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Environmentally-Literate Citizenry among Malaysian Youth to Produce Responsible Environmental Behaviour

Warganegara Celik Alam Sekitar dalam Kalangan Belia Malaysia bagi Melahirkan Tingkahlaku Alam Sekitar yang Bertanggungjawab

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ABSTRACT

This quantitative study explores the environmentally-literate citizenry for responsible environmental behavior among Malaysian youth involving 1,000 young Malaysians selected from five regional zones (north, central, south, east coast, and East Malaysia). A stratified random sampling technique based on age gender and the location was used to select respondents. The study instrument was a questionnaire that involved two constructs; environmental literacy (atmosphere, hydrosphere, lithosphere, biosphere) and environmentally responsible behaviour. A descriptive analysis was used to represent level, frequency, and percentage. While Pearson correlation was used to find the relationship between environmental literacy and responsible environmental behaviour among Malaysian youth. Finding shows that the levels of environmental literacy at high levels (M = 4.050, SP = .611) and all sub-constructs also at high levels, atmosphere (M = 3.884, SP = .638), hydrosphere (M = 4.083, SP = .725), lithosphere (M = 3.964, SP = .683) and biosphere (M = 4.269, SP = .739). While responsible environmental behaviour was at a high average level with values of M = 3.868 and SP = .544. The correlation between environmental literacy and responsible environmental behaviour among Malaysian youth indicates a weak relationship strength (r=2.75, p=.000). Therefore, there show that environmentally will affect the literate citizenry among Malaysian youth to produce responsible environmental behaviour. It is hoped that this study will provide the basis for further research into the level and potential of literacy and environmentally responsible behaviour towards environmental sustainability in Malaysian society and increase awareness of serious environmental issues.

Keywords: Attitude; behavior; awareness; environment; young Malaysian

ABSTRAK

Kajian kuantitatif ini meneroka kewarganegaraan celik alam sekitar untuk menghasilkan tingkah laku alam sekitar yang bertanggungjawab dalam kalngan belia Malaysia yang melibatkan 1,000 belia Malaysia yang dipilih dari lima zon wilayah (Utara, Tengah, Selatan, Pantai Timur, dan Malaysia Timur). Teknik pensampelan rawak berstrata berdasarkan jantina, umur dan lokasi digunakan untuk memilih responden. Instrumen kajian adalah soal selidik yang melibatkan dua konstruk; literasi alam sekitar (atmosfera, hidrosfera, litosfera, biosfera) dan tingkah laku alam sekitar yang bertanggungjawab. Analisis deskriptif digunakan untuk mewakili tahap, frekuensi, dan peratusan. Sementara korelasi Pearson digunakan untuk mengetahui hubungan antara literasi alam sekitar dan tingkah laku alam sekitar yang bertanggungjawab dalam kalangan belia Malaysia. Dapatan menunjukkan bahawa tahap literasi alam sekitar berada pada tahap tinggi (M = 4.050, SP = .611) begitu juga semua sub-konstruk pada tahap tinggi, atmosfera (M = 3.884, SP = .638), hidrosfera (M = 4.083, SP = .725), litosfera (M = 3.964, SP = .683) dan biosfera (M = 4.269, SP = .739). Manakala tingkah laku alam sekitar yang bertanggungjawab berada pada tahap purata tinggi dengan nilai M = 3.868 dan SP = .544. Korelasi antara literasi alam sekitar dan tingkah laku alam sekitar yang bertanggungjawab dalam kalangan belia Malaysia menunjukkan kekuatan hubungan yang lemah (r = 2.75, p = .000). Oleh itu, ini menunjukkan bahawa persekitaran akan mempengaruhi kewarganegaraan celik dalam kalangan belia Malaysia untuk menghasilkan tingkah laku alam sekitar yang bertanggungjawab. Diharap melalui kajian ini dapat memberikan landasan penelitian yang lebih lanjut mengenai tahap dan potensi literasi dan tingkah laku alam sekitar yang bertanggungjawab terhadap kelestarian alam sekitar dalam masyarakat Malaysia di samping meningkatkan kesedaran mengenai masalah alam sekitar yang serius.

