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## **Determining the Dominant Cognitive Attitude toward the Environment among the Employees and their Intention to Adopt Ecological Behaviour**

**Damianus Abun, Keith M. Luna, Theogenia Magallanes, Mary Joy Encarnacion, Jecel M. Mansueto**

<sup>1</sup>Faculty, College of Business Administration, Divine Word College of Laoag, Ilocos Norte, Philippines, <sup>2</sup>College of Arts and Sciences, Divine Word College of Laoag, Ilocos Norte, Philippines, <sup>3</sup><sup>5</sup>Saint Benedict College of Northern Luzon, Ilocos Sur, Philippines

[anusabun@gmail.com](mailto:anusabun@gmail.com)

**Abstract.** The study intended to find out the level of cognitive attitude toward the environment such as anthropocentric and eco-centric attitude toward the environment and ecological behaviour of employees and find out its correlation between attitude toward the environment and ecological behaviour of employees. To deepen and establish the theory of study, related literature was reviewed and carry out the study, the questionnaires were used to gather the data. The population of the study was all employees of the two colleges in the Ilocos region. The study used descriptive correlational research design and the Pearson r correlation was used to determine the correlation. The study found that the anthropocentric attitude is higher than the eco-centric attitude. Therefore the dominant attitude of employees toward the environment is an anthropocentric attitude. It is also found that there is a correlation between attitude toward the environment and ecological behaviour. Both environmental attitude affects the ecological behavior of the employees. Therefore, the hypothesis is accepted.

**Keywords.** Cognitive attitude, anthropocentric, eco-centric, ecological behaviour

The current concern of humanity is the environment because of its deterioration and there is no other to be blamed except human beings. Human welfare and economic agenda have been taken as a priority in the policy-making of the government. It is also taken by the person to determine their behaviour whether to cut trees or not or to involve in ecological behaviour or not (Abun, et.al. 2019). In short, the welfare of human beings particularly mindless consumerism and blind economic growth agenda **Introduction**

are accused as the main reason for environmental degradation (Shrinkhal, 2019). Humans have seen the natural environment as an instrument to their welfare and in this case, they have applied the Genesis chapter 1: 28 which says: "And God blessed them. And God said to them, 'Be fruitful and multiply and fill the earth and subdue it and have dominion over the fish of the sea and the birds of the heavens and over every living thing that moves on the earth'" as cited by Abun, et.al. (2018). This text has been taken by many to justify their behaviour of exploiting the environment to serve human needs. The text is understood as an order of God to

exploit the natural environment without limit. Such biblical text is taken as the basis for treating the natural environment as an object, not as a subject, to be used and manipulated for any purpose of serving human welfare (Abun, 2018). Nature has been seen in its instrumental value but not its intrinsic value which is the basis for the moral responsibility of human to respect and protect the environment as he/she protects and respect human being (Abun, et.al. 2018). Human has understood their role as a master to dominate the environment and has not understood their role as a steward. Unfortunately, this text is taken singly without seeing another text, Gen. 2: 15, which says, "Yahweh God took the man and placed him in the Garden of Eden to till it and take care of it". This texts should temper the greediness of human beings toward nature that the dominion of human being over nature is not absolute but human beings have the duty as caretaker or steward of the environment. It has been emphasized by John Paul II (2001) that humans have a specific responsibility to the environment as a steward and as a co-creator of God in the creation of new heaven and earth.

Solving environmental problem needs a comprehensive approach. There have been a lot of efforts from the government and non-government organization on how to solve the environmental problem but most of their efforts are only to repair the damage but the main cause of the damage is not solved. The main cause of the damage is the attitude of human beings toward nature and this area has never been addressed in solving environmental problems. The problem is anthropogenic because it is created by human beings themselves (Shrinkhal, 2019). Therefore, the solutions to environmental problems are not only to tell people to plant trees, recycle and follow the laws that prohibit cutting trees, etc. but neglect to review and revise their concept about the environment. Thus, overhauling education about the environment is important. The concern of education is to educate people to see the environment in the right way, no longer the old idea of "master and conqueror" but the steward of nature. Nature or environment is not an object to be used or manipulated but it should be treated as a subject equally as human beings. Human being and other beings are part of the ecosystem and are dependent on each other. Respecting the environment is a moral responsibility because all beings have intrinsic value in themselves. Intrinsic value belongs to all, not only humans but all beings. Thus the objective of this paper is to determine the dominant attitude of employees toward nature or the environment and how it affects their ecological behaviour and consequently revise the content of environmental education.

This is the main objective of the current study to find out the dominant attitude of employees of Divine Word Colleges toward the environment. Knowing their views or common perception about the environment is the beginning point of environmental education. This study is divided into five parts. The first part is the introduction or rationale which is to explain the background of the study. The second part is the literature review that will investigate related literature concerning the current topics to establish the theories of the current study. The third is the research methodology which will determine the method of the investigation particularly the research design, population, locale of the study, research instrument, and the statistical treatments. The fourth is data presentation and interpretation in which the data are presented and interpreted. The fifth is the result and discussion which will discuss further the implication of the study and its conclusion.

### **Literature Review**

This part tries to review the different concepts or theories of attitude and attitude toward the environment from different authors related to the current investigation. As a result of this literature review, the theoretical and conceptual framework of the study is proposed.

### **Theoretical and Conceptual Framework.**

Based on the readings of the different works of literature, the current study establishes some theoretical foundations as the basis of the study and how these theories are operated in actual life which is shown through the conceptual framework. The following are the theories of the study.

