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Environmental Attitudes of Local Government Scholars in Tiaong, Quezon, Philippines

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ABSTRACT. This study aimed to analyze the environmental attitudes of local government scholars in Tiaong, Quezon, Philippines. The quantitative research design was used to determine the level of environmental attitudes using the New Ecological Paradigm (NEP) Scale. It was also utilized to examine the relationship between environmental attitudes and independent variables which include demographic characteristics such as age, gender, and economic status, academic background such as student classification, scholastic standing, scholarship privileges, and membership in student and/or youth organizations, and experience with ecological extremes. A total of 301 respondents participated in an online survey administered through Google Forms ®. The respondents generally demonstrated a strong disposition towards positive environmental attitudes, as indicated by an aggregate NEP score of 49.54. Notably, the study revealed significant associations between environmental attitudes and distinct factors, including economic status ($p = 0.014$), student classification ($p = 0.006$), scholastic standing ($p = 0.000$), and membership in student and/or youth organizations ($p = 0.005$). Consequently, the null hypothesis postulating an absence of significant relationships between environmental attitudes and the independent variables was refuted. As a pioneer study on environmental attitudes in Tiaong, Quezon, Philippines, this research provided partial baseline data on the environmental attitudes of its local government scholars. It is imperative that a more comprehensive research study on environmental attitudes be conducted to include non-scholars and tertiary students from private schools across

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all age groups in the hope of strengthening the environmental attitudes among younger generations towards pro-environmental behavior and action.

Keywords: *environmental concern, local government scholars, NEP scale, pro-environmental behavior, university education*

INTRODUCTION

Globally, human societies are facing numerous environmental challenges that include continuous deforestation activities, increasing rates of global warming, drastic effects of climate change, and the decline in various ecosystem services (Velayudhan & Srividya, 2013). Unfortunately, some human actions are detrimental to environmental health and remain the main drivers of environmental catastrophes (Milfont & Schultz, 2016). For instance, the increase in carbon emissions of large-scale industries exacerbating climate change (Steffen et al., 2015), the continued forest degradation activities such as logging, poaching, and land conversion (Rosa et al., 2018), and improper waste disposal (Evans, 2019), among many others have great impacts on environmental degradation. Challenges such as these are not foreign to the Philippines as a country that experiences continuous destruction of its environment and natural resources due to anthropogenic as well as natural factors (Reyes, 2014). Nonetheless, even in the face of environmental disasters, Reyes (2014) discovered that there has been no substantial rise in positive environmental behaviors among Filipinos between 1990 and 2010. Positive environmental attitudes among Filipinos have significantly decreased from 1993 until 2010 (Franzen & Vogl, 2013).

Environmental attitudes are defined as the individuals' view toward the natural environment with the tendency to create a degree of favor or disfavor, like or dislike, and positive or negative effect on the latter (Gifford, 2014; Rosa et al., 2018; Domingues & Gonçalves, 2020). Further, Schultz et al. (2005) defined environmental attitudes as the aggregation of convictions, emotions, and intentions towards activities or concerns related to the environment that an individual holds.

Environmental attitudes are affected by various factors namely, demographic characteristics such as age (Barradas & Ghilardi-Lopes, 2020), gender (Mertens et al., 2021), economic status (Pampel, 2014), academic background (Nishiyama, 2014), and experience with ecological extremes (Velayudhan & Srividya, 2013).

Findings in some studies revealed that age is significantly correlated with environmental attitudes (Gifford & Nilsson, 2014; Barradas & Ghilardi-Lopes, 2020; Domingues & Gonçalves, 2020). On the contrary, age is inversely proportional to environmental attitudes because as age increases, pro-environmental behavior decreases (Dunlap et al., 2000; Barradas & Ghilardi-Lopes, 2020). Younger people have an increased tendency to have more favorable environmental attitudes because older people tend to view pro-environmental acts as something that can disrupt or threaten the status quo (Dunlap et al., 2000). Therefore, younger individuals have more favorable environmental attitudes which can be translated to a more pro-environmental behavior compared to older individuals (Barradas & Ghilardi-Lopes, 2020). In contrast, the elderly exhibit a heightened inclination to engage significantly in environmental matters, underscored by a greater magnitude of environmental attitudes (Velayudhan & Srividya, 2013; Gifford & Nilsson, 2014; Domingues & Gonçalves, 2020). Conflicting assertions about the link between age and environmental attitudes arise from generational distinctions stemming from educational variations and other influencing factors that contribute to the diversity of outcomes in age-related environmental attitudes (Dunlap et al., 2000).