Kata kunci: Sikap; tingkah laku; kesedaran; persekitaran; belia Malaysia

INTRODUCTION

Literacy is a necessity today in building a nation of knowledgeable nations, without forgetting the limits of humanity. Literacy is basic knowledge and a skill needed by all societies throughout the current modern world (Vacher 2014). At an early age, literacy allows people to develop educated, high-level thinking and master several languages to address 21st-century educational challenges (National Institute for Literacy, 2008). In the field of education, literate individuals are better able to access opportunities for continuing education, and can further meet job market demands, ensuring economic prosperity and social well-being (UNESCO, 2011). It has also been reported that a higher literacy rate is essential to improving the skill and opportunities of an individual, while helping families, communities, and society as well (Hanifah, Mohmadisa, Yazid, Nasir & Saiyidatina Balkhis 2020).

Globally, literacy is researched through Sustainable Development Goals (SDGs) to achieve the Quality Education Target (Target 4.6) by 2030, attaining literacy for all young people and most adults. This is because with a more advanced level of literacy, it would be possible to develop more individuals who can efficiently solve problems using a mixture of intuition and logic to build solutions. Intuition in this sense is the ability to instinctively perceive something without the need for conscious judgment. Contrarily, logic is a judgement made or assessed based solely on conscious principles and considerations. The importance of literacy in raising social awareness, in the sense of sustainability, is clear, along with the development of decision-making and problem-solving activities (Hanifah, Mohmadisa, Yazid, Nasir, Samsudin & Saiyidatina Balkhis 2020).

Environmental sustainability literacy is one of the efforts to develop environmentally conscious people, and to catalyse the transition from the industrial community's economic development model to an ecological-economic development model, in order to create a higher level of civilization in which society is more concerned with the conservation of the environment while possessing a strong sense of environmental responsibility. This demonstrates that the sustainability of environmental studies should be undertaken in the preparation, implementation, and assessment phases - in line with the technical and environmental changes of a country - to ensure a sustainable society aligned to the green growth trajectory of the government (Economic Planning Department of Prime Minister 2017).

To accomplish this goal, the four main physical components of atmosphere, hydrosphere, lithosphere, and biosphere, as suggested by Mohamad Suhaily Yusri (2002), should be highlighted to assess a society's environmental literacy. The biosphere consisted of living things such as humans, plants, and animals. The lithosphere refers to the dense outer layer of the earth forming the mainland, the continents, the islands, and the ocean floors. The lithosphere's main components are rocks, minerals, and soil. The hydrosphere includes water-based geological forms such as lakes, seas, marshes, wetlands, and rivers. Around 70.8% of earth's surface consists of components of the hydrosphere, with the rest comprised of terrestrial land. Among the hydrosphere, 97.2% is saltwater or lakes, while 2.8% is freshwater (Joseph, 2017). The last part of the atmosphere is the outer layer of dust. An average atmospheric thickness exceeds 1000km. The principal atmospheric source is air or gas. There are many types of gasses in the atmosphere and 75 per cent of them are in the lower layers of the atmosphere, about 16 km and 20 km from earth's surface. Besides carbon, air also consists of water vapour, smoke, and suspended particles such as pollen, dust, soot, and so on (Joseph, 2017). However, there are still a few studies that are related to sphere elements to test environmental literacy. Hence, the main objective of this research will discuss the relationship between the components of Malaysian youth citizenship literacy focus on sphere components in developing responsible environmental behaviour.

RELATIONSHIP BETWEEN ENVIRONMENTAL BEHAVIOUR AND ENVIRONMENTALLY-LITERATE CITIZENRY

Environmental behaviour is defined as actions that contribute to the preservation and conservation of the environment (Axelrod & Lehman 1993). Environmental behaviour is the actual actions that a person takes on an environmental problem (Leff 1978). Furthermore, environment behaviour is a part of environmental action. Emmons (1997) described environmental action as a deliberate strategy involving decision-making, preparation, execution and reflection by a person or group intending to achieve a particular environmental result.