#### **The Concept of the Attitude.**

Understanding the concept of attitude is the beginning point to understand how attitude affects our behaviour. Therefore, we cannot avoid investigating different definitions that are offered by dictionaries and by different social psychologists. Online Merriam-Webster Dictionary defines attitude positively and negatively as "a bodily state of readiness to respond in a characteristic way to a stimulus (such as an object, concept, or situation)". Negatively, attitude is "a negative or hostile state of mind". From these definitions, attitude is a positive and negative reaction toward a stimulus or object. These reactions are in the form of opinion and behaviour (cognitive and conative). These definitions are not far different from the definition that is given by Cambridge English Dictionary which defines attitude as "a feeling or opinion about something, especially when this shows in your behaviour". The definition that is offered by Cambridge English Dictionary adds the affective dimension of attitude. Thus, from these definitions provided by two dictionaries, attitudes are classified into three dimensions such as cognitive, affective and conative. But from Cambridge English Dictionary, one can understand clearly that attitude leads to action. Attitude is reflected through concrete behaviour or action. Thus these three dimensions such as mental state, feeling and predisposition to behaviour or action (Altmann, 2017) have been used in analysing and investigating attitude.

The definitions that are offered by the dictionaries are also used by social psychologists such as Venes (2001) defined attitude as "Behaviour based on conscious or unconscious mental views developed through cumulative experience". This definition provides a complementary understanding of attitude which focuses on the behaviour but such behaviour is a product of conscious or unconscious mental views and the views are results of exposure or experience. Or Fishbein and Ajzen (1974) define attitude as "a learned predisposition to respond favourably or unfavourably towards people, an object, an idea or a situation". Such learned predisposition can be favourable or unfavourable which lead to favourable or unfavourable behaviour toward an object, people or situation. This definition is following what Ajzen (1993) considered attitudes as an "individual disposition to react with a certain degree of favorableness or unfavorableness to an object, behaviour, person, institution or event or any other discriminable aspect of the individual's world" (p.41). Ajzen's definition emphasized attitude as a reaction toward a stimulus and such reactions can be positive or negative. This concept again supports what Venes (2001) has pointed earlier that attitude is a product of experience or exposure. This is in line with what Bandura (1986), a Social Psychologist who argued that human knowledge and behaviour are influenced by the social environment. People form their perception or opinion toward a certain object, people or situation after seeing or listening to others about how they perceived those objects, people or situation and consequently behaving in a certain way as to how others behave toward those objects, people or situation. For example, Deak (204) contended that children or pre-schoolers often learn or imitate from adults' action upon objects and even to over emulate observed behaviour. This is similar to what Dark (2005) later pointed out that attitude is "An enduring, learned predisposition to behave in a consistent way toward a given class of objects, or a persistent mental and/or neural state of readiness to react to a certain class of objects, not as they are but as they are conceived to be".

From the definitions that are offered by the Dictionaries and offered by social psychologists, then we come to have an idea that attitude is not a single construct but it is a multidimensional construct that is composed of cognitive, affective and conative or behavioural dimensions. Thus measuring attitude must include these three dimensions. The behavioural component is included because it is argued that cognitive and affective attitude leads toward certain behaviour or action as pointed out by Ajzen and Fishbein (2000), that people's attitude is originated automatically from the beliefs they have in their mind which guides their behaviour. Past and present researchers have been investigating the attitude-behaviour relation. However, studies also have pointed out that there are also moderating factors to the study of the attitude-behaviour relation (Ajzen, 2001). Therefore, in our study, we measure cognitive and affective attitude toward the environment and how these attitudes affect the ecological behaviour of people.

### **Attitude toward the Environment: Anthropocentric and eco-centric Attitude.**

Solving the environmental problems is not just telling people to take care of the environment by planting trees, recycling, reducing energy consumption, etc. It is one of the solutions but it is not the root cause of the problem. Eliminating the root cause of the problem is one of the important steps to be seriously considered. The concern of solving an environmental problem is to find out the root cause of the problem. The main concern is the question of "what is the attitude of people toward the environment and where does the attitude of people come from?" By answering these two questions one can have the idea of where to begin solving the environmental problems. It is given that all human beings are raised in a particular context with their particular culture. Thus, each people have different views, concepts, attitudes and behaviours toward certain things because of this culture. This is the reason why Hofstede (2001) as cited by Abun, et.al. (2018) defines culture as "the collective programming of the mind that distinguishes the members of one group or category of people from others." Based on this concept, it is not surprising to see the different ethical point of views of a certain object, events or people. According to Amstrong (1996) as cited by Abun and Racoma (2017), that there is a correlation between cultural dimension and ethical perception. This argument is also supported by Hunt and Vitell (1986) as cited by Abun and Racoma (2017), that there is a correlation between cultural environment and perceived ethical problems. Along with these ideas, social psychologist Bandura (1986) behavioural learning theory argues that "most human behaviour is learned through observation, imitation and modelling". Taking his view concerning the environmental problem, then we cannot blame the person to be the main source of the environmental problem but it is the culture to be blamed (Abun & Racoma, 2017).

