

A Comparative Study in the Level of Environmental Attitude of Students Regarding their Parental Educational Level and Occupation

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Abstract: Environmental attitude is the mental disposition of an individual regarding the environment. It is the attitude of individual towards the environment that guarantees his well-being of that environment. This attitude can be discriminated against the individuals and society via the school system. The present study was conducted to assess the attitude of secondary school students towards the environment. It also studied the differences in the level of the environmental attitude of students based on parental educational level and parental occupation. Moreover, it aimed to find whether age and parental educational level can predict environmental attitude of students. The survey was conducted on 600 respondents from secondary school students who were in Form Four in Terengganu, Malaysia. Simple random sampling was the technique applied in the selection of respondents. Environmental Attitude Questionnaire consisting of 10 items adapted from Hassan Taj Environmental Attitude Scale was employed for the present study. The collected data was analyzed using SPSS version 20. Descriptive and inferential (independents-sample t-test, one-way ANOVA, and Multiple Linear Regressions) statistics were applied to analyze the collected data. The results revealed that the secondary school students have a moderate positive attitude towards the environment. No significant differences were found in the level of the environmental attitude of students based on their parental educational level and parental occupation. The results of regression analyses revealed that the environmental attitude level of students is not associated with their age and their parental educational level.

Keywords: Environmental education; Environmental attitude; Secondary school students.

1. Introduction

The environment over the recent decades has experienced a rapid rate of deterioration which led to the nature in-balance in most of the developed and developing countries. For example, in developing countries like Malaysia from July until October 2006 encountered a brief time of slight to average fog due to the trans-boundary pollution from the neighbouring states [1]. Also, between 1980 to 1997, six noteworthy haze scenes were reported formally in Malaysia ranging from April 1983, August 1990, June 1991, October 1991, August to October 1994 and the July to October 1997 which is the most troublesome experienced by the country [2]. The air quality status differed from state to state and is varied by the geopolitical areas, the industrial and commercial activities, populated zones and the traffic conditions [3]. Amid that period, the air quality in Klang Valley zone was just good

23% of the time, average 70% of the time and the rest of the 7% at an unfortunate level [1]. It was found to be more inclined to air pollution than different areas.

In years back, man and nature have a give and take relationship, and the system works very well. The resources of the earth seem to be inexhaustible. However, due to the rapid increase in human population, these resources seems to be draining to the extent that man was over-exhausting the available resources through over-utilization and use of the natural resources without replacing them. The results of the environmental degradation are summed up to depletion of ozone layer, the rise in sea level, noise and air pollution, and global warming among others [4]. The Malaysian government is spending millions of RM in ensuring environmental sustainability as revealed in The Ninth Malaysia Plan (2006-2010).

On the other hand, attitude is defined as “the mental and neural state of readiness, which exerts a directing, influence upon the individual’s response to all objects and situations with which it is related” [5]. Environmental attitude refers to the “attitude rooted in person’s concept of self and the degree to which an individual perceives himself to be an integral part of the natural environment” [6]. The role played by the Malaysian government in restoring environment is undeniable. As such, the government has engaged itself in environmental education programmes to teach students and cultivate environmental awareness and concern among the general population. Example of it is the Young Environmental Scientist programmed which is a programme organized by the Malaysian government to ensure environmental sustainability [7]. The most critical factor influencing the environment was not the official government approach rather its public awareness on the environmental issues [8]. Many individuals have a high environmental concern. However, they have the assessment that it is the prime duty of the legislature to safeguard the environment [1, 9].

The objectives of the present study are grouped into the following:

1. To determine the environmental attitude of students.
2. To determine the differences in the level of the environmental attitude of students concerning parental educational level and parental occupation.
3. To investigate the significant association in the level of the environmental attitude of students regarding their age and parental educational level.

Afterwards, one research question and three hypotheses were formulated from the above objectives. The research question is, what is the level of students’ attitude towards the environment?

However, the following hypotheses guide the research objectives two and three, and they are as follows:

1. There is no significant difference in the level of the environmental attitude of students concerning parental educational level.
2. There is no significant difference in the level of the environmental attitude of students concerning parental occupation.
3. The environmental attitude of students is predicted by the students’ age and parental educational level.

2. Materials and Method

The survey method was applied to the present study. The survey instrument used in the research is questionnaire adapted from Taj Environmental Attitude Scale [10]. Ten items were maintained out of 61 items on the original scale. This was done as most of the items were not suitable for the present study, and some are not even desirable for the Malaysian context. The questionnaire was on a 4-Likert scale from 1 = strongly disagree to 4 = strongly agree. The questionnaire was validated by experts in Environmental Education and Educational Assessment to check the construct validity. During the pilot study, the research instrument was found to had a Cronbach’s alpha of 0.81. A scale is deemed reliable if it has an alpha value higher than 0.6 or between 0.6 and 0.7 [11, 12]. The lowest boundary of acceptability of scale in quantitative survey studies is an alpha value between 0.6 and 0.7 [12]. Concerning the above assertion, the Environmental Attitude Scale for the present research is considered reliable and ready for distribution to the respondents.

