasing by an average of 1.2 percent annually. Myanmar's marine fish stocks have been severely depleted by over-fishing, and have declined by 90 percent since 1979-80. The Myanmar Environmental Assessment System provides clear recommendations and actions for sustainable and inclusive development of the forestry and fisheries sectors; and environmental impact assessment systems.

The main reason for deforestation is to make way for agriculture and orchids. This is due to increased demand for wood and non-wood forest products such as bat dung and sugar cane. Myanmar's air pollution problem is currently confined to industrialized areas, but the use of chemicals in agriculture is expected to worsen the problem as the government encourages it to double crop production.

It is estimated that more than 45,000 people died in Myanmar in 2017 due to air pollution. Air pollution, which is a risk factor for death in Myanmar, is higher than any other country in the region and almost twice the Southeast Asian average. For adolescent children aged 5 to 14 years in Myanmar, particulate pollution is the leading cause of death across all risk factors, including malnutrition and other behavioral risks.

Besides, Environmental Performance Index (EPI) affords a quantitative basis for comparing, analyzing, and understanding environmental concert for 180 countries

on 24 performance indicators across ten issue categories covering environmental health and ecosystem vitality in 2018. EPI therefore provides a scorecard that highlights leaders and laggards in environmental performance, provides insight into best practice, and provides guidance for countries aspiring to become leaders in sustainable development. The score and rank of these countries on their environmental performance using the most recent year of data available as well as data from approximately a decade earlier. The state of the world is captured in the Global Scorecard. These results reveal current standings on a core set of environmental issues and identify where progress is or is not being made.

According to this data, Switzerland leads the world based on strong performance across most issues, especially air quality, climate protection, protecting public health, preserving natural resources, and decoupling green-house gas emissions from economic activity. Myanmar has as the 138 EPI ranked among these 180 countries in the world. The full results of the EPI, including country and indicator-level analysis, was described in Appendix C (The 2018 Environmental Performance Index Ranking for 180 Countries).

The EPI rankings indicate which countries are doing the best in addressing the range of environmental pressures each country faces. From a policy perspective, greater value derives from drilling down into the data to analyze performance by specific issue, policy category, peer group and country. Such analysis refines policy choices; To understand the determinants of environmental progress and maximize return on government investment.Drawing on 20 years of experience, the EPI describes the tension between two fundamental dimensions of sustainable development: (1) environmental health, which improves alongside economic growth and prosperity; and (2) ecosystem vitality, which under pressures on economic activity. Good governance has become a key means of balancing the different dimensions of sustainable development.

3.1.1 Environmental Conservation

In December 1994, Myanmar adopted a national environmental policy to ensure that environmental issues are included in economic development planning. The policy conditions are every country and citizen has a responsibility to protect natural

resources for the benefit of present and future generations and environmental protection is the primary goal of development. So that environmental responses become part of the daily lives of all citizens.

For this point, it advocates the development of EE programs in both formal (school) and informal settings. Efforts are being made to provide environmental education courses and basic literacy programs for all children at the basic education level, and to provide specialized environmental education courses for teachers. At the higher education level, the conservation movement sought to establish environmental education centers to promote research in the field.

3.1.2 Environmental Education

Myanmar faces environmental issues critical to its development, and there is an urgent need for more environmental education (EE) programs in schools. After-school environmental education is taught in middle and high schools, but the most active environmental education initiatives are focused on elementary schools across the country, but the most active environmental education is prioritized in elementary schools.

Education for All is an informal EE program that started in 1996 in about 30 townships and has since expanded across the country. Although primarily a literacy education program, We focus on EE topics that are particularly relevant to the lives of women and girls. population control; energy problem; dwindling natural resources; soil conservation; Covering environmental topics such as health care and household economics, the program helps people deal with environmental issues they face in their daily lives.

Environmental education is on the rise in developing countries such as Myanmar. A number of activities designed to engage students in environmental conservation have been incorporated into the university curriculum, making environmental education a discipline to produce environmentally responsible citizens. The new curriculum places special emphasis on the development of good citizenship, a key component of which includes the development of environmental awareness.

The effectiveness of environmental protection programs depends on the degree of public participation; In addition, no environmental program will succeed

unless the public recognizes the importance of environmental protection and actively participates. Measuring the level of effectiveness of an EE program is difficult because its value depends on human behavior, which is the product of complex social and psychological factors. However, the authors argue that an environmental benefit program is effective if it increases interest in environmental issues and leads to greater participation in conservation efforts.

3.2 Demographic Profile of Respondents

In this survey, demographic elements of respondents include gender, age, marital statues, highest level of education and estimated monthly income. Each question is constructed into multiple choices questions and the respondents have to chose the one which are relevant to them. The background information of the survey participants is presented in Table (3.1).

According to Table (3.1), 227 respondents are male which represent 57.8 percent and 166 respondents are female which represent 42.3 percent. Single respondents are 301 which signify 76.6 percent and married respondents are 92 which signify 23.4 percent.

Regarding to the age group, most of the respondents are between 20 and 23 years that stands 140 respondents which represent 35.6 percent , the second in most respondents are between 28 and 31 years that is 92 respondents which represent 23.4 percent, the third individual is between 24 and 27 years that be present 86 respondents which represent 21.9 percent, the fourth group is between 16 and 19 years that stays 54 respondents which represent 13.7 and the last one is over 31 years that remains only 21 respondents which represent 5.3 percent.

Then, The highest level of education of the respondents are 102 respondents are undergraduate which represent 26.0 percent, 143 respondents are post graduate diploma which represent 36.4 percent and 148 respondents are bachelor degree which represent 37.7 percent. In estimated of monthly income, 110 respondents who get less than 200,000 MMK which represent 28.0 percent, 160 respondents are between 200,001 MMK - 500,000 MMK which represent 40.7 percent, 53 respondents are between 500,001 MMK - 800,000 MMK which represent 13.5 percent, 16 respondents are between 800,001 MMK - 1,100,000 MMK which represent 4.1

percent and 54 respondents who get more than 1,100,000 MMK which represent 13.7 percent respectively.