As we have pointed out earlier that attitude of people toward certain objects or whatever it is are different from one culture to another culture, however, based on the review of literature and researches, there are two prevailing or common attitude toward the environment which can be classified under two classifications, namely anthropocentric and eco-centric attitude (Johansson, 2012, Kalantari, et.al., 2007, Kaiser, et.al. 1999, Milfont &, Duckitt, 2005). Thus, measuring environmental attitude (EA) is not a single construct as proposed by Pierce & Lovrich, (1980), Poortinga, Steg, & Vlek, (2002) and Schultz, (2000) which is ranged from unconcerned toward the environment at the low end to concerned about the environment at the end. Instead of a single construct, measuring environment is a multidimensional construct which is the value-based orientation (Milfont & Duckitt, 2006) and along with this proposal, there are two dimensions to be measured which are anthropocentric and eco-centric environmental Attitude. Measuring these two dimensions, the scales proposed by Thompson and Barton (1994) can be used. While Stern and Dietz (1994) proposed a three-dimensional measure which is the

expansion of Schwartz's (1977) norm-activation model of altruism and these three dimensions are a concern for the self (egoistic concern), concern for other people (altruistic concern) and concern for the biosphere (biospheric concern). These three dimensions have been categorized into two major categories which anthropocentric and eco-centric attitude toward the environment. For the sake of our investigation, these two commonly used dimensions are the concern of the current study.

### ***Anthropocentric Attitude toward the Environment***

To understand the concept of anthropocentric attitude, one has to understand the meaning of the word, "anthropocentric". For such purpose, we refer to the Dictionaries, how they define the word. Merriam-Webster defines it as "considering human beings as the most significant entity of the universe". From this definition, it is clear that anthropocentric means human is the centre and the primary entity of the universe. This definition is similar to the definition that is offered by Cambridge Dictionary which defines anthropocentric as "considering humans and their existence as the most important and central fact in the universe". This definition is also found in Collins Dictionary which defines it as "regarding humans as the most important and central factor in the universe". The word, "anthropocentric" comes to the word anthropocentrism which refers to a philosophical viewpoint that human beings are the most significant entity of the world (Boslaugh, 2016). Such philosophy considers other entities outside of the human being as just secondary and not significant. Padwe (2016) had the same concept of anthropocentrism which refers to a philosophical view that considers human beings as the only primary holder of moral standing. In other words, only human beings have the intrinsic value and other facts that exist have no intrinsic value (Zimmerman & Bradley, 2019) which is either demanding moral responsibility to respect or not to respect.

After defining the word anthropocentric and anthropocentrism, one has the idea about the anthropocentric attitude toward the environment. An anthropocentric view toward the environment means valuing nature based on its benefits that it can provide for human (Thompson & Barton, 1994). This is a belief that human beings are the centre of the universe and the only entity that have significance, while other things around human beings are considered important and have value if they serve the need of human beings (Kopinina, et.al. 2018). This view has been criticized to be ethically wrong and has been accused to be the source of environmental problems. Along with this concern, Kortenkamp and Moore (2001) as cited by Abun and Agoot (2017) has called a moral evaluation toward such a concept because such a concept has led to exploitative behaviour toward nature. Kortenkamp and Moore (2001) argued that other objects whether they are useful or not useful for human beings have their intrinsic value in themselves and therefore demands moral respect (Abun & Agoot, 2017) and this view is related to the concern of environmental ethics which recognise the welfare of other non-humans beings (Rolston, 2002, 2012).

### ***Eco-centric Attitude toward the Environment***

Searching for the meaning of the word, "eco-centric" in the dictionary is not that easy to find. It could be found in Merriam-Webster and other recognized dictionary such as Cambridge Dictionary. But the word found in Collins Dictionary defines eco-centric as "having a serious concern for environmental issues. This definition is also found in the Free Dictionary as "having a serious concern for environmental issues". However, though in general Urban Dictionary offers a similar definition, it offers a wider meaning and concept of "eco-centric" word. It defines eco-centric as a "state of mind of a person, or a social group, who is, or are

committed to making a positive contribution to the survival of mankind and the eco-system which supports us". This definition gives the importance of the ecosphere as central importance. The concept comes in to create a balanced view with the anthropocentric attitude toward the environment which recognizes humans as more important than other things. Eco-centric attitude is more holistic than anthropocentric view because it includes concern for all living and non – living organism in the ecosphere including humans. From the eco-centric word comes the word "eco-centrism". Eco-centrism is already a philosophy that represents a point of view that "ecosystems, habitats, species, and populations are the central objects for environmental concern"(DesJardins, 2007). This concept provides us with a better understanding that the concern of eco-centrists are the ecosystems and the survival of all living organism on the planet.

Eco-centrism is opposing to anthropocentrism. The first is focusing on the natural world primary importance as a living place for all living organism. The eco-centric view is somehow similar to the bio-centric view in a certain sense because it also focuses on the living organism, however, as pointed out by Barnhill (2010) that eco-centric attitudes include not only living things but even abiotic elements such as rivers, soil, air, sunlight, minerals, in the ecosystems. The difference between the two concepts is the focus. Biocentrism focuses on the individual living organism, while eco-centric is giving value to all species, ecosystem and the earth as a whole in which all living organism is living (Barnhill, 2010). While on the other side, anthropocentrism places important value on human beings and the other things outside of human beings are just secondary (Barnhill, 2010). It measures the value of nonhuman things in their instrumental value for human welfare and they do not have value on their own (Kopnina, 2019). Consequently, those views lead to different moral consequences. Eco-centrism demand moral respect for all living and non-living beings because they have value on their own, while anthropocentrism demands moral respect only to a human being because he/she is the only one who has the intrinsic value (Rulke, et.al., 2020).