Women are perceived to have higher environmental attitudes than men (Steel et al., 2010; Harraway et al., 2012; Velayudhan & Srividya, 2013; Nishiyama, 2014; Kim et al., 2016; Rosa et al., 2018; Costache & Sencovici, 2019; Wang et al., 2020; Mertens et al., 2021). Women are also assumed to have an eco-centric perspective while men have an anthropocentric concern toward the environment (Sutton & Gyuris, 2015). Having an eco-centric perspective means that one believes in the need for environmental activism and personal conservation behavior on top of interventionist conservation policies while the latter believes that humans dominate nature, and the environment can be altered for the benefit of humans because science can solve various environmental problems (Velayudhan & Srividya, 2013; Sutton & Gyuris, 2015). Women, more than men, believe that nature must not be modified just to respond to the needs for the growth and development of human beings (Velayudhan & Srividya, 2013). Women also have higher environmental concerns in terms of preservation, but men have higher scores when dealing with the utilization aspect (Domingues & Gonçalves, 2020). Further, some studies claim that there is no difference in environmental attitudes in terms of gender which translates to men and women having an equal outlook toward the environment (i.e., Haggard et al., 2014; Nishiyama, 2014; Vicente-Molina et al., 2018; Ramstetter & Habersack, 2019). Understanding the disparity in responses to environmental issues between men and women presents an unclear perspective, highlighting

the need to view gender in a holistic manner (CIFOR & CGIAR, 2015). Further, the majority of the existing literature addressing gender and other factors that lead to either elevated or diminished environmental attitudes has predominantly been conducted within developed nations (Larson et al., 2015; Clayton et al., 2016; Poškus, 2018; Truelove & Gillis, 2018). These developed nations were labeled as WEIRD, which stands for "Western, Educated, Industrialized, Rich, and Democratic" (Henrich et al., 2010). The implication of literature that has only transpired in the WEIRD nations is the bias on the large portion of the global population (Rosa et al., 2018).

Individuals from lower-income groups with poor environmental conditions have weak environmental concerns whereas individuals from high-income groups with a better environmental state have higher environmental concerns (Pampel, 2014). In contrast, poor socio-economic situations increase the willingness of people to save and conserve the environment even with increased costs resulting from the disastrous effects on their lives and property if environmental problems are not addressed (Wei et al., 2020).

In general, an elevated level of environmental attitude correlates with a greater extent of education. Consequently, individuals with higher educational achievements tend to exhibit more pro-environmental behavior as compared otherwise (Nishiyama, 2014). Hence, there is prime importance in knowing the environmental attitudes of the students to determine whether the academe is successful in instilling in them a psychological sense of responsibility (Sutton & Gyuris, 2015).

Moreover, ecological extremes are scattered throughout the globe and are experienced differently (Velayudhan & Srividya, 2013). Some parts of the world face a greater number of typhoons than other countries in the same way that frequent earthquakes happen in places along fault lines (Reyes, 2014). Additionally, the aftermath of volcanic eruptions exists only in areas with neighboring volcanoes (Velayudhan & Srividya, 2013). Due to differences in geographical location and varying experiences, no universal thinking is found to have existed in recent literature making environmental attitudes more diverse (Velayudhan & Srividya, 2013). People living in the coastal and marine environment who experience frequent typhoons, sea-level rise, and other ecological extremes are found to have higher environmental concerns than those living outside these geographic locations (Barradas & Ghilardi-Lopes, 2020). However, the number of people living outside the coastal and marine areas is much greater than those residing in its vicinity. Therefore, it can be inferred that human interference with the environment may

produce negative impacts that soon may become immeasurable to human capacities.

The New Ecological Paradigm Scale is widely recognized as the primary quantitative tool for assessing environmental attitudes, as evidenced by recent studies (Rosa et al., 2018). Initially proposed by Dunlap and Van Liere in 1978, the New Environmental Paradigm (NEP) scale underwent revision by Dunlap et al. (2000), resulting in the New Ecological Paradigm Scale. This revision involved vocabulary enhancements and the incorporation of new components, expanding the scale from its original 12 Likert-type questions to 15 statements. The original NEP scale comprised three ecological concepts: limits to growth, balance of nature, and anti-anthropocentrism, corresponding to finite Earth resources, ecological equilibrium, and the non-primacy of humans in nature (Dunlap et al., 2000). The revised NEP scale introduced the ideas of anti-exceptionalism and ecocrises, highlighting human susceptibility to natural laws and the potential for human-driven catastrophic changes. This revision was driven by the recognition of directional imbalance in the original scale (Sutton & Gyuris, 2015).

The extensive utilization of the NEP scale as a tool for gauging individuals' environmental attitudes (Rosa et al., 2018) has sparked considerable debates within the scientific community. One critique, put forth by Hedlund-de Witt (2012), focuses on the revised NEP scale's limitations in delving into the biocentric and eco-centric worldviews held by participants. The scale's treatment of the interdependence between humans and the environment is somewhat inadequate, stemming from its omission of intrinsic, spiritual, or metaphysical dimensions of environmental concern (Hedlund-de Witt, 2012). Responding to this critique, proponents of the NEP scale (Shephard et al., 2011; Mann et al., 2013) echoed the sentiments expressed by Hawcroft & Milfont (2010), suggesting that until a universally acknowledged gold-standard measure of environmental attitude (EA) emerges, researchers might find it advisable to persist in utilizing the NEP scale as a standardized indicator of EA.

