

Connectedness to Nature among Students in Mindanao State University-Marawi, Philippines

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ABSTRACT

Connectedness to nature relates to an individual's subjective sense of their relationship with the natural world. This study aimed to determine the general connectedness to nature among students in Mindanao State University- Marawi, Philippines, the level of their environmental awareness and the relationship between their socio-demographic characteristics and environmental awareness to their level of connectedness to nature. Eighty-seven respondents participated in the study in which they responded to a research instrument that measured connectedness to nature and level of environmental awareness. To analyze the relationships between these variables, Chi – square test at 0.05 level of significance was used to determine the relationship between pre-determined variables. The results revealed that the respondents were fully aware about environmental concerns and with a very high connectedness to nature. Among the socio-demographic variables, the religion and ethnic affiliation showed a significant relationship with connectedness to nature. The major courses of the students also showed a significant relationship on both environmental awareness and connectedness to nature.

Keywords : Connectedness; Nature; Environmental awareness;

1 INTRODUCTION

In recent years, there has been a resurgence of interest in humans' relationship with nature, as well as concern for environmental and human well-being [1]. Some environmental theorists believe that cultivating relationships with nature will lead to a deeper ethical and moral understanding of the environment and a sense of belonging to the natural world [2]. According to studies, many people develop a positive outlook toward the environment and engage in environmentally friendly practices because they feel connected to it [3]. Although personal engagement in environmentally responsible behaviors may not be a direct effect of feeling connected to nature, studies have also found out that those who do feel connected to nature are more likely to engage in environmentally responsible attitude and behaviors [4].

Several measures have recently been created which attempt to quantify the concept of connectedness to nature. The researcher uses Schultz's definition of connectedness to nature as the extent to which an individual's view of nature is incorporated into their perception of their own sense of self [5]. This broad definition includes physical, cognitive, and emotional elements of that relationship. Nature, in this sense, is defined as spaces big or small consisting predominantly of flora and fauna and having little or no human constructions [6]. The concept of connectedness to nature has been defined and rendered quantifiable, emerging research has examined the relationship between these variable and other important indicators of well-being such as socio-demographic characteristics of the people and their awareness of the environment.

In a world that faces a multitude of environmental problems resulting from overconsumption and encroachment on natural habitats, there is a need to assess the individual's connection to nature. By studying individuals' connectedness to nature, their socio-demographic characteristics, and awareness of the environment, more will be understood about how these variables relate to one another.

2 METHODOLOGY

2.1 Locale of the Study

The study was conducted at Mindanao State University, Marawi City, Philippines. It has a geographical coordinate of 7° 59' 55" North and 124° 16' 01" East. The city of Marawi has an elevation of around 3,250 feet or 833 meters above sea level [7]. Due to its high elevation, with the elevation along Lake Lanao at around 2,300 feet (700 meters), Marawi City belongs to climatic type III which means the season of the area is not pronounced and is characterized to have an even distribution of rainfall throughout the year [7].

2.2 Participants

By employing Sloven's formula, a total of 87 respondents from the two dormitories of Mindanao State University – Marawi were identified.

Stratified random sampling was also employed after identifying the sample size, it was used in defining the respondents from the selected dormitories for the purpose of proportionality. Table 1 shows the Socio-demographic characteristics of the respondents.

Table 1. Socio-demographic Profile of the Respondents

<i>Demographic Profile</i>	<i>Categories</i>	<i>Percentage</i>
<i>Age</i>	18 and below	51.72
	19 - 21	34.48
	22 and above	13.79
<i>Gender</i>	Female	71.26
	Male	28.74
<i>Place of origin</i>	urban	29.89
	rural	70.11
<i>Religion</i>	Islam	59.77
	Roman catholic	14.94
	Born again Christian	18.39
	Seventh day adventist	3.45
	Iglesia ni Cristo	3.45
<i>Ethnic Affiliation</i>	Boholano	5.75
	Cebuano	23
	Higa-onun	1.15
	Ilonggo	1.15
	Iranun	2.30
	Maguindanaon	1.15
	Manobo	1.15
	Meranao	55.2
	Subanen	3.45
	Surigaonun	4.50
	Waray	1.15
<i>Major Course</i>	Business Administration and Accountancy	13.80
	Forestry and Environmental Studies	4.60
	Health Sciences	1.15
	Natural Sciences and Mathematics	10.34
	Agriculture	18.39
	Engineering	11.49
	Education	11.49
	Fisheries	1.15
	Public Affairs	11.49
	Social Sciences & Humanities	8.05
	King Faisal Center for Islamic, Arabic And Asian Studies	8.05