Table (3.1) Demographic Profile of Respondents

No.	Demographic Factors		Number	Percentage
1.	Gender	Male	227	57.8
		Female	166	42.2
2.	Marital Status	Single	301	76.6
		Married	92	23.4
3.	Age (Years)	16 - 19	54	13.7
		20 – 23	140	35.6
		24 – 27	86	21.9
		28 – 31	92	23.4
		Over 31	21	5.4
4.	Highest Level of Education	Undergraduate	102	26.0
		Post Graduate Diploma	143	36.4
		Bachelor Degree	148	37.6
5.	Estimated Monthly Income	Less than 200,000 MMK	110	28.0
		200,001 MMK - 500,000 MMK	160	40.7
		500,001 MMK - 800,000 MMK	53	13.5
		800,001 MMK - 1,100,000 MMK	16	4.1
		More than 1,100,000 MMK	54	13.7
		Total	393	100

Source: Survey Data, 2023

3.3 Reliability Test

Reliability is a measure of stability and consistency and helps assess the quality of the metric. In this study, the research used Cronbach's alpha as a measure of

internal consistency. Cronbach's alpha is a confidence coefficient that measures the degree of positive correlation between a set of items. According to George (2003), the generally accepted rule for describing internal consistency using Cronbach's alpha is: Alpha values 0.9 and above are excellent, between 0.8 and 0.9 are good, between 0.7 and 0.8 are acceptable, between 0.6 and 0.7 are Questionable, and between 0.5 and 0.6 are poor and less than 0.5 is unacceptable. Table (3.2) shows the reliability (alpha value) of the variables.

Table (3.2) Reliability Test

Sr. No.	Variables	No. of Items	Cronbach's Alpha
1.	Human-Environmental System Knowledge	6	0.763
2.	Environmental Action Knowledge	5	0.710
3.	Effectiveness Knowledge	6	0.746
4.	Attitude Towards Environment	10	0.700
5.	Attitude Towards Ecological Behavior	8	0.722
6.	Environmental Movement Activism	9	0.855
7.	Personal Conservation Behavior	11	0.849

Source: Survey Data, 2023

According to the Table (3.2), Cronbach's alpha value shows the alpha value of selected variables (human-environmental system knowledge, environmental action knowledge, effectiveness knowledge, attitude toward environment, attitude toward ecological behavior, environmental movement activism and personal conservation behavior. The result of Cronbach's alpha of the variables is between 0.700 and 0.855 which show between acceptable and good level. Therefore, the questionnaire scale items are consistent and reliable for further analysis.

CHAPTER 4

ANALYSIS ON ENVIRONMENTAL KNOWLEDGE, ATTITUDES AND BEHAVIORS OF STUDENTS IN DAGON UNIVERSITY

This chapter presents the analysis on the effect of environmental knowledge on environmental attitudes towards the behaviors of Dagon University students by using multiple regression method.

4.1 Analysis on Environmental Knowledge, Attitudes and Behaviors

In this study, analysis on environmental knowledge intended for measure the human-environmental system knowledge, environmental action knowledge and effectiveness knowledge and attitudes in term of attitude toward environment and attitude toward ecological behavior towards the behaviors including the environmental movement activism and personal conservation behavior of Dagon University students are studied. In attendance are totally composed 393 respondents of students. The descriptive research method and regression method are applied to this study. Each factor included respective statements; each statement was measured by five-point Likert-scale ranging within 1 to 5 (strongly disagree, disagree, neutral, agree, strongly agree). According to Best (1977), the mean values of five-point Likert scale items are interpreted as follows:

The score among 1.00 – 1.80 means strongly disagree.
The score among 1.81 – 2.60 means disagree.
The score among 2.61 – 3.40 means neutral.
The score among 3.41 – 4.20 means agree.
The score among 4.21 – 5.00 means strongly agree.

4.1.1 Environmental Knowledge

This section is to measure the level of environmental knowledge which is included seventeen questions that assessed students' knowledge about local and global environmental issues and basic ecological concept.

(a) Human-Environmental System Knowledge

The first analysis of the environmental knowledge is the human-environment system knowledge. These are six constructed characteristics that asked respondents to know about ecosystems and human-caused environmental problems.The mean value of each question on human-environment system knowledge of university students is presented in Table (4.1).

Table (4.1) Human-Environmental System Knowledge

No.	Description	Mean	Standard Deviation
1.	Explaining the environmental issues to others.	3.88	0.754
2.	Concerning environmental issues to personal and others.	4.68	0.515
3.	Becoming improvement of environmental issues over the next 20 years.	2.93	1.023
4.	Being aware of global warming.	4.50	0.548
5.	Knowing the most use of water is the irrigation sector in Myanmar.	3.51	0.880
6.	On average, hydro-power is most spent for energy resources at household in Yangon.	3.82	0.799
	Overall Mean	**3.89**	

Source: Survey Data, 2023

With the highest mean score of 4.68, students learned the most about environmental issues, and they lead others to deep concern. The highest score after students noticed global warming was 4.50. Students agree on three issues they know about and can explain other environmental issues well, the irrigation sector is the largest water user in Myanmar and hydro-power is the largest energy user for households in Yangon. The lowest average score was 2.93 that shows the students

neither disagrees nor agrees that environmental problems will not improve in the next 20 years. The overall mean is 3.89 in agree interval.

The findings indicated that students have an understanding of important environmental terms, environmental issues, and local environmental knowledge but then displayed an uncertain preconception toward the future. Generally, as a result, students develop a high-level appreciative of human-environmental systems.

(b) Environmental Action Knowledge

The second analysis of environmental knowledge is the environmental action knowledge. The total of five statements relate to knowledge of behavioral choices and possible courses of action to reduce human impact on the environment. The mean value of each question on environmental action knowledge of university students is presented in Table (4.2).