The eco-centric view of the environment is related to the new environmental ethics. New environmental ethics examines the value of humans and non-humans beings and their relationship. This new ethics poses a challenge to a western traditional view of anthropocentrism. If the anthropocentric view assigns intrinsic value only to human beings, however the new ethics which is eco-centrism assigning intrinsic value to all living things (Brennan, 2015). The traditional view of anthropocentrism brings with it a negative consequence on other non-living beings. Humans can use anything as long as it serves the needs of humans and therefore the value of other things depends on its usefulness for human welfare. While the new environmental ethics argue that humans and non-humans have intrinsic value in themselves or they are good in their own right and not depending on its instrumental value. Therefore, intrinsic value requires that human must recognize and respect other non – human beings as equal beings and have the intrinsic value (Brennan, 2015).

### **Ecological Behaviour**

To understand ecological behaviour, one needs to know the meaning of ecology. Dictionaries offer different meaning of ecology. Online Merriam-Webster (n.d) defines ecology as "a branch of science concerned with the interrelationship of organisms and their environments" or "the totality or pattern of relations between organisms and their environment". While online Cambridge Dictionary (n.d) defines it as "the relationship of living things to their environment and each other, or the scientific study of this" or "the relationship between living things and their environment". A similar definition is found in Collins Dictionary (n.d) when it defines ecology as "the set of relationships of a particular organism with its environment" or "the study of the relationships

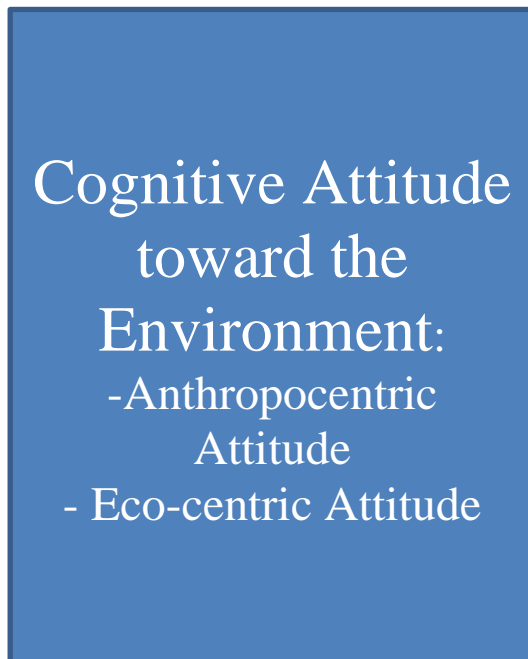
between human groups and their physical environment". From these definitions, ecology is about the relationship between all living things and the environment. From the word ecology comes the word "ecological" which is defined by Merriam-Webster Dictionary as "of or relating to the science of ecology" or Cambridge defines it as "relating to ecology or the environment" or Collins Dictionary defines it as "involved with or concerning ecology". From these definitions, ecology refers to the study or science about the relationship between living organisms and their environment.

Based on the definitions that are offered by Dictionaries, one can have an idea of what ecological behaviour is. However, the dictionaries have not offered any definition of ecological behaviour. One can just make his/her definition of ecological behaviour based on the researches that have forwarded along with ecological behaviour. Based on the reading on the Ecological behaviour and ecological behaviour scale of Kaiser, et.al. (2003, 1998, as cited from Axelrod, & Lehman, 1993), one can have an idea that ecological behaviour refers to the intentional or unintentional behaviour that has an impact positively or negatively to the environment. As a result of the consequences of the behaviour on the environment, two kinds of behaviours are identified which are called friendly and unfriendly environmental behaviour (Krajhanzl, 2010). Friendly environmental behaviour refers to the behaviours that support environmental protection, while unfriendly environmental behaviours are related to the behaviours that destroy the environment (Krajhanzl, 2010). Therefore, in other words, ecological behaviour is the same as environmental behaviours which refers to the "actions that may contribute to the environmental preservation or conservation" (Kaiser, et.al. 2006, Axelrod, & Lehman, 1993, p. 153). Axelrod and Lehman (1993) specifically identified behaviour or actions that contribute to environmental protection such as "recycling, composting, energy and water conservation, consumerism and commitment to environmental organizations" (Kaiser & Wilson, 2006).

Several authors have seen that environmental behaviours are just a consequence or the effect of internal disposition or external environment. Internal disposition refers to the attitude of the person toward the environment. According to Allport (1968) and Ajzen (1993) attitude is a predictor of behaviour. It means that whatever one thought and feelings about the environment, such disposition will be carried out in real action if there is no prevailing social circumstance that hinders it as pointed out by Bandura (1986). Ajzen (1993) had identified three different dimensions of attitude which are cognitive, affective and conative. Cognitive refers to the general knowledge of the person toward the object of the attitude. In the context of the current study, it is the general knowledge of the person toward the environment. In terms of affective dimensions refers to the feeling of the person toward such an object of the attitude or toward the environment. While conative dimension is about the behaviour of the person toward the object of the attitude which is the environment. Kaiser, et.al. (1999) used the concept of Ajzen (1993) particularly on the attitude-behaviour theory relation to investigating environmental attitude and ecological behaviour. Two dimensions were included in the study which is knowledge and values. The study of Kaiser, et.al. (1999) concluded that environmental knowledge and environmental values affect ecological behaviour. It is also accepted that attitude is not a single predictor of behaviour because there can be a social environment that may prevent the original attitude to be carried out and this has been pointed out by Bandura (1986). Along with this concept, Krajhanzl (2010) identified external factors that affect the environmental behaviour which is economic environment such as product prices, product availability, etc, a legal environment which refers to the laws related to the environment, cultural and social environment which influence the behaviour of the person toward the environment.