As human societies face catastrophic effects of environmental problems, it is deemed necessary to instill positive environmental behaviors in people (Milfont & Schultz, 2016; Mathis, 2017; Domingues & Gonçalves, 2020), especially the student scholars who would be at the forefront in policy making and program/project implementation about the environment and natural resources. To realize this, a baseline study quantifying their environmental attitudes must be conducted initially as this would be the basis in crafting environmental programs for the

promotion of positive behaviors among them. This is applicable, particularly in places where research on environmental attitudes has not been mainstreamed like the municipality of Tiaong, Quezon, Philippines. Thus, this study aimed to measure the environmental attitudes of local government scholars in Tiaong, Quezon, Philippines. Specifically, it endeavored to (1) describe the respondents' profile based on demographic characteristics, academic background, and experiences with ecological extremes; (2) determine the respondents' environmental attitudes using the New Ecological Paradigm (NEP) scale; and (3) analyze the relationship between environmental attitudes and the respondents' profile.

METHODOLOGY

The study employed quantitative research designs, specifically descriptive and inferential quantitative methods. The descriptive method was used to characterize demographic characteristics such as age, gender, and economic status academic background such as student classification, scholastic achievement, scholarships and membership in educational or youth organizations, and experiences related to ecological extremes. Meanwhile, the inferential method was used to ascertain the connection between perceived factors such as demographic characteristics, academic background, and ecological experiences and the environmental attitudes of local government scholars in Tiaong, Quezon, Philippines. The study utilized the New Ecological Paradigm (NEP) scale to quantify environmental attitudes.

The municipality of Tiaong is a first-class municipality in the second congressional district of Quezon province located at 3° 58' North, 121° 19' East, on the island of Luzon, Philippines (Figure 1). It covers 168.38 square kilometers of land area constituting 1.93% of the total area of the province. Tiaong is also known as the gateway to Quezon province as it is the first town to be reached from Manila, the country's capital. (www.quezon.gov.ph). The 2020 Census showed that the population of the municipality is approximately 106,265 covering its 31 barangays (PSA, 2020), about 26.83% of which are from ages 15 to 30 which is the target group of this study. Accordingly, the population density of Tiaong is computed at 631 people per square kilometer (PSA, 2020).

The local government of Tiaong, Quezon established a scholarship program named *Bagong Bayan Tiaong* Educational Assistance for Academic Year 2021-2022 to support college students from the municipality who were enrolled in public state universities and colleges.

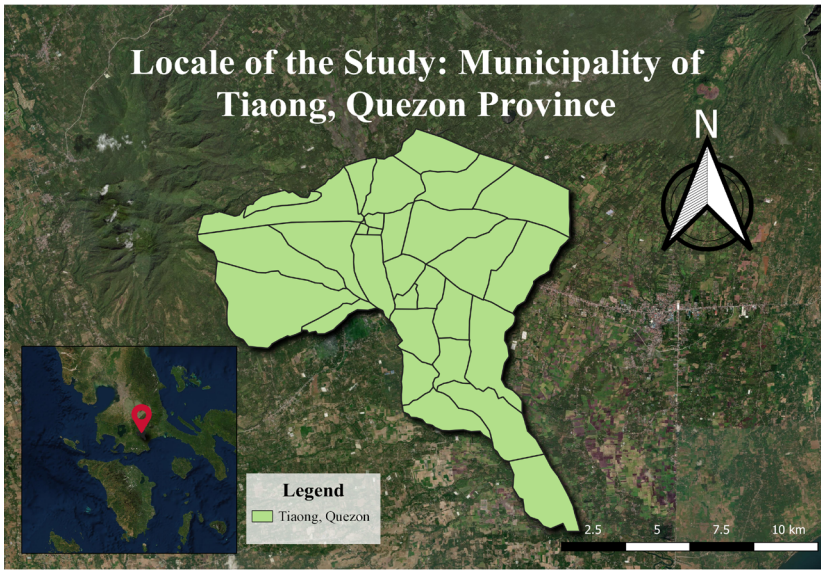
Said scholarship is given every semester to deserving students after completion of the prescribed requirements and screening by the scholarship committee. The population of this study comprised the student beneficiaries of this scholarship program who were purposively chosen because as future leaders and professionals, their environmental attitudes might become crucial in the continuance of the environmental efforts in the municipality. Based on the literature, college education was found to have a favorable effect on environmental attitudes (Harraway et al., 2012; Nishiyama, 2014; Sutton & Gyuris, 2015).