Environmental action typically requires environmental and social analysis to educate and assess intervention in an iterative, cyclical process (Stapp et al., 1996; Hart, 1997; Bishop & Scott 1998; McClaren & Hammond 2005); thus, both research and civic engagement are central to this educational approach (Schusler et al. 2009). Examples of environmental action include persuading local government officials to carry out erosion controls along a stream bank in response to water quality tests showing high sediment rates (Tompkins, 2005), or reclaiming a town lot for a vegetable garden and increasing local community kitchen items in response to a community survey documenting restricted local access to fresh produce.

More recent work by Jensen and Schnack (1997) used separated actions and conduct from environmental intervention, which explicitly falls within the democratic model. Unlike behaviour, acts are performed deliberately, or knowingly, concerning motives and reasons. Unlike performing the task, intervention is focused on the root causes of an issue being approached. The intentionally of action distinguishes it from other phenomena one can erroneously mark 'action' but which are non-participatory, prescribed, or indoctrinated. In the other hand, environmental action requires the sincere involvement of young people. Although this involvement must be in the context of joint adult decision-making (Hart & Nolan 1999) and this can contribute to the environmentally-literate citizenry.

The notion of environmentally-literate citizenry provides a framework for re-conceptualizing the social role of individuals as regards reducing consumption. Citizenship is an extremely flexible term, with many definitions and implementations (Joppke 2010). In short, citizenship is named as a member of a political culture that has a set of rights and duties to it. Citizenship has been synonymous with membership in a nation-state, but across history, political cultures have distinguished. Empirical research has systematically examined the extent to which environmentally-literate citizenry or ecological citizenship holds positive values and beliefs (Horton 2005; Jagers 2009; Jagers and Matti 2010; Jagers, Martinsson, and Matti 2014; Seyfang 2006; Wolf, Brown, and Conway 2009). Jagers and Matti (2010) tried to assess ecological citizenship in a Swedish community while Wolf, Brown, and Conway (2009) examined how the expectations of social responsibility of Canadian citizens affected their behaviour as voters and consumers. But many of the studies cited here do not cover the full range of daily activities that green citizenship imagines. Instead, private behaviour are routinely measured by the willingness of individuals to buy green products and reduce household waste, while public behaviour involve support for environmental policies, including higher taxes on petrol and non-ecologically labelled products (Jagers 2009; Jagers, Martinsson, and Matti 2014; Wolf, Brown, and Conway 2009). Steenbergen (1994) notes that the rights and obligations of the earth citizen concern ecological citizenship. Ecological citizenship consists of a series of freedoms examples of clean air, clean water or the right to life and obligations not to pollute that be sitting next door.

The relationship between environmental behaviour and environmentally-literate citizenry can be seen through lifestyle practices and Theory of Environmentally Responsible Behaviour (ERB) suggested by Hines, Hungerford, and Tomera (Hines, Hungerford & Tomera 1987). The model argues that having an intention to act is a major factor that influences ERB. The ERB Model indicates that the following variables: intent to act, locus of control (an internalized sense of personal influence over the events in one's own life), behaviour, sense of personal responsibility, and awareness.

Figure 1 shows the behaviour that are likely to produce an ERB. This model considers the major variables that play a role in the ERB implementation cycle for each. The internal control centre has a very considerable effect on the purpose to behave according to the pattern, which significantly defines the ERB of a person. This model also illustrates the presence of a relationship between the control centre, individual attitudes, and intent to act. The control centre directly influences the behaviour of a person which may contribute to improved purpose to act and improved behaviour. Thus, the theory focuses more on established interactions between parameters which affect the behaviour of an individual than on the singular impact of a single variable especially in the context of environmental behaviour.

Moreover from the model in Figure 1, information alone is grossly inadequate to act responsibly towards the environment, whereas awareness of some individuals about the environment and its regulations could prompt them to have a good attitude that could translate into good intentions to act, while other individuals the experience internal and external control, such as being influenced by others' behaviour or holing While separate

attitudinal structures, control centre and intention to act may not be enough to establish an intention to act, combined under one overarching definition they become a foundation on which predispositions for pro-environmental actions are created (Hines, Hungerford & Tomera 1987).