Given the two sources of environmental behaviour, internal and external factors, but the current study pursues the concept of Ajzen (1993) about attitude and behaviour. In this case, the study focuses on the effect of attitude toward the environment and the ecological behaviour of the person toward the environment. External factors cannot be pursued because it covers a wide range of factors that may be difficult to be identified and to be measured.

**Conceptual Framework**  
**Independent Variable**



**Dependent Variable**



*Source: Abun and Racoma (2017)*

*Kaiser, et.al. (2003), Abun (2019)*

**Statement of the problems**

The study intends to determine the predominant attitude toward the environment and its effect on the ecological behaviour of the employees. It specifically seeks to answer the following questions:

1. What is the cognitive attitude of employees toward the environment in terms of:
  - a. Anthropocentric Attitude and
  - b. Eco centric Attitude
2. What is the ecological behaviour of the employees in terms of
  - a. Water and power consumption
  - b. Volunteering in nature protection activities
  - c. Ecological automobile use
3. Is there a relationship between attitude toward the environment and ecological behaviour?

**Assumption**

The study assumes that employees possess a certain attitude toward the environment and their attitude affects their ecological behaviour. It also assumes that their attitude can be measured and the questionnaires are valid.

### **Hypothesis**

Ajzen (1993) posited that attitude affects behaviour. Based on the theory of Ajzen (1993), the current study hypothesized that there is a relationship between attitude toward the environment and the ecological behaviour of employees.

### **Scope and Delimitation of the Study**

The study is conducted for the employees of the Divine Word Colleges in the Ilocos Region and it limits its discussion on the cognitive anthropocentric and ecocentric attitude toward the environment and their effect on ecological behaviour.

### **Research Methodology**

As an essential requirement for the validity and quality of a study, it must be done in the right procedures according to scientific standard. Thus, along with such assumption, the study was carried out using the appropriate research methodology such as research design, population, the locale of the study, data gathering instruments, data gathering procedures and statistical treatment of data.

### **Research Design**

The study used the descriptive assessment and correlational research design. The nature of descriptive research is to describe what is found in the data collected through questionnaires and statistical treatment. It is also used to describe profiles, frequency distribution, describe characteristics of people, situation, phenomena or related variables. In short, it describes "what is" about the data (Ariola, 2006, cited by Abun, 2019).

The study determines the level of attitude toward the environment and its correlation with ecological behaviour. This was to determine what the dominant attitude of the employees toward the environment was and what particular attitudes affect the ecological behaviour intention.

### **Locale of the Study**

The locale of the study was Divine Word College of Vigan and Divine Word College of Laoag. Both are within the Ilocos region located at Ilocos Sur and Ilocos Norte.

### **Population**

The population of the study was composed of all employees of the Divine Word Colleges of Vigan and Laoag. Since the total numbers of employees are limited, and therefore total enumeration of 164 employees is the sampling design of the study.

### **Data Gathering instruments**

The study utilized validated questionnaires. The questionnaires were adapted from the Environmental Attitude Inventory (EAI, Milfont & Duckitt, 2005) and the Ecological behaviour scale of Kaiser (1998).

### **Data Gathering Procedures**

In the process of data gathering, the researcher sent a letter to the President of the Colleges, requesting them to allow the researcher to float his questionnaires in their college. The researcher personally met the Presidents and employees and requested them to answer the questionnaires.

The retrieval of questionnaires was arranged between the President's representative and the researcher with the help of employees and faculty of the colleges.

### **Statistical Treatment of Data**

The current study used descriptive and inferential statistics. The weighted mean was used to determine the level of attitude toward the environment and the ecological behaviour and the Pearson r was used to measure the correlation of attitudes toward the environment and the ecological behaviour.

The following ranges of values with their descriptive interpretation will be used:

<b>Statistical Range</b>	<b>Descriptive Interpretation</b>
4.21-5.00	<i>strongly agree/Very High</i>
3.41-4.20	<i>Agree/Disagree/High</i>
2.61-3.40	<i>somewhat agree/Moderate</i>
1.81-2.60	<i>Disagree/Low</i>
1.00-1.80	<i>Strongly disagree/Very Low</i>

### **Data Presentation and Analysis**

Scientific research needs to follow a particular research design and follows research methodology. As a quantitative study, data are important to support the analysis, findings and conclusion of the study. This part presents the data gathered through research questionnaires which were tabulated and analysed statistically. The data presentation follows the structure of the statement of the problem of the study.