To ensure impartiality, simple random sampling, a widely adopted technique in social science research was utilized in the selection of respondents (Nishiyama, 2014). The sample was randomly drawn from the 1,354 local government scholars through a random name generator of Microsoft Excel. Three hundred one (301) respondents were determined using Slovin's Formula, maintaining a 95% confidence level and a 5% margin of error.

Due to the limitations brought about by the COVID-19 pandemic, the respondents were contacted via the distance mode. A survey questionnaire was used in this study to gather data from the respondents. It was sent online using Google Forms ®. The respondents signified their willingness and cooperation to participate in this study by providing the gadgets, electricity and internet connectivity which are the pre-requisites for the successful conduct of the survey.

This study covers only the above-mentioned population, methods, and variables, thus, analysis is exclusive only to the same.

Figure 1
Locale of the Study: Municipality of Tiaong, Quezon, Philippines



A survey questionnaire was used to gather data from the respondents. It is divided into two sections: the first section includes the respondents' profile based on demographic characteristics, academic background, and ecological experiences while the second section presents the 15 statements of the New Ecological Paradigm (NEP) scale (Table 1). The NEP scale was conceptualized and employed by Dunlap et al. (2000), wherein even-numbered items if agreed by respondents, represent statements aligned with the dominant social paradigm (DSP), while odd-numbered items if agreed by the respondents indicate their inclination towards the new environmental paradigm (NEP). Further, recognizing the potential for cross-lingual application, a translated version of the NEP scale in Filipino was made available to respondents, enhancing the scale's robustness and applicability (Putu, 2017). Hence, the Filipino version of the NEP scale serves only as a supplementary tool to clearly communicate the content of the scale to the respondents and is not to be regarded as a primary tool for analysis.

Table 1
The Revised New Ecological Paradigm (NEP) Scale (original & translated versions)

Revised NEP Scale (Dunlap et al., 2000)	Self-translated NEP Scale (Filipino version)
1. We are approaching the limit of the number of people the earth can support.	*1. Nalalapit na tayo sa limitasyon ng bilang ng mga tao na kayang suportahan ng mundo.*
2. Humans have the right to modify the natural environment to suit their needs.	*2. May karapatan ang mga tao na baguhin ang natural na kapaligiran upang umangkop sa kanilang mga pangangailangan.*
3. When humans interfere with nature, it often produces disastrous consequences.	*3. Kapag nagambala ng tao ang kalikasan, madalas itong nagdudulot ng nakapipinsalang mga pangyayari.*
4. Human ingenuity will ensure that we do NOT make the earth unlivable.	*4. Ang katalinuhan ng tao ang magtitiyak na kayang buhayin ng mundo ang mga tao.*
5. Humans are severely abusing the environment.	*5. Tahasang inaabuso ng mga tao ang kapaligiran.*
6. The earth has plenty of natural resources if we just learn how to develop them.	*6. Ang mundo ay mayaman sa maraming likas na yaman kung matutuhan lamang natin kung paano ito paunlarin.*
7. Plants and animals have as much right as humans to exist.	*7. Pantay ang karapatan ng mga hayop, halaman, at tao na mabuhay sa mundo.*
8. The balance of nature is strong enough to cope with the impact of modern industrial nations.	*8. Ang balanse ng kalikasan ay sapat na upang makayanan ang epekto ng modernong industriyalisasyon sa maraming bansa.*
9. Despite our special abilities, humans are still subject to the laws of nature.	*9. Sa kabila ng mga espesyal na kakayahan ng tao ay hindi tayo ligtas sa batas ng kalikasan.*
10. The so-called "ecological crisis" facing mankind has been greatly exaggerated.	*10. Ang tinaguriang "krisis sa ekolohiya" na kinakaharap ng tao ay pagmamalabis lamang.*
11. The earth is like a spaceship with very limited room and resources.	*11. Ang mundo ay tulad ng isang sasakyang pangkalawakan na may limitadong espasyo at likas-yaman.*
12. Humans were meant to rule over the rest of nature.	*12. Ang mga tao ang pinakamataas na uri sa mundo.*

Table 1 (continued)

13. The balance of nature is very delicate and easily upset.	*13. Ang balanse ng kalikasan ay napakamaselan at madaling masira.*
14. Humans will eventually learn enough about how nature works to be able to control it.	*14. Sa kalaunan, matutuhan ng mga tao kung paano ang sistema ng kalikasan upang makontrol ito.*
15. If things continue on their present course, we will soon experience a major ecological catastrophe.	*15. Kung magpapatuloy ang mga bagay na nagaganap sa kasalukuyan, mararanasan ng tao sa lalong madaling panahon ang labis na nakapipinsalang mga sakuna.*

Descriptive and inferential statistical analyses using the IBM Statistical Package for the Social Sciences (SPSS) 19 were used to process the independent variables (e.g., demographic characteristics, academic background, and ecological experiences) and obtain frequency and percentage distribution, mean, and standard deviation. Likewise, the NEP scores which reflect the environmental attitudes of respondents were derived by reversing the anti-NEP items (i.e., 2, 4, 6, 8, 10, 12, and 14) to achieve a maximum score of 75 and a minimum score of 15 on the NEP scale. This scale employed a 5-point Likert scale, where 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, and 1 = Strongly Disagree.