Table (4.2) Environmental Action Knowledge

No.	Description	Mean	Standard Deviation
1.	Planting trees eliminates the threat of global warming.	4.64	0.540
2.	People should buy things that can be used again (recycling).	4.36	0.680
3.	Buying domestically produced products rather than importing them reduces the use of plastic bags.	3.52	0.989
4.	Many resources in the earth are finite and we will eventually run out.	4.51	0.692
5.	Schools in Myanmar should provide environmental education in basic education.	4.71	0.504
	Overall Mean	**4.35**	

Source: Survey Data, 2023

In the data analysis, there are four high-value questions: Most students think Myanmar basic education schools should provide environmental education is 4.71; Planting trees can reduce the risk of global warming is 4.64; Many resources are limited in the world is 4.51; It should be reused as 4.36. Although the lowest mean is 3.52, it is agreed that purchasing locally produced products has the potential to reduce the use of plastic bags compared to imported products. The overall mean is strongly agreeing level that is 4.35.

The result exhibitions that the respondents' action plans and awareness levels of environmental protection are comprehensive. In addition, overall mean indicates that students' knowledge of environmental action is higher than knowledge of human environmental systems and effectiveness.

(c) Effectiveness Knowledge

The third analysis of environmental knowledge is the effectiveness knowledge. The constructing all six statements focuses on the relative effectiveness of protection associated with specific behaviors. The mean value of each question on effectiveness knowledge of university students is presented in Table (4.3).

As present in data analysis, the highest mean score of 4.46 that over exploitation of natural resources is a serious threat to the future economy. The second highest average scores are two; electric cars emit less carbon dioxide than diesel cars is 4.31 and plastic cans last longer than tin cans and batteries is 4.34 each respectively.

The third highest mean score of 3.88 indicates that humans can reduce environmental problems and that people are willing to change their behavior to alleviate environmental problems. Another is 3.62, aluminum is more energy efficient to recycle than to produce new material. The lowest mean value of 3.24 is the reverse question that it means that in terms of transportation, using buses is the least energy efficient which is neither disagrees nor agrees interval.

The overall mean value is 3.98 which is indicates in agereement intervel. Therefore, the findings can be interpreted as students having a higher understanding of local and global environmental solutions to protecting the problems. In adding, it

shows that the focus of operational knowledge has broadened from simply knowing that save to maximize environmental benefits.

Table (4.3) Effectiveness Knowledge

No.	Description	Mean	Standard Deviation
1.	Electric cars emit less carbon dioxide than diesel cars.	4.31	0.700
2.	Knowing the degradation of waste materials in soil, plastic bottles have much take higher time than paper boxes, tin cans and batteries.	4.34	0.829
3.	Using the buses is the least energy efficient in terms of transportation.*	3.24	1.013
4.	Recycling aluminum saves more energy than manufacturing new material.	3.62	0.683
5.	Willing to change the behavior to alleviate environmental problems by human.	3.88	0.861
6.	For Myanmar, Over-exploitation of natural resources is a serious threat to the future economy.	4.46	0.639
	Overall Mean	**3.98**	

Source: Survey Data, 2023

Note: * Reverse Statement

4.1.2 Environmental Attitudes

This section aims to determine students' perceived attitudes toward the environment, and this questionnaire consists of eighteen questions that reflect personal beliefs about the relationship between people and nature, belief in future eco-crisis and attitudes toward environmental issues.

(a) Attitude Towards Environment

The foremost analysis of environmental attitudes is attitude toward the environment. The whole of ten attitudes are consider for students, including anthropocentric attitudes, human influences on nature and ecological attitudes. The mean value of each environmental attitude of students is shown in Table (4.4).

The mean scores of the two variables "nature is important" and "protecting people's living environment" are 4.70 and 4.45, respectively, which are interpreted as strongly agree. Another finding, determined by their mean score of 4.20 and 4.06, describe that the students' attitudes towards the environment, including recycling and deforestation that they would not be able to provide enough lumber for future generation which are interpreted as agree. Anthropocentric attitude reveals that the environment has value only as a tool for meeting human needs. If these functions cannot be fulfilled, they are considered worthless.

Based on the data present, it is find that one of the human dominance over nature attitude variable which is 4.49 in strongly agree interval and the two which are determine by its mean scores of 3.94 which is human are created to dominate the rest of nature and 3.54 which is human are more important than other species. There three questions are negatively worded question and the scored are already reversed. The students agree or strongly agree with the proposed attitudes toward the environment. This contrasting attitude indicates that students have some understanding or concept of environmental ethics.

As it is glean from the Table, there are two questions related to students' environmental attitudes towards ecology; which are 4.58 and 4.31 respectively. This different attitude implies a strong agreement that interventions should be made so that students have a definite concept or correct understanding of the value of the environment.

It indicates whether the environment has value in itself or depends on its use for human welfare. In this section, the final question, nature is valuable for its own sake is of 4.28 that is reverse question because the nature is concern to all life on earth. The students. Such ambivalence further points to the students' wholeheartedly agree about this.

Table (4.4) Attitude Towards Environment

No.	Description	Mean	Standard Deviation
1.	One of the best things about recycling us that it saves money.	4.20	0.705
2.	Nature is important because it brings happiness and well-being to humans.	4.45	0.602
3.	Deforestation is that there will not be enough lumber for future generation.	4.06	1.011
4.	Protecting the environment for people's lives are dependent on it.	4.70	0.508
5.	Human were created to dominate or evolved the rest of nature.*	3.94	0.873
6.	Humans play a more important role in protecting ecosystems than animals.*	4.49	0.631
7.	Humans are more important than any other species.*	3.54	1.156
8.	It is sad to see the destruction of the natural environment.	4.58	0.539
9.	One of the worst things about overpopulation is that many natural areas are getting destroyed.	4.31	0.722
10.	Nature is valuable for its own sake.*	4.28	0.702
	Overall Mean	**4.26**	

Source: Survey Data, 2023

Note: * Reverse Statement

Overall, base on the calculate information about attitude toward environment, it is find that environmental attitudes is 4.26 and is in certain status. Students value

the environment because it benefits human life. In this sector, some of this agreement indicates a lack of understanding of environmental values. However, overall, students have enough knowledge or correct information related to the environmental ethics to discuss the value of natural environment.