**Problem 1: What is the cognitive attitude of employees toward the environment in terms of:**

- a. *Anthropocentric Attitude and*
- b. *Eco centric Attitude*

**Table 1. The Attitude of Employees toward Environment as to Anthropocentric**

<b>Anthropocentric Attitude</b>	<b>Mean</b>	<b>DR</b>
1. I know that nature is important because of what it can contribute to the pleasure and welfare of humans	4.29	SA
2. I believe that a healthy planet is very important for human happiness and human reproduction.	4.32	SA
3. I believe that environmental protection is important because people's lives are dependent on it.	4.35	SA
4. I know that conservation is important for improving the quality of life and people's standard of living.	4.32	SA
5. I know that environmental protection is important for the well-being of animals and the well-being of humans.	4.34	SA
6. I believe that deforestation causes a shortage of lumbers for the future generation.	4.32	SA
7. I believe that rain forest is important for the development of new medicines.	4.27	SA
8. I believe that environment is not more important than human beings.	3.82	A
9. I believe that the environment serves its purpose if it is useful for human beings	4.07	A
10. I believe that trees are important if they are useful for human.	4.15	A
<b>Composite Mean</b>	<b>4.22</b>	<b>SA</b>

**Source:** EAI (Milfont & Duckitt, 2005)

**Legend:**

4.21-5.00	<i>strongly agree/Very High</i>
3.41-4.20	<i>Agree/Disagree/High</i>
2.61-3.40	<i>somewhat agree/Moderate</i>
1.81-2.60	<i>Disagree/Low</i>
1.00-1.80	<i>Strongly disagree/Very Low</i>

Based on the data presented in the table, it shows that as a whole, the cognitive attitude of employees toward the environment in terms of anthropocentric attitude obtained a composite mean of 4.22 which is interpreted as “strongly agree/very high”. This composite mean suggests that the cognitive attitude of employees toward the environment in terms of anthropocentric attitude is not very low, low or moderate but it is very high. In this regard, the employees strongly agree that the environment serves its purpose when it serves human needs or human welfare. They still believe that human beings are still the centre and the master of the environment. Even when the items are taken separately, majority of the items are rated within the same mean range with its interpretation of "strongly agree/very high" such as “knowing that nature is important because of what it can contribute to the pleasure and welfare of humans (4.29), believing that a healthy planet is very important for human happiness and human reproduction (4.32), believing that environmental protection is important because people’s lives are dependent on it (4.35), knowing that conservation is important for improving the quality of life and people’s standard of living (4.32), knowing that environmental protection is important for the well-being of animals and the well-being of humans (4.34), believing that deforestation causes a shortage of lumbers for the future generation (4.32), and believe that rain forest is important for the development of new medicines” (4.27). While the other three items were rated as “agree/high” such as “believing that environment is not more important than human beings (3.82), believing that the environment serves its purpose if it is useful for human beings (4.07), and believing that trees are important if they are useful for human” (4.15).

**Table 2. The Attitude of Employees toward Environment as to Ecocentric Attitude**

<b>Eco centric Attitude</b>	<b>Mean</b>	<b>DR</b>
1. I believe that nature has its value that we need to respect.	4.24	SA
2. I know that the relationship between nature and humans are equal.	4.17	A
3. I am sure that human and nature are interconnected as one ecosystem.	4.17	A
4. I am fully aware that human life is dependent on quality nature.	4.20	A
5. I know that nature must be treated as how we treat human beings.	4.23	SA
6. I believe that human has a moral responsibility to respect all living and non-living beings on the planet.	4.21	SA
7. I know that humans are subject to the laws of nature.	4.18	A
8. I believe that nature is valuable for its own sake.	4.16	A
9. I am sure that humans are dependent on nature.	4.16	A
10. I believe that the relationship between human and nature are equal and mutual.	4.12	A
<b>Composite Mean</b>	<b>4.18</b>	<b>A</b>

**Source:** EAI (Milfont & Duckitt, 2005)

**Legend:**

- 4.21-5.00                      *strongly agree/Very High*  
 3.41-4.20                      *Agree/Disagree/High*  
 2.61-3.40                      *somewhat agree/Moderate*  
 1.81-2.60                      *Disagree/Low*  
 1.00-1.80                      *Strongly disagree/Very Low*

Following the anthropocentric attitude is the eco-centric attitude toward the environment. As pointed out by the data on the table, it reveals that as a whole the cognitive attitude of employees toward the environment in terms of eco-centric attitude obtained a composite mean of 4.18 which is described as “agree/high”. This rating indicates that as a whole, the cognitive attitude of employees toward the environment in terms of eco-centric attitude is not very high and it is not also very low, low or moderate but it is high. This finding reveals the level of knowledge of employees toward the environment. As a whole, the employees also agree that the environment has its intrinsic value and need to be respected and the relationship between the environment and human beings are equal and mutual because both human and the environment are interconnected which is called the ecosystem. Even when the items are taken singly, the majority of the items are rated within the mean range of "agree/high" such as "knowing that the relationship between nature and humans are equal to (4.17), knowing that human and nature are interconnected as one eco-system (4.17), believing that human life is dependent on quality nature (4.20), knowing that humans are subject to the laws of nature (4.18), believing that nature is valuable for its own sake (4.16), knowing that humans are subject to the laws of nature (4.18), believing that humans are dependent on nature (4.16), and believing that the relationship between human and nature are equal and mutual” (4.12). While there were three items rated as “strongly agree/very high” such as “believing that nature has its value that we need to respect (4.24), knowing that nature must be treated as how we treat human beings (4.21) and knowing that nature must be treated as how we treat human beings” (4.23).