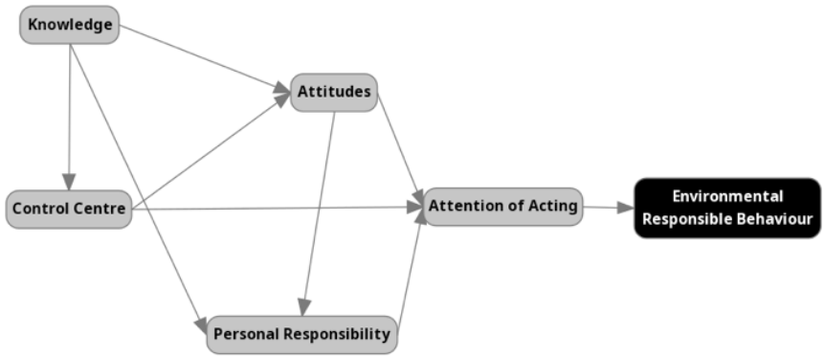

FIGURE 1. Theory of Environmentally Responsible Behaviour (ERB)

In achieving these goals, the environmental cooperation and sustainable development activities among youth are intended to improve developed countries' capacity to engage in environmental negotiations, contribute to the protection and creation of global public goods, and implement broad environmental treaty action plans (Jessica, Hanifah, Mohmadisa & Yazid 2020). More recent work by Goldman et al. (2020) also stated that an actively engaged citizen who exercises his/her environmental rights and responsibilities in the private and public spheres, the idea of Environmental Citizenship embodies actions.

Therefore, based on previous studies it was found that there is a relationship between environmentally-literate citizenry and responsible environmental behaviour among Malaysian youth. Thus, the hypothesis to be proved in this study is that there is a relationship between environmentally-literate citizenry and responsible environmental behaviour among Malaysian youth. The component of environmental behaviour will be measure from four main physical components of the atmosphere, hydrosphere, lithosphere, and biosphere.

METHODOLOGY

POPULATION AND SAMPLE STUDY

This study estimates the sample size of 1000 youths of Malaysian nationals selected by stratified random sampling of samples involving location, gender, and age of the youth. According to this study, the study population consisted of youths in Malaysia aged 20 to 39 years as recommended by the National Youth Development Policy (1997) as well as the Malaysian Youth Index 2018. The sample selection was further divided into two age categories, namely 20 to 29 years and 30 to 39 years to see the differences between the two different groups - the early phase of youth (20 to 29 years) and the late phase (31 to 39 years) as suggested by Erikson's Theory of Psychological Development (Erikson, 1963). Youth selection between the ages of 20 and 39 is because of the maturity of thinking and decision making compared to youths under 20 years of age.

Table 1 shows the total population of Malaysian youths between the ages of 20 and 39, which is 11,146,000. Therefore, live samples will be taken for each level using a stratified sampling method based on location, gender, and age category of youth. To determine the number of samples to be followed in terms of population size, three criteria were referred to as Krejie and Morgan (1970) sample table, Cohen, Manion and Morrison (2000) table i.e., if 10 study variables were used for multiple regression analysis on the level of significance is 0.05 then the sample size is 833. Based on the guidelines of this condition, the study set sample size of 1000 people (Table 2).

TABLE 1. Young Malaysian Population by Age

Age	Total population	Phase	Total
20 until 24	2,272,000	Early	4,509,000
25 until 29	2,237,000		
30 until 34	3,288,000	End	6,637,000
35 until 39	3,349,000		
Total	11,146,000	Total	11,146,000

Source: Department of Statistics Malaysia (2016)

Table 2 shows the breakdown of 1,000 research sample. The selection was based on age, gender, and location divided into five zones, namely the northern zone (Perlis, Penang, and Perak), central zone (Selangor, Kuala Lumpur, and Putrajaya), southern zone (Negeri Sembilan, Melaka, and Johor), eastern coastal zone (Pahang, Kelantan, and Terengganu), and east Malaysia zone (Sarawak, Sabah, and Labuan). Five hundred of the respondents were living in urban areas and 500 in rural areas. Around half were male and others were female. Five hundred respondents were between the ages of 20 and 29, and 500 were between 30 and 39.