(b) Attitude Towards Ecological Behavior

The second component of environmental attitudes is attitudes toward ecological behavior. The complete of eight items assessed students' attitudes of utilization of nature's dominance, conservation and population growth policies. The mean value of each item of attitude toward ecological behavior for students is shown in Table (4.5).

According to Table (4.5), the nature is a resource used for economic purposes, a negative question with a reverse score of 4.06. The nature resources are not intend to use only economic purposes and have limited use because they are non-renewable thing. According to the mean values, the students agree and this shows that students learn and understand the importance of storage policies to protect the environment.

The mean value of protecting the environment over protecting economic growth is 3.82, which is a positive question. On the other hand, the average score of protecting people's work is more important than protecting the environment as in 3.74 that is a negative question and this value is converted to a reverse score. Their average rates are consistent and this means that students have a better understanding of environmental issues and human utilization of nature’s dominance.

The compute data reveal that the benefits of modern consumer goods are more important than the population that produces them after changing the inverse score to 2.67. The question of attitude toward utilization nature section, human should not comfortable using of natural resources is 3.19.

In general, Students seem to have no clear understanding or idea of how to use or deal with the natural environment. Whether the students agree with the position proposed to use nature's attitude or not. This discrepancy is another indication of students' lack of acceptance of the environment and how humans should use it.

Table (4.5) Attitude Towards Ecological Behavior

No.	Description	Mean	Standard Deviation
1.	Humans are not comfortable using nature as a resource for economic purposes.	3.19	1.080
2.	Protecting the environment is more important than protecting economic growth.	3.82	0.808
3.	The nature is a resource for economic purposes.*	4.06	0.778
4.	Protecting the people job is more important than protecting the environment.*	3.74	0.671
5.	The benefits of modern consumer products are more important than the pollution that results from their production and use.*	2.67	1.049
6.	Industry should be required to use recycled materials even when this costs more than making the same products from new raw materials.	4.06	0.624
7.	People who say over population is a problem that is completely incorrect.*	3.01	1.074
8.	The world would be better off if the population stop growing.	3.17	0.977
	Overall Mean	**3.47**	

Source: Survey Data, 2023

Note: * Reverse Statement

In addition, the mean value of the attitude toward ecological behavior of students' in terms of attitude toward population growth policy is 3.17 and the negative question of people who say over population is a problem that is completely incorrect is 3.01 which is reverse scored. This finding leads to the conclusion that students neither agree nor disagree with the proposed attitudes towards ecological behavior in

this policy. This mixed attitude suggests that students may lack knowledge or correct information about the impact of population growth on environmental issues.

Overall mean value of evaluation of attitude toward ecological behavior of students is at 3.47 which is within the range of agreement but it is close to uncertain or undecided. The survey reveal that students have no clear stand or position on ecological behavior, taking advantage of nature and population growth policies. General, however, the research points to the fact that students' attitudes toward ecological behaviors presented are mixed. It may be due to lack of knowledge about the importance of the environment.

4.1.3 Environmental Behaviors

The purposes to determine environmental behavior of students and this questionnaire bring about of twenty questions that examine the frequency of the students report specific environmental actions at home, school and elsewhere.

(a) Environmental Movement Activism

The prominent analysis of environmental behavior is environmental movement activism. It measures nine components, including social and political moments. The mean values of environmental movement activism are calculated in Table (4.6).

As it is deduce from the data gather, the highest mean score is 4.37, which shows that students respect the natural environment when visiting places. Most of the action are at the agreeable level such for instance, the students willing to pay the taxes of score is 4.29, they use very little energy and they care about the environment in their community are the same mean score as in 4.24.

Students' willingness to participate in nature conservation activities as volunteers received a score of 4.15, and their inclination to support school organizations in improving the quality of the environment received a score of 4.10. The other three answers are between 4.06 to 4.02 which means that students want to donate some money to environmental groups, persuade others to protect the

environment, and watching environmental issues through news passages such as radio and television, then also they focused on magazines and social media.

Table (4.6) Environmental Movement Activism

No.	Description	Mean	Standard Deviation
1.	Supporting school organizations that want to improve the quality of their environment.	4.10	0.693
2.	Knowing how to care for the environment, students would take action to do so.	4.24	0.538
3.	Participating voluntarily in nature conservation activities in cleaning up streams, rivers and beaches, planting trees and cleaning waste material.	4.15	0.651
4.	Using as little energy as possible. (petrol, electricity, heat etc.)	4.24	0.578
5.	Try to convince others that it is important to protect the environment.	4.05	0.689
6.	Monitor coverage of environmental issues in news outlets such as radio, television, magazines and social media.	4.02	0.668
7.	Visiting these places and respect the natural environment. (hiking, mountain and biking)	4.37	0.606
8.	Be willing to pay your taxes accurately to protect your community's environment.	4.29	0.595
9.	Donating some money to an environmental organization.	4.06	0.622
	Overall Mean	**4.17**	

Source: Survey Data, 2023

Overall mean value of assessment of environmental movement activism of students is at 4.17 which means students' action thoughts and positive feelings about environmental issues and personal actions.

(b) Personal Conservation Behavior

The additional analysis of environmental behavior is personal conservation behavior. There are eleven components to extent the developing and implementing sustainable practices and behaviors that benefit humans and the nature around them. The mean value of personal conservation behavior is shown in Table (4.7).

With the highest mean score of 4.44 from the collected data, students turned off the lights when not needed. The second highest mean score on the strongly agree scale is 4.22, this indicates that people prefer products with reusable packaging. A score between 4.19 and 4.12, there are four agreed-upon steps to answer the question of recycling materials of score is 4.19, saving water of score is 4.13, avoiding pollution of score is 4.18 and changing lifestyles to reduce waste of score is 4.12.

In addition, it includes sorting waste by category, and the results were between 3.95 and 3.70 as shown in the interval of agreement. The scores for these activities are: 3.90 points for sorting waste by category; 3.81 points for purchasing energy-saving products; 3.70 points for bringing the own bags when shopping; 3.91 points for choosing environmentally friendly products; 3.95 points for voting for politicians who care environmental protect.