The chi-square test was used to determine the relationships among variables. This test operates under the null hypothesis that no relationship exists among the variables under scrutiny, implying the independence of categorical variables. In this context, a p-value below 0.05 denotes a statistically significant relationship (at a 5% significance level) between the variables subjected to the test. Conversely, a p-value exceeding 0.05 indicates the absence of a statistically significant relationship.

RESULTS AND DISCUSSION

Demographic characteristics. The age of the respondents ranges from 18 to 29 years old, with ages 21 (24.9%) and 22 (25.6%) having the greatest number of respondents (Table 2). More than half of the respondents (63.5%) considered themselves as female while less than half (34.6%) were categorized as male. On the other hand, only two per cent of the respondents preferred not to be identified as either male or female.

The respondents belong to three income brackets. More than half of the respondents (53.2%) have a monthly family income ranging from PhP 1,000 to PhP 10,000. Less than half (37.2%) range from PhP 10,000 to PhP 30,000. Meanwhile, only 9.6 per cent of the respondents have a monthly income ranging from PhP 30,001 to PhP 60,000. This implies that poverty exists among the respondents. Based on the 2021 Philippine Statistics Authority report, the national poverty threshold is PhP 12,082 while that for Quezon province is PhP 13,586, which means that majority of the respondents are living below the poverty line.

Table 2
Demographic characteristics of the respondents, Tiaong, Quezon, Philippines, 2022

Age (in years)	*Freq.*	%	Gender	*Freq.*	%	Income (PhP)	*Freq.*	%
18	13	4.3	Male	104	34.6	1,000-10,000	160	53.2
19	60	19.9	Female	191	63.5	10,001-30,000	112	37.2
20	69	22.9	Non-binary	6	2	30,001-60,000	29	9.6
21	75	24.9						
22	77	25.6						
23	4	1.3						
24	1	0.3						
26	1	0.3						
29	1	0.3						

Academic background. More than half of the respondents were senior college students (34.2%) and freshmen, or first-year college students as represented by 24.6% of the respondents. Less than half (20.6%) of the respondents comprised both sophomore and junior students. Meanwhile, only 7.6 per cent of the respondents would finish their undergraduate degree programs with Latin honors while more than half (66.4%) of the respondents represent otherwise. On the other hand, the remaining 25.9 per cent of the respondents were still uncertain but might be graduating with honors when they finish their undergraduate degrees. Except for the recipients of the *Bagong Bayan ng Tiaong* Educational Assistance, the majority of the respondents (70.1%) enjoyed other scholarship privileges such as the Provincial Scholarship, Commission on Higher Education Scholarship, Department of Science and Technology Scholarship, and scholarships from various non-government organizations. Less than half (41.5%) of the respondents are members of student and/or youth organizations, while more than half (58.5%) are not affiliated with any student or youth organizations.

Ecological extremes. The majority of the respondents (74.8%) experienced ecological extremes such as typhoons, landslides, and earthquakes, among others, while less than half of the respondents reported otherwise. The respondents have a different sense of experience concerning ecological extremes due to various factors such as economic status and geographical location.

Table 3
Total NEP Score of the respondents, Tiaong, Quezon, Philippines, 2022

Level	Total NEP Score Range	*Frequency*	Percentage (%)
Very low	15	0	0
Low	16-30	0	0
Medium	31-45	54	17.9
High	46-60	237	78.7
Very high	61-75	10	3.3
Mean NEP Score			**49.54 (High)**

Environmental attitudes. The local government scholars of Tiaong, Quezon yielded an average NEP score of 49.54 which means they have a high level of environmental attitudes (Table 3). Majority of the respondents (78.7%) have high environmental attitudes followed by those with medium environmental attitudes (17.9%). Only ten respondents (3.3%) recorded a very high environmental attitudes.

More than half (60%) of the respondents with very high environmental attitudes are 22 years old and in their senior year in college (Table 4). Likewise, the majority (80%) of the respondents are female while only two respondents, or 20% are male. Less than half (40%) of the respondents belong to families with a monthly income ranging from PhP 30,001 to PhP 60,000. Only 20 per cent of the respondents earn a monthly income ranging from PhP 1000 to PhP 10,000. Conversely, more than half (60%) of the respondents would graduate with Latin honors. Meanwhile, the majority (80%) of the respondents received scholarships other than the *Bagong Bayan ng Tiaong* Educational Assistance. Likewise, the majority (80%) of the respondents are affiliated with student and/or youth organizations. Almost all (90%) of the respondents have experienced ecological extremes.