TABLE 2. Research Sample Breakdown

Location	Category								Total
	Rural				Urban				
Age Category	20 – 29 years old		30 – 39 years old		20 – 29 years old		30 – 39 years old		
Gender	M	F	M	F	M	F	M	F	
North (Perlis, Pulau Pinang, Perak)	25	25	25	25	25	25	25	25	200
Central (Selangor, Kuala Lumpur dan Putrajaya)	25	25	25	25	25	25	25	25	200
South (Negeri Sembilan, Melaka, Johor)	25	25	25	25	25	25	25	25	200
East Coast (Pahang, Kelantan, Terengganu)	25	25	25	25	25	25	25	25	200
East Malaysia (Sarawak, Sabah, Labuan)	25	25	25	25	25	25	25	25	200
Total	125	125	125	125	125	125	125	125	1000

Legend:
M=Male F=Female

INSTRUMENT

The study used questionnaire as a research instrument consisting of five sections namely sections A, B, C, D, E and F (Table 3). Section A contains the profile information of the respondents while Parts B to E cover the construction information of citizen literacy environmental studies (atmosphere), environmental literacy (hydrosphere), environmental literacy (lithosphere) and environmental literacy (biosphere). Part F is about environmental responsible behaviour information that includes 3R sub-construction, green purchases, power savings, water savings and travel modes.

TABLE 3. Respondent Questionnaire Information

	Construct	Sub Construct	Number of Items	Source of Item
A	Background of Respondent	Location	3	Built according to research needs
		Age		
		Gender		
B	Environmental Literacy (Atmosphere)	Factor	5	Hanifah et al. (2017) and Mohd Anuar & Mohammad Nazri (1999)
		Impact	5	
		Way to overcoming	5	

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C	Environmental Literacy (Hydrosphere)	Factor	5	Hanifah et al. (2017) and World Wildlife Organisation Malaysia (WWF-Malaysia) (2002)
		Impact	5	
		Way to overcoming	5	
D	Environmental Literacy (Lithosphere)	Factor	5	Hanifah et al. (2017)
		Impact	5	
		Way to overcoming	5	
E	Environmental Literacy (Biosphere)	Factor	5	Salwati (2013) and Center of Environmental Law and Policy (2018)
		Impact	5	
		Way to overcoming	5	
F	Environmental Responsible Behaviour	3R	7	Hanifah et al. (2017), National Geography (2019) and Arasinah, Mohd Azlan, Che Ghani, Faizal Amin & Mohd Bekri (2018)
		Green Purchases	7	
		Power Savings	7	
		Water Savings	7	
		Travel Modes	7	

INSTRUMENT RELIABILITY

Table 4 shows the reliability of environmental literacy knowledge with Alpha Cronbach's alpha that measures the internal consistency of the construct. According to Babbie (1992), Alpha Cronbach's values are classified based on the reliability index classification where the value of 0.90-1.00 is very high, 0.70-0.89 is high, 0.30-0.69 is simple and 0.00-0.30 is low. The analysis results show that the Cronbach's Alpha values are in the high and very high classification range between 0.70-0.95. This study instrument has high reliability according to Babbie (2007) classification.

TABLE 4. Reliability of the Questionnaire

Construct	Sub Construct	Number of Items	Alpha Cronbach Value
Environmental Literacy (Atmosphere)	Factor	5	.809
	Impact	5	.801
	Way to overcoming	5	.635
Environmental Literacy (Hydrosphere)	Factor	5	.779
	Impact	5	.829
	Way to overcoming	5	.853
Environmental Literacy (Lithosphere)	Factor	5	.654
	Impact	5	.577
	Way to overcoming	5	.876
Environmental Literacy (Biosphere)	Factor	5	.899
	Impact	5	.864
	Way to overcoming	5	.884
Environmental Responsible Behaviour	3R	7	.827
	Green Purchases	7	.858
	Power Savings	7	.714
	Water Savings	7	.744
	Travel Modes	7	.803

METHOD OF DATA ANALYSIS

Descriptive analysis is used to describe or summarize the information of a population or sample. Through this descriptive analysis, we can interpret data or information by summarizing several sets of data or information in various mediums such as tables or diagrams. Classification of environmental literacy and responsible environmental behaviour among Malaysian youth is used by Landell (1997) as shown in Table 5.