Overall mean score for students' environmental behavior is 4.10. The findings can be interpreted as the students agreeing to the proposed personal conservation behavior. Such behavior suggests that students may lack knowledge and information about the value of the natural environment and the risks of climate change. Students apply the scientific method to solve environmental problems.

Table (4.7) Personal Conservation Behavior

No.	Description	Mean	Standard Deviation
1.	Recycling things that can become useful materials (furniture, packaging, books, plastic bottles, etc.).	4.19	0.617
2.	Separating garbage by type that is good manners (glass, plastics, paper, organic, oils or others).	3.90	0.856
3.	Trying to save water at home (by showering instead of bathing, keep the tap not running while brush teeth, etc.).	4.13	0.752
4.	Buying energy-saving appliances. (lights, irons, water boilers, electrical devices).	3.81	0.799
5.	Turning off the unnecessary lights.	4.44	0.568
6.	Walking or cycling within car-free distances to avoid air pollution.	4.18	0.775
7.	Preferring products with recyclable or reusable packaging.	4.22	0.612
8.	Bringing own bag when shopping usually.	3.70	0.918
9.	Changing the personal lifestyle to reduce waste.	4.12	0.709
10.	Avoiding to purchase products that harm the environment and also choose environmentally friendly products.	3.91	0.724
11.	Voting for politician which are concerned about environmental protection.	3.95	0.788
	Overall Mean	**4.10**	

Source: Survey Data, 2023

4.2. Analysis on the Effect of Environmental Knowledge on Environmental Attitudes

This segment discovers out the effect of environmental knowledge on the environmental attitude. In order to conduct an analysis of the data, linear regression is used to test the relationship between independent variables of human-environmental system knowledge, environmental action knowledge and effectiveness knowledge and dependent variable of environmental attitude. In order to conduct an analysis of the data, multiple regression is utilized, and the findings are laid out in Table (4.8).

According to Table (4.8), the model can explain 20.8% about the variation of the environmental attitude of the respondents since the value of R square is 0.208. The model can explain 20.2% about the variance of the independent variables (human-environmental system knowledge, environmental action knowledge and effectiveness knowledge) and dependent variable (environmental attitude) because adjusted R square is 0.202. The value of F-test, the overall significance of the models, turned out highly significant at 1% level; hence, it is possible to say that this model is valid.

The value of R is 0.456 which lies between 0 and 1. It indicates that both independent variables and dependent variable are correlated. All VIFs (Variance Inflation Factor) of independent variables are less than 10, so there is no problem of multi-collinearity (correlation between independent variable). The value of Durbin-Watson is closed to 2 (1.962) which indicates that there is no auto correlation in the sample.

According to the results, environmental action knowledge and effectiveness knowledge are highly significant at 1% level. The effect of environmental knowledge (environmental action knowledge and effectiveness knowledge) on environmental attitude at the 1 percent level is extremely substantial. The one unit increase in environmental action knowledge, will result in a 0.142 increase in environmental attitude as a direct result of this change. At the same time, the effectiveness knowledge is improved by one unit, the environmental attitude will growth by 0.218 as a direct result of this change.

Knowledge of human-environmental system is not significant at any significant level. This means that knowledge has no effect on environmental attitude as students holding a more complex responses to the human environmental systems

perspective. The natural environment is a common perspective students have on the natural environment, leading students to lack a deep understanding of the knowledge they have learned.

Table (4.8) The Effect of Environmental Knowledge on Environmental Attitudes

Dependent Variable: Environmental Attitudes	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	VIF
	B	Std.Error	Belta			
(Constant)	2.254	0.183		12.345	0.000	
Human-Environmental System Knowledge	0.039	0.042	0.053	0.926	0.355	1.487
Environmental Action Knowledge	0.142***	0.042	0.180	3.378	0.001	1.312
Effectiveness Knowledge	0.218***	0.042	0.309	05.190	0.000	1.634
R	0.456					
R Square	0.208					
Adjusted R Square	0.202					
F Value	31.963***					
Durbin-Watson	1.962					

Source: Survey Data, 2023

Note: *** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level

A unit increase in each of the standardized coefficient (Beta) results in 0.053, 0.180 and 0.309 increase in environmental attitude respectively. It points that these

three variables lead to an increase and towards the environmental behavior of students in Dagon University.

4.3 Analysis on the Effect of Environmental Attitudes on Environmental Behaviors

In this study, multiple regression is used to test the effect of environmental attitude on environmental behavior. The results are shown in Table (4.9).

Table (4.9) The Effect of Environmental Attitudes on Environmental Behaviors

Dependent Variable: Environmental Behaviors	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	VIF
	B	Std.Error	Belta			
(Constant)	1.895	0.223		8.483	0.000	
Attitude Towards Environment	0.371***	0.048	0.367	7.702	0.000	1.111
Attitude Towards Ecological Behavior	0.183***	0.050	0.173	3.644	0.000	1.111
R	0.453					
R Square	0.205					
Adjusted R Square	0.201					
F Value	50.215***					
Durbin-Watson	1.958					

Source: Survey Data, 2023

Note: *** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level

According to Table (4.9), R square value is 0.205. The model can explain 20.5% of the variance in respondents' environmental behavior. Since the adjusted R-squared is 0.201, the model can explain the independent variables (attitudes toward the environment and attitudes toward ecological behaviors) and the dependent variable (environmental behaviors). The value of F-test shows high significance at 1% level which is the overall significance of the model. Therefore, the model can be said to be valid.

The R value is 0.453, which is between 0 and 1. This shows that both independence and dependence are positively correlated. Since the VIF (variance inflation factor) of all independent variables is less than 10, there is no problem of multi-collinearity (correlation between independent variables). The Durbin-Watson value is close to 2 (1.941), indicating that there is no autocorrelation in the sample.

The results show that attitudes toward the environment and attitudes toward ecological behavior are highly significant at the 1% level. The relationship between environmental attitudes and environmental behaviors is highly significant at the 1% level. As a direct result of this change, a one-unit increase in environmental attitude leads to a 0.371-unit increase in environmental behavior. At the same time, attitude toward ecological behavior is improved by one unit, the environmental behavior will growth by 0.183 unit as a direct result of this change.