The findings of this study showed high environmental attitudes of the respondents with a mean NEP Score of 49.54 (Table 5). Environmental attitudes are individuals' views towards the natural environment with the tendency to create a degree of favor or disfavor and positive or negative effect on the latter (Gifford, 2014); thus, the results imply that the respondents have a high degree of favorable positive concern towards the environment.

Table 4
Profile of the respondents with very high environmental attitudes, Tiaong, Quezon, Philippines, 2022

Dimension	*Frequency*	%
Age		
18	1	10
19	1	10
20	1	10
21	1	10
22	6	60
Gender		
Male	2	20
Female	8	80
Family monthly income (PhP)		
1,000-10,000	2	20
10,001-30,000	4	40
30,001-60,000	4	40
College level		
Freshman	1	10
Sophomore	2	20
Junior	1	10
Senior	6	60
Scholastic standing		
Graduating with Latin honors	6	60
Graduating without Latin honors	1	10
Unsure	3	30
Scholarships		
With scholarships other than the *Bagong Bayan ng Tiaong* Educational Assistance	8	80
Without scholarships	2	20
Memberships in student and/or youth organizations		
Affiliated	8	80
Not affiliated	2	20
Experience with ecological extremes		
With experience	9	90
Without experience	1	10

Table 5
Level of environmental attitudes of the respondents using the Revised NEP Scale, Tiaong, Quezon, Philippines, 2022

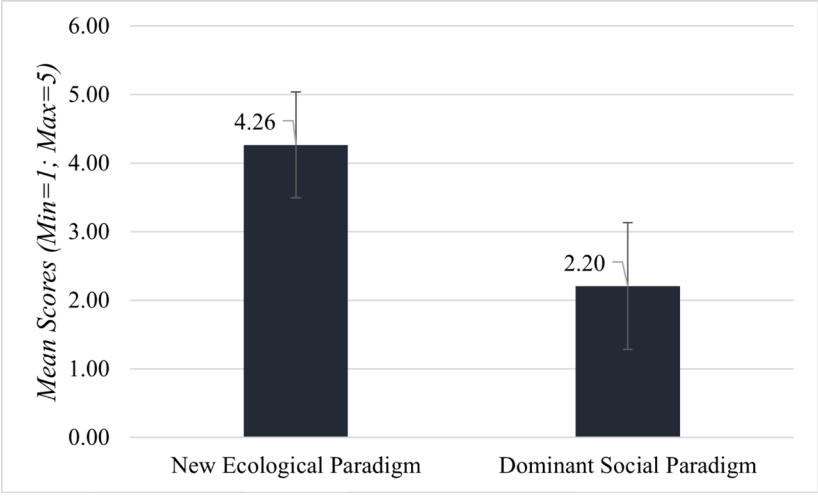
Indicators	SD	Mean	Verbal Interpretation
1. We are approaching the limit of the number of people the earth can support.	0.818	3.99	Agree
2. Humans have the right to modify the natural environment to suit their needs.	1.109	2.25	Disagree
3. When humans interfere with nature, it often produces disastrous consequences.	0.625	4.51	Strongly Agree
4. Human ingenuity will ensure that we do NOT make the earth unlivable.	0.923	2.27	Disagree
5. Humans are severely abusing the environment.	0.860	4.21	Strongly Agree
6. The earth has plenty of natural resources if we just learn how to develop them.	0.465	1.22	Strongly Disagree
7. Plants and animals have as much right as humans to exist.	0.855	4.39	Strongly Agree
8. The balance of nature is strong enough to cope with the impacts of modern industrial nations.	1.072	2.62	Neutral
9. Despite our special abilities, humans are still subject to the laws of nature.	0.742	4.36	Strongly Agree
10. The so-called "ecological crisis" facing humankind has been greatly exaggerated.	1.158	2.95	Neutral
11. The earth is like a spaceship with very limited room and resources.	0.882	4.09	Agree
12. Humans were meant to rule over the rest of nature.	1.005	2.13	Disagree
13. The balance of nature is very delicate and easily upset.	0.718	4.09	Strongly Agree
14. Humans will eventually learn enough about how nature works to be able to control it.	0.744	1.99	Disagree
15. If things continue on their present course, we will soon experience a major ecological catastrophe.	0.651	4.48	Strongly Agree

Source: Dunlap et. al., 2000

Legend: ***Verbal Interpretation***
4.20-5.00 = Strongly Agree; 3.40-4.19 = Agree; 2.60-3.39 = Neutral; 1.80-2.59 = Disagree; 1.00-1.79 = Strongly Disagree