2.3 Data Collection

The data of this study were obtained using a survey method through a questionnaire that were given to the randomly selected students. The questionnaire is composed of three parts, the respondent's profile, the environmental awareness questions and the nature relatedness scale. The Nature Relatedness (NR) Scale was used in obtaining the connectedness to nature of the respondents. The NR was designed to assess the affective, cognitive, and physical relationships between humans and the natural world. In general, it encompasses an appreciation and understanding of the interconnectedness of life. Its internal validity is supported by correlations between Overall NR and environmentally responsible behavior [8]. The revised NR scale encompasses statements that are divided in three categories, the first 6 items are statements referring

to NR Experience, statement numbers 7-14 are referring to NR Perspective and the remaining items are statements referring to NR Self.

2.4 Data Analysis

Descriptive statistics were calculated for sociodemographic characteristics and information about variables, consisting of frequencies and percentages. A Three-point Likert Scale and Weighted Mean were used in determining the level of awareness of the students. Choices in the questions correspond a certain value on the Likert Scale, 1 – Not Aware, 2 – Slightly Aware and 3 – Fully Aware. While, A Four-point Likert Scale and Weighted Mean were used also in determining the connectedness of the students. The Likert Scale corresponds a certain value on the choices, 1 – disagree strongly, 2 – disagree, 3 – agree and 4 – strongly agree. Overall NR score is calculated by averaging all 20 items.

The Weighted Mean (WM) rating of the respondents' awareness was obtained through the summation of the products of each entry and the corresponding value of the Likert Scale divided by the total number of respondents.

To investigate the significant relationship of the respondent's socio-demographic characteristics to their level of environmental awareness and connectedness to nature, Chi-square test was employed. The chi-squared statistics is a single number that tells how much disparity exists between the real, or observed counts of a categorical variable and the counts expected if there were no relationship at all in the population.

3 RESULTS

3.1 Environmental Awareness

Table 2 shows the frequency distribution of respondents based on their average environmental awareness. The study found out that majority or 61% of the respondents are fully aware of the environment, 31% of the respondents are slightly aware and 8% are not aware. The findings of being not aware and slightly aware of the respondents could be a result of the following cognitive barriers revealed in the study of Kollmuss and Agyeman [9], the Non-immediacy of many ecological problems, the slow and gradual ecological destruction and the complex systems.

Table 2. Frequency Distribution of Respondents Based on their Level of Environmental Awareness

Awareness	Frequency	Percentage
Not Aware	7	8
Slightly Aware	27	31
Fully Aware	53	61
Total	87	100

Table 3 shows the distribution of respondents according to their level of awareness and their sources of information. Based on the average awareness of the respondents, majority of the respondents are aware through Mass media (Radio/TV/Internet) with an average percentage of 76.86%, the 55.85% of the respondents are aware through Books and Magazines, 24.74% are aware through Signboards/Poster/Leaflets, and 37.1% are aware through seminars. About 4% of the respondents are said to be aware through friends and experiences.

Table 3. Sources of Environmental Information

Sources	Average Frequency	Average %
Seminars	30.46	37.1
Signboards/Posters/Leaflets	20.31	24.74
Books/Magazines	45.85	55.85
Mass Media (Radio/Tv/Internet)	63.1	76.86
Others, Specify (Friends/Experience)	3	3.78

The Overall Weighted Mean rating for all question on awareness is equal to 2.53 that is interpreted as "High". This implies that the respondents are fully aware of the environment, its issues and concerns

3.2 Connectedness to Nature

Table 4 shows the distribution of respondents according to their level of connectedness to nature. The study found out that generally, on the average, 40.23% of the respondents have very high level of connectedness, 43.62% of the respondents were highly connected, 11% were moderately connected and 5% were not connected to nature. The overall Weighted Mean rating for all statements on connectedness is equal to 3.39 that is interpreted as "very high". This result indicates that there is a very high level of connectedness of respondents to nature.