**Problem 2: What is the ecological behaviour of the employees in terms of**

- a. Water and power consumption**
- b. Volunteering in nature protection activities**
- c. Ecological automobile/tricycle use**

**Table 3. Ecological Behavior of Employees as to Water and Power conservation**

<b>A. Water and Power conservation</b>	<b>Mean</b>	<b>DR</b>
1. I prefer to take shower rather than to take a bath.	3.36	SWA
2. In the rainy season, I do not need to open the air condition.	4.05	A
3. I try to save water or other natural resources as much as possible.	4.12	A
4. In my daily life, I’m trying to conserve water and/or power.	4.18	A
5. Whenever possible, I take a short shower to conserve water.	3.98	A
6. I always switch the light off when I don’t need it anymore.	4.20	A
<b>Composite Mean</b>	<b>3.98</b>	<b>A</b>

**Source:** Kaiser (1998).

**Legend:**

4.21-5.00	<i>strongly agree/Very High</i>
3.41-4.20	<i>Agree/Disagree/High</i>
2.61-3.40	<i>somewhat agree/Moderate</i>
1.81-2.60	<i>Disagree/Low</i>
1.00-1.80	<i>Strongly disagree/Very Low</i>

As indicated by the data in table 3, it displays that as a whole, the ecological behaviour of employees related to water and power conservation obtained a composite mean of 3.98 which is interpreted as "agree/high". This result reveals that the ecological behaviour of employees concerning water and power conservation is not very high and it is also not very low, low or moderate but it is high. In other words, the employees highly agree to conserve water and power to protect the environment. Even when the questions are taken separately, almost all items related to water and power conservation efforts are evaluated within the same level mean range with its interpretation of "agree/high" such as "not opening the air condition during the rainy season (4.05), trying to save water or other natural resources as much as possible (4.12), trying to conserve water and/or power daily (4.18), taking a short shower to conserve water whenever possible (3.98), and switching the light off when I don't need it anymore" (4.20). While there was only one item rated within the mean range of "somewhat agree/moderate" such as "preferring to take a shower rather than to take a bath" (3.36).

**Table 4. Ecological Behavior of Employees as to volunteer in nature Protection Activities**

<b>B. Volunteering in Nature Protection activities</b>	<b>Mean</b>	<b>DR</b>
1. If I will have extra, income, I will donate some money to an environmental organization.	3.84	A
2. I would like to join and actively participate in an environmentalist group.	3.88	A
3. I would get involved in an environmentalist organization.	3.88	A
4. Environmental protection costs a lot of money. I am prepared to help out in fundraising.	3.80	A
5. I will try to persuade others that the environment is important.	3.98	A
6. I would like to support an environmental organization.	3.95	A
7. I often talk with friends about problems related to the environment.	3.80	A
8. I often criticized the un-ecological behaviour of my friends.	3.75	A
<b>Composite Mean</b>	<b>3.86</b>	<b>A</b>

**Source:** Kaiser (1998).

**Legend:**

4.21-5.00	<i>strongly agree/Very High</i>
3.41-4.20	<i>Agree/Disagree/High</i>
2.61-3.40	<i>somewhat agree/Moderate</i>
1.81-2.60	<i>Disagree/Low</i>
1.00-1.80	<i>Strongly disagree/Very Low</i>

Following the water and power conservation behaviour is the willingness to join the environmental movement particularly protecting the environment. As indicated by the data on the table, it manifests that as a whole, the ecological behaviour of employees in terms of volunteering in nature protection activities gained a composite mean of 3.86 which is described as "agree/high". This result suggests that as a whole ecological behaviour of employees concerning their willingness to volunteer in nature protection activities is not very high and it is not also very low, low or moderate but it is high. In other words, employee highly agrees to engage in volunteering activities to protect the environment. Even if the items are taken singly, all items are rated within the same level of mean range with the description of "agree/high" such as "donating some money to an environmental organization when there is extra income (3.84), joining and actively participate in an environmentalist group (3.88), getting involved in an environmentalist organization (3.88), being prepared to help out in a fundraising (3.80), trying to persuade others that the environment is important (3.98), supporting an environmental organization (3.95), talking with friends about problems related to the environment (3.80), and criticizing the un-ecological behaviour of my friends" (3.75).

**Table 6. Ecological Behavior of Employees as to Ecological automobile/tricycle use**

<b>C. Ecological automobile/tricycle use</b>	<b>Mean</b>	<b>DR</b>
1. I do not use my motorcycle or car if the place I visit is just nearby.	3.54	A
2. I prefer to use public transportation when I travel.	3.40	SWA
3. If there is an alternative source of gas for my motor or car that is environmentally safe, such as biodiesel, or ethanol, I will use it.	3.74	A
4. If there are electric vehicles, or motorcycles I will certainly buy and use them.	3.42	A
5. My car should be environmentally friendly.	3.72	A
<b>Composite Mean</b>	<b>3.56</b>	<b>A</b>

**Source:** Kaiser (1998).

**Legend:**

- 4.21-5.00                      *strongly agree/Very High*
- 3.41-4.20                      *Agree/Disagree/High*
- 2.61-3.40                      *somewhat agree/Moderate*
- 1.81-2.60                      *Disagree/Low*
- 1.00-1.80                      *Strongly disagree/Very Low*

As shown by the data on the table, it reveals that as a whole, the ecological behaviour employees related to ecological mobile/tricycle use obtained a composite mean of 3.56 which is described as "agree/high". Such evaluation demonstrates that as a whole, the ecological behaviour of employees concerning ecological automobile/tricycle use is not very high and it is not also very low, low or moderate but it is high. This indicates that employees highly agree to a certain extent on the use of ecological automobile/tricycle use for protecting the environment. Even if the items are taken separately, almost all items are rated within the same mean rating level with the interpretation of "agree/high" such as "not using my motorcycle or car if the place I visit is just nearby (3.54), using an alternative source of gas that is environmentally safe (3.74), using electric vehicles, motorcycle (3.42) and using the car that is environmentally friendly" (3.72). There is

only one item that was rated with the mean range of "somewhat agree/moderate" such as "preferring to use public transportation when I travel (3.40). Such result pointed out that employees somewhat agree to a lesser extent, not highly agree or strongly agree to use public transportation when they travel. They are somewhat hesitant to abandon their private vehicle when they travel or they are not yet totally willing to let go of their private vehicles.