TABLE 5. Level Classification Mean Score

Mean Score	Level Classification
1.00-2.33	Low
2.34-3.66	Medium
3.67-5.00	High

Source: Landell (1997)

While Pearson's correlation test was used to examine the relationship between adolescents' attitudes and behaviour toward environmental stewardship. Some assumptions for conducting this study have been followed in that the data are normally distributed, the relationship between attitude variables and behavioural variables is linear and the measurement scale is intervals. Based on these Pearson coefficients, it is possible to categorize the strength of the relationship between variables and sub-variables using the index provided by Cohen (1992); that is, (a) the correlation coefficient below 0.30 indicates a weak relationship strength, (b) a correlation coefficient of 0.30 to 0.50 indicates a moderate relationship strength, and (c) a correlation coefficient greater than 0.50 indicates a strong correlation.

RESULTS AND DISCUSSIONS

RESPONDENT BACKGROUND

Table 6 shows respondents' backgrounds of 1000 youth selected based on age, gender, and location. The findings show that 500 youths live in the city and rural areas respectively. For the respondent's sex, about 500 youths were male and the same number for female respondents. For the age category, 500 respondents were between the ages of 20 and 29 and 500 respondents were between 30 and 39 years old.

TABLE 6. Respondents' Background

Respondents' Background		N	%
Location	Urban	500	50.0
	Rural	500	50.0
	Total	1000	100
Gender	Man	500	50.0
	Woman	500	50.0
	Total	1000	100
Age	20 - 29 years old	500	50.0
	30 - 39 years old	500	50.0
	Total	1000	100

ENVIRONMENTAL LITERACY LEVELS AMONG MALAYSIAN YOUTH

Table 7 shows the levels of environmental literacy among youths showing the average levels of four environmental literacy constructs namely atmosphere (M = 3.884, SP = .638), hydrosphere (M = 3.884, SP = .638), lithosphere (M = 3.884, SP = .638) and biosphere (M = 3.884, SP = .638) were high. For each sub construct, it also shows the highest average level of factors, effects and means of overcoming. This shows that the environmental literacy of Malaysian youths is at a satisfactory level as the findings show. This study is in line with the study of Neo, Choong and Ahamad (2015) which showed that the environmental literacy index in Malaysia is high in the literacy category related to water pollution. This is contrary to the findings of Jamilah et al. (2011) who state that youth and the public's knowledge of environmental issues in Malaysia are still low is irrelevant for 2015 and above. This improvement is seen to be related to the development of social media that has played a significant role in disseminating information on environmental issues (Nur Nasliza Arina & Jamilah, 2015). This issue has been considered by recent work by Abdul Rahman (2020) that shows that young people in Malaysia typically have a high degree of environmental consciousness and generally optimistic attitudes towards the environment. However, their level of environmental participation issues seems inadequate.

TABLE 7. Levels of Environmental Literacy among Malaysian Youth

Construct	Low Level		Medium Level		High Level		Mean	SD	Mean Level
	N	%	N	%	N	%			
Environmental Literacy	23	2.3	182	18.2	795	79.5	4.050	.611	High
Atmosphere	25	2.5	309	30.9	666	66.6	3.884	.638	High
• Factor	92	9.2	200	20.0	708	70.8	3.897	.868	High
• Impact	49	4.9	137	13.7	814	81.4	4.233	.791	High
• Way to overcoming	70	7.0	514	51.4	416	41.6	3.521	.891	High
Hydrosphere	49	4.9	174	17.4	777	77.7	4.083	.725	High
• Factor	50	5.0	282	28.2	668	66.8	3.927	.811	High
• Impact	50	5.0	124	12.4	826	82.6	4.256	.801	High
• Way to overcoming	84	8.4	155	15.5	761	76.1	4.066	.901	High
Lithosphere	34	3.4	246	24.6	720	72.0	3.964	.683	High
• Factor	38	3.8	296	29.6	666	66.6	3.964	.763	High
• Impact	36	3.6	457	45.7	507	50.7	3.775	.792	High
• Way to overcoming	85	8.5	119	11.9	796	79.6	4.152	.892	High
Biosphere	45	4.5	120	12.0	835	83.5	4.269	.739	High
• Factor	64	6.4	94	9.4	842	84.2	4.365	.855	High
• Impact	70	7.0	178	17.8	752	75.2	4.106	.892	High
• Way to overcoming	60	6.0	100	10.0	840	84.0	4.335	.838	High