The adapted questionnaire was administered to 600 secondary school students in Terengganu in Form Four. It was contended that using student sample is regarded sound for exploratory studies [13]. Consent was obtained from the school authority and the students. Afterwhile, the students were voluntary selected and were asked to fill the questionnaire during the class period. Both sexes of students were involved in the study. A total of 590 (98%) students returned the questionnaire, and it deemed sufficient for the present research.

The data were coded in the SPSS, version 20. The coding follows as 1 = Strongly disagree, 2 = Disagree, 3 = Agree, and 4 =

Strongly agree. Details of the analysis were presented in section three below.

Characteristics of the Respondents

The respondents of the present research are secondary school students in Terengganu. It involves students of Form Four from the six selected secondary schools in Terengganu. As mention earlier, a total of 600 students were chosen as the sample of the present study. The respondents comprised of students from different parental occupational and educational backgrounds. It also comprises students from different age groups.

Table 1 Charecteristics of respondents.

Variables	Characteristics	Freq.	%
Parental occupation	Civil service	308	52.2
	Farming	152	25.8
	Business	130	22.0
Age	12-14 years	113	19.2
	15-17 years	477	80.8
PEL	Pre-university	352	59.7
	> Graduate	238	40.3

From what we have on Table 1 regarding parental occupation, 308 parents of the respondents" civil servants, 152 parents are farmers while 130 parents are businessmen/women. Also, 80.8% of the respondents are between age 15-17 years. However, 40.3% of the respondents' parents are the university graduate while the remaining 59.3% of the parents had attained a pre-university level.

3. Results and Discussion

The results of the research were analyzed using Statistical Package for Social Sciences (SPSS), version 20. All the results were calculated at an alpha level of 0.05. Details of the results are followed according to the objectives of the research.

Environmental Attitude of Students

From the result on Table 2, it was found that the level of the environmental attitude of secondary school students in Terengganu is moderate (M = 2.41, SD = 0.34).

Table 2 Environmental attitude of students

Variable	N	Mean	SD
EAT	590	2.41	0.34

It is evident that the secondary school students involved in the present study had a moderate positive attitude towards environmental issues. This result is inconsistent with studies in other parts of the world. [14] found that post-graduate Geography and Rural Planning students of Isfahan Unversity had positive attitudes towards environmental issues.

Differences in the Environmental Attitude of Students concerning Parental Educational Level

The difference in the environmental attitude of students was calculated using independent-sample t-test. From the results presented in Table 3, it was found that no statistically significant difference between the environmental attitude of students whose their parents had pre-university level (M = 2.40, SD = 0.34) and those that their parents are graduate and above (M = 2.43, SD = 0.33), $t(588) = -0.855$, $p = 0.393 > 0.05$. The formulated null hypothesis which says that there is no significant difference in the level of the environmental attitude of students concerning parental educational level is accepted.

Table 3 Differences in the level of environmental attitude concerning parental educational level

Groupings	Environmental Attitude			
	N	M	SD	Sign.
Pre-university	352	2.40	0.34	0.393
Graduate and above	238	2.43	0.33	

Furthermore, it could be interpreted that the level of the environmental attitude of students is not related to their parental educational level. Moreover, [18] found that increased in the level of education of respondents is not related to the increase in their environmental attitude. The high positive attitude of students

towards environmental issues may come from the active participation of students into different environmental programmes. It may also be associated with their parental off bringing and the society in which they live. Students may not necessarily have a high level of environmental awareness, though their attitude towards environmental problems may be positive. Most of the times, the attitude may be responsible for their previous career. [2] in his study stated that majority (48.1%) of students chose private reading, radio, and television as their primary source of environmental knowledge, awareness, and attitude.

Differences in the Environmental Attitude of Students concerning Parental Occupation

ANOVA test was conducted to determine the differences in the level of the environmental attitude of secondary school students concerning different parental occupation. The fact that law of homogeneity of variance is satisfied, Welch Robust test of equality of means was conducted to determine the differences between the mean of respondents. From the result on Table 4, it was indicated that the calculated p-value is greater than the critical t-value, $p = 0.092 > 0.05$, $F(2, 587) = 2.550$. There is no statistically significant difference in the level of environmental attitude of students whose parental occupation is civil service ($M = 2.39$ $SD = 0.37$), business ($M = 2.39$, $SD = 0.37$), and farming ($M = 2.41$, $SD = 0.35$). Therefore, the null hypothesis which states that there exists a significant difference in the level of the environmental attitude of students concerning parental occupation is rejected.