Table 4 Frequency Distribution of Respondents Level of Connectedness to Nature

Connectedness	Frequency	Percentage
<i>Not Connected</i>	4	5
<i>Slightly Connected</i>	10	11
<i>Connected</i>	38	43.622
<i>Very Connected</i>	35	40.23
Total	87	100

3. 3 Relationship of Socio-demographic Variables to Level of Environmental Awareness

Based on statistical analysis, one socio-demographic variable showed a significant relationship on the level of environmental awareness of the respondents. This is depicted in Table 5, this shows that the major courses of the respondents is significantly related to its level of environmental awareness where the computed chi-square value which is 22.815 is greater than the critical value of 19.68 at 0.05% significance level. This finding is strengthened by the study of Arnoicky and Stroink [10]. Their study displayed that Academic majors have been shown to be indicators of level of environmental concern. Moreover, the study of Ewert and Baker [11] showed that students from different majors have significant fundamental differences in level of environmental concern.

Table 5 Statistical Result of the Significant Relationship of Respondents Major Courses and their Level of Environmental Awareness

Major Course	Slightly Aware	Fully Aware	Computed Chi-Square	Critical Value	Remarks
Business Administration And Accountancy	2	10			
Forestry and Environmental Studies	2	2			
Health Sciences	1				
Natural Sciences and Mathematics	2	7			
Agriculture	4	12			
Engineering	3	7			
Education	3	7			
Fisheries		1			
Public Affairs	3	7			
Social Sciences & Humanities	1	6			
King Faisal Center for Islamic, Arabic And Asian Studies	3	4			
Total			22.815	16.92	Significant

3. 4 Relationship of Socio-demographic Variables to Level of Connectedness to Nature

The religion, ethnic affiliation and major courses of the respondents showed significant relation between the level of their connectedness to nature as depicted in the Tables 6, & 5. The findings in religion are supported by the study of Snell and Simmonds [12] that connectedness between nature and the spiritual self brings about environmental activism and awareness, and amongst some, a spiritual experience. While results in respondent's ethnic affiliation is supported by the study of Klassen [13] which states that cultural backgrounds affect the connectedness to nature of any person. Lastly, result on major course is supported by the study of Ewert and Baker [11] which confirms that there is a relation between the students' academic major and their connectedness to nature. Their study showed that students who are enrolled in an environmental education program have higher pretest/posttest environmental scores than those who are enrolled in business associated courses.

Table 6 Relationship between Respondents Religion and their of Connectedness to Nature

Religion	Slightly Connected	Connected	Very Connected	Computed Chi-Square	Critical Value	Remarks
Born Again Christian	3	13				
Iglesia Ni Cristo		2	1			
Islam	3	36	13			
Roman Catholic		4	9			
Seventh Day Adventist			3			
Total				24.26	9.49	Significant

Table 7 Relationship between Respondents Ethnic Affiliation and their Connectedness to Nature

Ethnicity	Slightly Connected	Connected	Very Connected	Computed Chi-Square	Critical Value	Remarks
Boholano		1	4			
Cebuano		5	15			
Higa-Onun		1				
Ilonggo			1			
Iranun		1	1			
Maguindanaon		1				
Manobo			1			
Meranao	3	33	12			
Subanen		1	2			
Surigaonun		2	2			
Waray			1			
Total				13.63	7.82	Significant

Table 8 Relationship between Respondents Major Courses and their Connectedness to Nature

Major Course	Slightly Connected	Connected	Very Connected	Chi-Square	Critical Value	Remarks
Business Administration And Accountancy		5	7			
Forestry and Environmental Studies		4				
Health Sciences		1				
Natural Sciences and Mathematics		2	7			
Agriculture		9	7			
Engineering	2	4	4			
Education		5	5			
Fisheries		1				
Public Affairs	1	5	4			
Social Sciences & Humanities		2	5			
King Faisal Center For Islamic, Arabic And Asian Studies		6	1			
Total				32.249	12.59	Significant

4 CONCLUSIONS

The results of this study showed that the students of Mindanao State University are fully aware of their environment, its issues and concerns and they are also very connected to nature. Both awareness and connectedness obtained a “high” and “very high” overall rating respectively. These implied that the students of Mindanao State University are more likely to be environmentally responsible and stewards of nature. The religion and ethnic affiliation showed a significant relationship towards connectedness and respondents major courses showed a significant relationship on both awareness and connectedness.

5 RECOMMENDATION

Future research could address the limitations of the current study, replicate the findings, and address what Otto and Pensini [14] propose, which is that nature-based environmental education should be investigated further to enhance ecological motivation in individuals, as well as closeness to nature and environmental knowledge as complementary aspects of ecological behavior. In addition, to collect evidence that supports and encourages these lines of research, the development of research focused on educational and recreational treatments based on nature, including long-term follow-up[15], as well as the documentation of tangible steps to move toward reconnection with nature, should be examined[16]

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