**Problem 3: Is there a relationship between environmental attitude and ecological behaviour?**

**Table 9. Relationship between Attitude toward the Environment and Ecological Behaviour.**

VARIABLES		Ecological Behavior of Employees		
		Water and Power Conservation	Volunteer in nature Protection Activities	Ecological automobile/tricycle use
<b>Anthropocentric Attitude</b>	Pearson Correlation	.254**	.194*	.702**
	Sig. (2-tailed)	.001	.013	.000
	N	164	164	164
<b>Eco centric Attitude</b>	Pearson Correlation	.371**	.346**	.805**
	Sig. (2-tailed)	.000	.000	.000
	N	164	164	164

\*. Correlation is significant at the 0.05 level (2-tailed).

\*. Correlation is significant at the 0.05 level (2-tailed).

Based on the Pearson r correlation table, the Pearson r data demonstrates that there is a significant correlation at 0.05 level (2-tailed) between attitude toward the environment and ecological behaviour. The two cognitive attitudes such as anthropocentric and eco-centric attitude are significantly correlated to the ecological behaviour of employees. This result suggests that solving the environmental problem is begun with the changing of attitude toward the environment. In other words, changing the mind or environmental perception is the first step to solve an environmental problem.

**Result and Discussion**

As shown by the result of this study, it is found that the dominant attitude of employees toward the environment is anthropocentric with the mean rating of 4.22, while the eco-centric attitude is 4.18. This result pointed to their knowledge about the environment. They perceive the environment to be important because of humans' life. They protect the environment because of its importance to human welfare. In this regard, the employees still see the human being as the priority to be protected, as the centre of the universe. They protect the environment because of its importance for future generation and at the same time they may use or manipulate the environment for the welfare of human life. Human welfare is the main justification of any injustice act against the environment. Consequently, this attitude leads to another idea that the environment may not be protected if it is not useful for a human being. The trees or animal may be eliminated if they are not useful or dangerous to the survival of human life (Abun & Agoot, 2017, Abun, et.al, 2019, Abun, et.al.2018). Given this attitude in the mind of employees as the dominant attitude, however, there is an inspiring revelation that the employees also agree to a

certain extent that the environment is good and important in its value despite its usefulness for human life. In this regard, employees also agree that the environment is protected even though it has nothing to do with human life because it has intrinsic value in itself. Recognizing the intrinsic value of the environment requires the moral responsibility of human beings to respect and protect the environment even though it may not be useful for human beings' life. This is the main justification why one should not kill or cut the poisonous snake or poisonous tree because they have intrinsic value in themselves that need to be respected and protected.

This is what Abun, et.al. (2018) contended that solving environmental problem needs to change the cultural perception of the environment. Human beings are raised in a particular culture and their minds are formed by the culture as Donald (2002 and cited by Abun and Agoot (2017). The culture forms the mind or the attitude of people toward the environment. One of the particular cultures that form the mind of people is religion. The anthropocentric attitude toward the environment is rooted in the religion through Genesis 1:26 which says: "Have dominion over the fish of the sea and the birds of the air and the cattle and over all the wild animals of the earth and over every creeping thing that creeps upon the earth. This text has been taken out of context and taken without considering another text in genesis 2:15 which says, "The Lord God took the human and put him in the Garden of Eden to till it and to keep or preserve it". This second text serves as a counterbalance of the first text to remind human beings that the duty of human being is not to subdue or manipulate but also to serve, preserve and take care of the land. However, Genesis 1:26 has been taken as the main argument of the mining industries to justify their actions against the environment.

Thus, going back to the earlier argument of Abun, et.al. (2018) that solving the environmental problem is to change the mind or perception over the environment which means changing the cultural perception about the environment. Changing the cultural perception of the environment requires a new interpretation of the culture about the environment, and in this case, it requires a new interpretation of the bible text of Genesis, 1: 26 within its context. As Abun and Agoot (2017) pointed out that the command to subdue should not be taken out of context. The context is that human life was fragile in the face of threats from snake and wild animals. The command to subdue was meant to restrain to prevent these animals to bring harm. While the word dominion was not meant as domination or exploitation but was meant to take responsibility or to protect. Because in the context of Israel, the job of a ruler was not to subdue or dominate but a ruler who had dominion over Israel was expected to be a shepherd caring for and protecting the sheep. Rulers were expected to take responsibility for people and their welfare.

### **Conclusion**

The purpose of this study was to determine the cognitive attitude such as anthropocentric and eco-centric attitude toward the environment and ecological behaviour and determine its correlation between attitude toward the environment and with the ecological behaviour of employees. The study found that the anthropocentric attitude of employees is considered very high, while their eco-centric attitude is high or lower than the anthropocentric attitude. It means that the dominant attitude of employees toward the environment is an anthropocentric attitude. It is also found that the employees' ecological behaviour of employees is considered high.

Concerning the correlation between the attitude toward the environment and the ecological behaviour of employees, the study found to be significantly correlated which means that protecting the environment is to change the mind or the attitude of employees toward the environment. Therefore, the hypothesis of the study is accepted, that there is a correlation between attitude toward the environment and ecological behaviour of employees.

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