Table 4 ANOVA test presenting differences in the EAT of students concerning parental occupation

Groupings	Environmental Attitude			
	N	M (SD)	F	p-value
C/Service	308	2.39 (0.37)	2.550	0.092
Business	152	2.39 (0.25)		
Farming	130	2.41 (0.35)		

As indicated above, there is no statistically significant difference in the level of the environmental attitude of students concerning their parental occupation. It shows that all the

students from the three different occupational background had almost the same level of environmental attitude. The studies relating differences in the environmental attitude and their parental occupation has limited literature.

Parental occupation was found to have a strong emphasis on psychology most especially attitude and behavior changes.

Association in the Environmental Attitude of Students with Respects to Age and Parental Educational Level

A multiple linear regression was conducted to evaluate whether the age of students and their parental educational level can predict their environmental attitude.

As featured in Table 5, the general outcome for the regression model was not significant ($p = 0.555$). It showed that all the factors (age and parental educational level) were concurrently not significant to the dependent variable (environmental attitude). Therefore, it is proven that age of students and their parental level of education did not contribute to their environmental attitude $F(2, 587) = 0.589$, $p = 0.555$ with the adjusted $R^2 -0.001$, the two factors contributed 1% to the dimension of students' attitude towards the environment. This value is pitiful, and it is evident that other factors contributed to 99% of the students' attitude towards the environment. Students predicted environmental attitude is equal to $2.42 + 0.025$ (parental educational level) $- 0.024$ (age of students). It is concluded that age of students and parental educational level are not predictors of environmental attitude. There may be other variables predicting the environmental attitude rather than these two. The formulated null hypothesis which says that age and parental educational level are predictors of environmental attitude is accepted.

Table 5 Results of regression analysis

Dependent variable: Environmental attitude			
	Beta	t-value	Sign.
Constant	2.421	31.818	0.000
Factor 1: Age	-0.024	-0.669	0.503
Factor 2: PEL	0.024	0.038	0.870
R ² = 0.002		F – Value = 0.589	
Adjusted R ² = -0.001		Sign. = 0.555	

From the analysis, both factor 1 and 2 did not add significantly to the environmental attitude of students (p-value = 0.503 and 0.870 respectively). The result of the unstandardized coefficient (beta) showed that both factors contribute meaninglessly to the dependent variable (beta = -0.024 and 0.024 respectively).

In general, the results indicated that there is no significant relationship between student ages; their parental educational level and students attitude towards the environment. It indicated that the environmental attitude of students is not foretold by the age of students and their parental educational level. There is limited literature to support or contrast this finding. As such, additional research is needed to investigate the relationship between age of students and their parental educational level with environmental attitude.

However, the insignificant relationship between the environmental attitude of students concerning their age and parental educational level may not be a surprise considering the study area. Terengganu State is considered for its important strategies in attaining sustainable environment, and its involvement in pro-environmental activities to make people aware of their environment.

As stated, environmental awareness involves the perception of the environment and the behavioral inclination to protect the environment [15], which is the attitude. Programmes like Young Environmental Scientist Programme (YES) is one of the programmes involving secondary school students in Terengganu [7] which did not segregate between the participants. Based on this, the majority of secondary school students in Terengganu observe almost the same pattern of lifestyle regarding environmental issues regardless of parental occupation, parental

educational level or age. There may be other factors that are responsible for their environmental attitude apart from their parental occupation, parental educational level, and age. According to other researchers, environmental attitude can be dependably derived from self-reported conservation behaviors [16].

Meanwhile, the finding contradicted with other studies. As mentioned by [17], waste management behavior is predicted by environmental values, situational characteristics, and psychological factors. [18] found that increasing the levels of education reflects the improvement in the level of attitude. But this results refers to the relationship of individual's level of education and his environmental attitude. It is not relating parental educational level and students' environmental attitude. There are limited studies discussing the relationship between parental educational level and students' environmental attitude.

4. Conclusion

Environmental attitude is regarded as the character of an individual towards the environment. People should be considered as the custodian of the environment in which they live. In this study, the attitude of secondary school students towards the environment was moderate.

When comparing environmental attitude between different parental occupations, no significant difference was found between the groups. All the students regardless of their parental occupation were regarded to have almost the same level of environmental attitude. Based on the results of the present study, parental occupation (i.e., civil service, business, and farming) did not differentiate between the levels of the environmental attitude of secondary school students.

Furthermore, it was found that age and parental educational level were not linked with the students' level of environmental attitude. It shows that the attitude of students towards the environment comes from other sources like radio, television, newspaper, etc.

Moreover, it could be concluded that there is something wrong with the secondary school curriculum in Malaysia. It did not favor environment-related issues by not incorporating Environmental Education as an

independent subject in its high school curriculum. From the results of the present research, the level of the environmental attitude of students is slightly above average which is not what is expected. There is the need for curriculum developers to install Environmental Education in the secondary school curriculum and make it compulsory. Meanwhile, the government has to make in its policy that environmental protection as everyone's responsibility and anyone caught abusing the nature to be dealt with in its bid to protecting the nature.

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