Moreover, the respondents strongly agreed ($\bar{x}$ = 4.26) with the NEP while they disagreed ($\bar{x}$ = 2.20) with the premises of the DSP. The NEP is favored over DSP as the mean scores for odd-numbered items which translate to pro-NEP behavior are higher than that of the even-numbered items corresponding to anti-NEP or pro-DSP behavior. As such, the mean score of 4.26 indicates a strong agreement with the NEP while the mean score of 2.20 translates to disagreement with the DSP (Figure 2). The respondents are not characterized by the DSP, but they reflect the dimensions of the NEP. To illustrate, the DSP revolves around the concept of anthropocentric thought that humans are superior to other living organisms (Putrawan, 2015) which the respondents negated. When individuals are not characterized by DSP, this means that they believe in the exploitation of the environment as detrimental to the natural resources being finite entities (Domingues & Gonçalves, 2020). The anthropocentric approach to natural resource use as DSP promotes can threaten the existence of the ever-decreasing resources of the planet (Putrawan, 2015).

Figure 2
Mean scores and the standard deviation for the New Ecological Paradigm and Dominant Social Paradigm



The chi-square test results showed that the computed p-value of economic status; p = 0.014 (<0.05), student classification; p = 0.006 (<0.05), scholastic standing; p = 0.000 (<0.05), and membership to a student or youth organization; p = 0.005 (<0.05) are smaller than 0.05 level of significance (Table 6). As a result, the null hypothesis is rejected. Further, economic student status, student classification, scholastic standing, and membership in student and/or youth organization/s are significant and, therefore, associated with environmental attitudes. Further, economic student status, student classification, scholastic standing, and membership in student and/or youth organization/s are significant and, therefore, associated with environmental attitudes. Further, the chi-square test showed that the variables that are significant at 0.05 level are economic status, student classification, scholastic standing, and membership with student and/or youth organizations.

Table 6
Chi-square test results on the relationship between environmental attitudes and the perceived factors

Profiles	p-values
Age	0.081
Gender	0.090
Economic status	0.014*
Student classification	0.006*
Scholastic standing	0.000*
Scholarships	0.284
Membership in student and/or youth organization	0.005*
Experience with ecological extremes	0.112

Legend: *The p-value is significant at level below 0.05

Economic status is the only variable found to have a significant relationship with environmental attitudes. Respondents coming from families with higher income tend to have higher environmental concerns than those with relatively lower monthly family income. Despite having high environmental attitudes across income levels, a difference still exists among them, and the trend is consistent. Environmental attitudes are directly related to economic status; environmental attitudes increase as income level increases. Individuals from lower-income groups with poor environmental conditions have weak environmental concerns whereas individuals from high-income groups have higher environmental concerns (Pampel, 2014). Additionally, environmentalism is usually relevant only to rich nations because poor families do not have the luxury of resources to be concerned with the environment over the basic needs that they need to survive on a day-to-day basis (Henrich et al., 2010; Pampel, 2014). On the contrary, poor socio-economic situations drive the willingness of people to save and conserve the environment even with additional costs (Wei et al., 2020). Such variation in the perspective is due to the different forms of environmentalism that the NEP may represent. For instance, the existence of the environmentalism of the poor and the environmentalism of the rich suggests different views on how the poor and the rich treat the environment vis-à-vis the resources available to them.

Contrary to the claims of Dunlap et al. (2000) and Barradas & Ghilardi-Lopes (2020) that age is correlated with environmental attitudes noting that an increase in age decreases environmental attitudes, no significant relationship was noted in this study. Likewise, a significant relationship with age will not be relevant since the population of this study includes college students belonging only to a particular age group (i.e., 18 to 29 years old). Hence, individuals whose age range from 30 and above and those who are 17 years old and below are not accounted for in this study which explains the insignificant relationship between age and the NEP score. On the other hand, gender was also found to have no significant relationship with environmental attitudes. While in many studies, it is argued that gender and environmental attitudes are significantly related which highlights the fact that women have higher environmental attitudes than men (Kim et al., 2016; Mertens et al., 2021). Gender is a predicting factor of environmental attitudes which varies depending on the culture (Xiao & Hong, 2010) hence, propagating a notion that gender may not be a strong driver of environmental attitudes across the globe. In congruence, women have higher environmental concerns in terms of preservation, but men have higher scores when dealing with the utilization aspect (Domingues & Gonçalves, 2020). Similarly,

in some geographic locations, men and women have an equal outlook on the environment (Haggard et al., 2014; Vicente-Molina et al., 2018). It can be inferred, henceforth, that gender contributes to environmental attitudes of varying nature; thus, a significant relationship is not usually established (Ramstetter & Habersack, 2019; Domingues & Gonçalves, 2020). Ultimately, a significant relationship is not necessary when looking at environmental concerns because combatting environmental challenges requires no gender because its effects are not exclusive to a particular gender (Gough & Whithouse, 2019).