According to the results, environmental attitude has the expected positive signal and the coefficient value is highly significant at the 1% level. The positive correlation means that an increase in attitude toward the environment and attitude toward ecological behavior leads to better environmental behavior, which are 0.367 and 0.173, respectively. For each additional unit, environmental behavior increased by 0.367 and 0.173, respectively.

The standardized coefficient (Beta) of environmental attitude means that environmental attitudes have contribution to increase environmental behaviors of students in Dagon University. Studies discover that the students have positive attitude on maintaining environment contribute on activities related to the preservation of the environment.

CHAPTER 5
CONCLUSION

In this chapter, consists of three main parts. The first part the findings and discussions from the previous chapters are discussed. The second part is suggestions and recommendations are pointed out. The last part is the needs for further research in which the researcher presents the limitations of this study and what further studies should focus on.

5.1 Findings and Discussions

This study analyzes the effect of environmental knowledge on environmental attitude and analyze the effect of environmental attitude on environmental behavior of student in Dagon university using the descriptive analysis and multiple regression analysis. The following paragraphs discuss the main findings based on the data analysis.

The results revealed that participants gained the highest mean score for knowledge of environmental action and second highest mean score for knowledge of effectiveness, and that both of types of knowledge are strongly effect on environmental attitudes.

The students believe that a good environment can affect everything in the country, and they should always try to keep the environment clean. As can be seen from the students' responses, there is a comprehensive understanding of the relationship between people knowledge and situation of their environment.

However, the mean score for human environmental system knowledge was almost equal to that of efficiency knowledge and relatively less than that of action knowledge. In addition, this study found no significant effect of between human environmental systems and environmental attitudes.

This situation may be due to many factors, but the main one is the lack of systematic understanding of knowledge. Responses from students who reported on the human environmental systems perspective were more mixed. There are other views

among students that indirectly express this point. From a economic perspective, students mainly realize that the environment needs to protect not to destroy.

Rendering to the study, in general, it was found that students demonstrated a high level of knowledge about environmental issues. This may be due to the direct impact on living in the city, especially by students who strongly perceive Yangon's air pollution as a serious environmental problem.

However, students do not seem to be aware of issues related to energy and natural resources that may have less immediate impact on their lives. The finding that environmental knowledge provided by regular environmental education can guide students' environmental attitudes.

This study revealed that students with high environmental and ecological knowledge have relatively high positive environmental attitudes. Therefore, with this basic knowledge, students have the possibility to evaluate the value of the environment and the sensitivity of the environment and ecosystem to human activities. Thus, sustainable attitudes toward the environment can be developed. By understanding these issues, students will be able to understand current environmental problems and their causes.

Based on the presentation, the analysis and investigation results, the overall of the students are relationship between environmental attitude and environmental behavior. Their attitude towards the environment has a significant effect on environmental behavior. In this study, students seem to have a positive attitude towards the environment and care for nature.

According to the study result, students' environmental attitudes have a very positive effect on their environmental behavior. Thus, if students have high environmental attitudes, they will behave more environmentally-conscious. However, our research concludes that students do not have sufficient environmental awareness to implement this awareness in their daily lives.

Finally, this study concludes that in order to mitigate environmental issues in Myanmar, a substantial shift is needed in students’ knowledge, attitudes, and their behaviors, ultimately changes are key to leading to a more sustainable lifestyle. Based on these conclusions, some recommendations are provided in the next section.

5.2 Suggestions and Recommendations

Based on the findings and conclusions of this study, make recommendations to students and educational authorities.

The findings regarding students' environmental knowledge have implications for their environmental learning development. Although students indicate that they have a high level of environmental knowledge, they lack knowledge about some of the critical issues in Myanmar and steps they can take to address them. Secondly, Teachers and the teaching practices they use play an important role in developing students' knowledge and critical thinking skills about environmental issues.

Developing environmental knowledge, it also includes that development of positive attitudes, values and behavior towards the environment. Therefore, it is necessary to pay special attention to comprehensively develop environmental education in the Myanmar university curriculum, including environmental education opportunities to develop environmentally responsible citizens.

In particular, because this study reports a serious lack of environmental education, environmental education should be included in the university curriculum so that students not only explore environmental issues but also participate in making their own decisions and solving environmental problems. This is a major challenge for the current education environment in Myanmar and will require a major change in traditional teaching methods.

The environmental attitudes does not seem to prevent students from thinking about their own self-interest and individualism. Special attention to educational values can enhance students' attitudes toward the importance of social and community interests over individual interests. It can be said that tackling this valuable education is not an easy task as individualistic attitudes are deeply rooted in Myanmar's social and cultural background. However, environmental problems are not only a threat to individuals, but also have a huge impact on society.

Adding to the fact that students are dissatisfied with the future of the environment, teachers from Myanmar Teachers and policy makers need to take students' concerns seriously. Similarly, Students' emotional feelings about environmental issues should not be ignored by other stakeholders.

5.3 Needs for Further Research

This study focuses only on environmental knowledge, attitude and behavior of students in Dagon University. There are also has limitations in this study. Majority of participants in this study is limited to Dagon University in Yangon. The investigation of the environmental knowledge standing of people may be one-sided due to the difference in education levels between people in different provinces. Therefore, results may not be generalization to all university students. Proposals for future surveys need to improve the generalization and applicability of research findings across Myanmar's provinces. Likewise, future research on environmental knowledge and environmental behavior may consider the mediating role of environmental emotion. Meanwhile, due to the close relationship between knowledge and education, future research could consider the moderating effect of education level. Notwithstanding the foregoing limitations, this study provides further insight into the prerequisites for students' environmental behavior, providing effective guidance for policy makers.

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APPENDIX A

QUESTIONNAIRES

Section (A): Demographic Factor

Please tick [√] the appropriate answer for each of the following questions.