Contrary to demographic characteristics, findings of the study imply that most of the variables of academic background are significantly related to environmental attitudes except for scholarship privileges. This conforms with the findings of Nishiyama (2014) who argued that university education enhances the environmental attitudes of people compared to childhood education no matter how foundational childhood education has become. Further, tertiary education is seen as substantially relevant in molding environmental awareness among university or college students (Sutton & Gyuris, 2015). It was also suggested that the academe regardless of other benefits such as scholarships will have a positive effect on students' environmental attitudes as a psychological sense of responsibility is obtained not from enjoying privileges but from knowing the importance of the environment.

Environmental attitudes based on student classification show a varying trend. Sophomore students yielded the highest environmental attitudes among the four groups. Since student classification is significantly related to environmental attitudes, it shows that students who progress from freshman to sophomore years have increasing concern for the environment. Such favorable environmental attitudes increase but will decrease when they reach their junior year and increase again when they are about to finish their college degree programs. Based on the literature, pro-ecological worldviews are more promoted and practiced by individuals who have obtained a tertiary degree rather than those lacking the same (Harraway et al., 2012). It was evident in the findings of this study wherein the environmental attitudes of senior students are relatively higher than freshmen students. Hence, tertiary education is highly influential in increasing the environmental attitudes of individuals (Nishiyama, 2014).

Academic performance is directly related to environmental attitudes. Respondents who would be graduating with Latin honors or any equivalent academic distinctions recorded higher environmental

attitudes than those who would not be graduating with honors. Progress at the tertiary level triggers higher environmental attitudes in such a manner that the more progress students create, the higher their environmental attitudes will be (Sutton & Gyuris, 2015). Hence, progress is considered congruent to having honors or distinctions. In addition, respondents with affiliation to student and/or youth organization/s are considered more concerned with the environment than those without affiliations. Thus, it can be presumed that membership in an organization/s increases the environmental attitudes of the respondents. Having affiliations is an opportunity for students to expand their horizons and learn things around them to enable them not to be restricted to having one perspective on things since exposure and involvement positively affect their environmental attitudes (Capinpin, 2014).

Finally, there is no significant relationship between environmental attitudes and experience with ecological extremes. It was evident that most of the respondents did not experience a serious casualty when they faced ecological extremes. Some of them did not have any experience with typhoons, earthquakes, and landslides among others. Ecological extremes have no universal effect on individuals, families, or communities due to their geographical dispersal which is the reason why the variable was found to have no significant relationship with environmental attitudes (Velayudhan & Srividya, 2013). Similarly, experience is psychological (Mertens et al., 2021); thus, it must be considered as an individualistic rather than a collective attitude towards the environment (Dunlap et al., 2000).

CONCLUSION AND RECOMMENDATIONS

To combat the phenomena of environmental challenges and their catastrophic effects with scientific and sound solutions, human attitudes must be studied first as it is the foundation of environmental problems (Rosa et al., 2018). Younger generations especially students would eventually be at the forefront in policy making, and program/ project implementation about the environment and natural resources. Thus, this study provided baseline data on the environmental attitudes of local government scholars in the municipality of Tiaong, Quezon, Philippines engineered to promote positive environmental behaviors.

Ultimately, this study has helped fill the research gaps on environmental attitudes. First, academic background or education, in general, has been concluded to have a positive impact on environmental

attitudes (Nishiyama, 2014). However, the environmental attitudes of undergraduate scholars have not been studied. For this reason, this study bridged this gap by analyzing the environmental attitudes of the respondents.

Second, economic status among the demographic characteristics viewed in this study remains to be unexplored. This study attempted to analyze the environmental attitudes of the respondents based on their economic status by which a significant relationship was found to exist. Third, this study was able to fill in the research gap by quantifying the environmental attitudes of the respondents in the municipality of Tiaong in Quezon Province, a location where it was claimed to have no study yet on environmental attitudes.

To further strengthen the study of environmental attitudes, the following are highly recommended: (1) include non-scholars and tertiary students from private academic institutions; (2) include all age groups to assess if age has a significant effect on the environmental attitudes; (3) utilize the qualitative approach can verify quantitative data, thus enabling stronger baseline data on environmental attitudes; (4) explore other methods of quantifying environmental attitudes as the study of environmental attitudes can be enhanced by other tools and hybrid of methods for comparison and well-rounded results and (5) the use of the revised NEP scale can be embedded in undergraduate courses in universities as a tool to understand the environmental behavior of people, thus, providing a quantitative measure of how favorable the attitude of the stakeholders towards the environment.

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CONFLICT OF INTEREST

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AUTHOR CONTRIBUTIONS

Author 1 (JAMarasigan): Conceptualization, Methodology, Data curation, Formal analysis, Validation, Writing - original draft, review, & editing. **Author 2 (MLLPGata)**: Conceptualization, Methodology, Writing - review & editing, Supervision, Validation.

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