1. Gender

☐ Male ☐ Female

2. Marital Status

☐ Single ☐ Married

3. Age

☐ 16 - 19 years ☐ 28 - 31 years

☐ 20 - 23 years ☐ over 31 years

☐ 24 - 27 years

4. Highest Level of Education

☐ Undergraduate

☐ Post Graduate Diploma

☐ Bachelor Degree

5. Estimated Monthly Income

☐ Less than 200,000 MMK

☐ 200,001 MMK - 500,000 MMK

☐ 500,001 MMK - 800,000 MMK

☐ 800,001 MMK - 1,100,000 MMK

☐ More than 1,100,000 MMK

Section (B): Environment Knowledge

Please tick [√] the number to indicate the extent to which you agree with the following statements.

1. Strongly disagree

2. Disagree

3. Neutral

4. Agree

5. Strongly agree

I. Human-Environmental System Knowledge		**Scale**				
1.	I know and I would be able to explain well to others that the environmental issues of air pollution, water pollution, deforestation and climate change.	1	2	3	4	5
2.	The environmental issues of air pollution, water pollution, deforestation and climate change are a serious concern for me personally as well as others.	1	2	3	4	5
3.	Do you think problems associated with the environmental issues of air pollution, water pollution, deforestation and climate change will improve over the next 20 Years?	1	2	3	4	5
4.	I am just notice global warming is happening.	1	2	3	4	5
5.	Do you agree that the irrigation sector is most using water in Myanmar?	1	2	3	4	5
6.	On average, hydro-power is most spent for energy resources at household in Yangon.	1	2	3	4	5

II. Environmental Action Knowledge		**Scale**				
1.	The planting of trees are dropping the threat of global warming.	1	2	3	4	5
2.	Do you think that people should buy things that can be used again (recycling)?	1	2	3	4	5
3.	Buying locally made products over imports is tending to be decrease the using of plastic bag.	1	2	3	4	5
4.	Many resources on earth are finite and we will run out of them.	1	2	3	4	5
5.	Do you think schools should provide environmental education in basic education students in Myanmar?	1	2	3	4	5

III. Effectiveness Knowledge		**Scale**				
1.	The electric vehicles are lesser emits carbon dioxide comparison of diesel vehicles.	1	2	3	4	5
2.	In the case of degradation of Waste materials in soil, plastic bottles have much take higher time than paper boxes, tin cans and batteries.	1	2	3	4	5
3.	In transportation, by using the bus car is for spending at least energy resources.*	1	2	3	4	5
4.	Aluminum as a recycled material for is saves more energy in comparison to produce new material.	1	2	3	4	5
5.	Human could reduce environmental problems, and people are willing to change their behavior to alleviate it.	1	2	3	4	5

6.	On Myanmar, over exploration of natural resources is a very serious threat of economy in the future.	1	2	3	4	5

Section (C): Environmental Attitude

I. Attitude Towards Environment		**Scale**				
1.	One of the best things about recycling us that it saves money.	1	2	3	4	5
2.	Nature is important because of what it can contribute to the pleasure and welfare of humans.	1	2	3	4	5
3.	The thing that concerns me most about deforestation is that there will not be enough number for future generation.	1	2	3	4	5
4.	We should protect the environment for people's lives are dependent on it.	1	2	3	4	5
5.	Human were created to dominate or evolved the rest of nature.*	1	2	3	4	5
6.	Humans are playing more important role in preserving the ecosystem compared to animals.*	1	2	3	4	5
7.	Humans are more important than any other species.*	1	2	3	4	5
8.	It makes me sad to see natural environments destroyed.	1	2	3	4	5
9.	One of the worst things about overpopulation is that many natural areas are getting destroyed.	1	2	3	4	5

10.	I do not believe nature is valuable for its own sake.*	1	2	3	4	5

II. Attitude Towards Ecological Behavior		**Scale**				
1.	It is alright for humans to use nature as a resource for economic purpose.	1	2	3	4	5
2.	Protecting the environment is more important than protecting economic growth.	1	2	3	4	5
3.	We should no longer use the nature as a resource for economic purposes.*	1	2	3	4	5
4.	Protecting people's job is more important than protecting the environment.*	1	2	3	4	5
5.	The benefits of modern consumer products are more important than the pollution that results from their production and use.*	1	2	3	4	5
6.	Industry should be required to use recycled materials even when this costs more than making the same products from new raw materials.	1	2	3	4	5
7.	People who say over population is a problem is completely incorrect.*	1	2	3	4	5
8.	The world would be better off if the population stop growing.	1	2	3	4	5

Section (D): Environment Behavior

I. Environmental Movement Activism		Scale				
1.	I would like to contribute to a school organization that wants to improve the quality of the environment.	1	2	3	4	5
2.	If I knew more about how to care for the environment in my community, I would take action to do so.	1	2	3	4	5
3.	Voluntarily I will participate in nature conservation activities in cleaning up streams, rivers and beaches, planting trees and cleaning waste material.	1	2	3	4	5
4.	I will use as less as energy as I can afford to. (petrol, electricity, heat etc.)	1	2	3	4	5
5.	I often try to persuade others that preservation of the environment is important.	1	2	3	4	5
6.	Pay attention when environmental issues are reported by the news media, including radio, TV, magazines and social media.	1	2	3	4	5
7.	I try to respect the natural environment when I visit those places. (hiking, mountain biking)	1	2	3	4	5
8.	In the future if I have a job, I would be willing to pay my taxes exactly to protect the environment in my community.	1	2	3	4	5
9.	If I get extra income I will donate some money to an environmental organization.	1	2	3	4	5

II. Personal Conservation Behavior		**Scale**				
1.	I try to reuse things that can be useful for me (furniture, packaging, books, plastic bottles, etc.).	1	2	3	4	5
2.	I separate garbage by type (glass, plastics, paper, organic, oils or others).	1	2	3	4	5
3.	I try to save water at home (by showering instead of bathing, keep the tap not running while brush teeth, etc.).	1	2	3	4	5
4.	I buy energy efficient appliances (lights, irons, water boilers, electrical devices).	1	2	3	4	5
5.	I turn off the light when I don't need it anymore.	1	2	3	4	5
6.	I walk or use a bike on distances where a vehicle is not necessary in order to avoid air pollution.	1	2	3	4	5
7.	I prefer products with recyclable or reusable packaging.	1	2	3	4	5
8.	I usually bring my own bag when I go shopping.	1	2	3	4	5
9.	I have changed my personal lifestyle to reduce waste.	1	2	3	4	5
10.	I avoid purchasing products that have a negative impact on the environment. Similarly choosing products that are environment-friendly.	1	2	3	4	5
11.	I vote politicians who are concerned about environmental protection.	1	2	3	4	5

APPENDIX B

STASTICAL OUTPUT

Multiple Regression Analysis of Environmental Knowledge, Attitudes and Behaviors

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.456[a]	.208	.202	.29851	1.962

a. Predictors: (Constant), Effectiveness Knowledge, Environmental Action Knowledge, Human-Environmental System Knowledge

b. Dependent Variable: Environmental Attitudes

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.544	3	2.848	31.963	.000 [b]
	Residual	32.523	365	.089		
	Total	41.068	368			

a. Dependent Variable: Environmental Attitudes

b. Predictors: (Constant), Effectiveness Knowledge, Environmental Action Knowledge, Human-Environmental System Knowledge

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.254	.183		12.345	.000		
	Human-Environmental System Knowledge	.039	.042	.053	.926	.355	.673	1.487
	Environmental Action Knowledge	.142	.042	.180	3.378	.001	.762	1.312
	Effectiveness Knowledge	.218	.042	.309	5.190	.000	.612	1.634

a. Dependent Variable: Environmental Attitudes

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.453[a]	.205	.201	.37706	1.958

a. Predictors: (Constant), Attitude Towards Ecological Behavior, Attitude Towards Environment

b. Dependent Variable: Environmental Behaviors

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.278	2	7.139	50.215	.000 [b]
	Residual	55.447	390	.142		
	Total	69.726	392			

a. Dependent Variable: Environmental Behaviors

b. Predictors: (Constant), Attitude Towards Ecological Behavior, Attitude Towards Environment

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.895	.223		8.483	.000		
	Attitude Towards Environment	.371	.048	.367	7.702	.000	.900	1.111
	Attitude Towards Ecological Behavior	.183	.050	.173	3.644	.000	.900	1.111

a. Dependent Variable: Environmental Behaviors

APPENDIX C

THE 2018 EPI RANKING FOR 180 COUNTRIES

Rank	Country	Rank	Country	Rank	Country
1	Switzerland	30	Bulgaria	59	Azerbaijan
2	France	31	Costa Rica	60	South Korea
3	Denmark	32	Qatar	61	Kuwait
4	Malta	33	Czech Republic	62	Jordan
5	Sweden	34	Slovenia	63	Armenia
6	United Kingdom	35	Trinidad & Tobago	64	Peru
7	Luxembourg	36	St. Vincent	65	Montenegro
8	Austria	37	Latvia	66	Egypt
9	Ireland	38	Turkmenistan	67	Lebanon
10	Finland	39	Seychelles	68	Macedonia
11	Iceland	40	Albania	69	Brazil
12	Spain	41	Croatia	70	Sri Lanka
13	Germany	42	Colombia	71	Equatorial Guinea
14	Norway	43	Hungary	72	Mexico
15	Belgium	44	Belarus	73	Dominica
16	Italy	45	Romania	74	Argentina
17	New Zealand	46	Dominican Rep.	75	Malaysia
18	Netherlands	47	Uruguay	76	Antigua & Barbuda
19	Israel	48	Estonia	77	UAE
20	Japan	49	Singapore	78	Jamaica
21	Australia	50	Poland	79	Namibia
22	Greece	51	Venezuela	80	Iran
23	Taiwan	52	Russia	81	Belize
24	Cyprus	53	Brunei Darussalam	82	Philippines
25	Canada	54	Morocco	83	Mongolia
26	Portugal	55	Cuba	84	Serbia
27	USA	56	Panama	85	Chile
28	Slovakia	57	Tonga	86	Saudi Arabia
29	Lithuania	58	Tunisia	87	Ecuador

Rank	Country	Rank	Country	Rank	Country
88	Algeria	119	Tanzania	150	Cambodia
89	Cabo Verde	120	China	151	Solomon Islands
90	Mauritius	121	Thailand	152	Iraq
91	Saint Lucia	122	Micronesia	153	Laos
92	Bolivia	123	Libya	154	Burkina Faso
93	Barbados	124	Ghana	155	Sierra Leone
94	Georgia	125	Timor-Leste	156	Gambia
95	Kiribati	126	Senegal	157	Republic of Congo
96	Bahrain	127	Malawi	158	Bosnia ,Herzegovina
97	Nicaragua	128	Guyana	159	Togo
98	Bahamas	129	Tajikistan	160	Liberia
99	Kyrgyzstan	130	Kenya	161	Cameroon
100	Nigeria	131	Bhutan	162	Swaziland
101	Kazakhstan	132	Vietnam	163	Djibouti
102	Samoa	133	Indonesia	164	Papua New Guinea
103	Suriname	134	Guinea	165	Eritrea
104	São Tomé & Príncipe	135	Mozambique	166	Mauritania
105	Paraguay	136	Uzbekistan	167	Benin
106	El Salvador	137	Chad	168	Afghanistan
107	Fiji	138	Myanmar	169	Pakistan
108	Turkey	139	Côte d’Ivoire	170	Angola
109	Ukraine	140	Gabon	171	Central African Rep.
110	Guatemala	141	Ethiopia	172	Niger
111	Maldives	142	South Africa	173	Lesotho
112	Moldova	143	Guinea-Bissau	174	Haiti
113	Botswana	144	Vanuatu	175	Madagascar
114	Honduras	145	Uganda	176	Nepal
115	Sudan	146	Comoros	177	India
116	Oman	147	Mali	178	Dem.Rep. Congo
117	Zambia	148	Rwanda	179	Bangladesh
118	Grenada	149	Zimbabwe	180	Burundi