RESPONSIBLE ENVIRONMENTAL BEHAVIOUR AMONG MALAYSIAN YOUTH

Table 8 shows the responsible environmental behaviour constructs of behaviour in Malaysian society which show that overall behaviour is at a high average level with values of M = 3.868 and SP = .544. While the sub-constructs of responsible environmental behaviour were 3R (M = 3.902, SP = .701), green purchases (M = 3.848, SP = .719), electricity savings (M = 4.072, SP = .600), savings. water (M = 3.731, SP = .719) and travel mode (M = 3.787, SP = .711) were respectively high. The findings of this study are in line with the study of Mohamad Fazli and Teoh (2006) who showed that consumers in Malaysia have a good level of behaviour in terms of sustainable consumption. Besides, the study of Neo et al. (2016) also shows that environmental awareness behaviour of Malaysians are high for climate change and water pollution behaviour. Nasir et al. (2020) also suggested that results showed that awareness and attitudes towards climate change mitigation and adaptation variables were at high levels, whereas at moderate levels among university students were the abilities and practices of climate change mitigation and adaptation variables. This indicates that the environmental sustainability behaviour of the Malaysian public is seen to begin to increase compared to previous years after programs related to the environment gained a favourable response.

TABLE 8. Levels of Responsible Environmental Behaviour among Malaysian Youth

Construct	Low Level		Medium Level		High Level		Mean	SD	Mean Level
	N	%	N	%	N	%			
Environmental Responsible Behaviour	11	1.1	337	33.7	652	65.2	3.868	.544	High
• 3R	25	2.5	312	31.2	663	66.3	3.902	.701	High
• Green Purchases	35	3.5	304	30.4	661	66.1	3.848	.719	High
• Power Savings	12	1.2	203	20.3	785	78.5	4.072	.600	High
• Water Savings	49	4.9	368	36.8	583	58.3	3.731	.719	High
• Travel Modes	37	3.7	364	36.4	599	59.9	3.787	.711	High

RELATIONSHIP BETWEEN ENVIRONMENTAL LITERACY AND RESPONSIBLE ENVIRONMENTAL BEHAVIOUR AMONG MALAYSIAN YOUTH

Table 9 shows the relationship between environmental literacy and responsible environmental behaviour among Malaysian youth. Results of the Pearson correlation (Table 9) indicated that there was a significant positive association between environmental literacy and responsible environmental behaviour among Malaysian youth, ($r(1000) = .275$, $p = .000$). While, for each construct most it shows the significant positive association with r value below 0.30 which indicates a weak relationship strength between them.

This shows that between environmental literacy and responsible environmental behaviour among Malaysian youth follow the idea in the Theory of Environmentally Responsible Behaviour (ERB) (Hines, Hungerford & Tomera, 1987). The model suggests that having an intention to act is a significant factor that influences ERB. The actual action a person takes on an environmental problem is environmental activity (Leff, 1978). Environmental behaviour is an aspect of action for the environment. Such results are also seen in a recent study in Goldman et al. (2020) which also claimed that the concept of Environmental Citizenship embodies actions by an actively involved citizen who exercises his/her environmental rights and responsibilities in the private and public spheres. Therefore, it shows if that environmental literacy including four elements of atmosphere, hydrosphere, lithosphere, and biosphere increases as the environmental responsible behaviour increase.

TABLE 9. Relationship between Environmental Literacy and Responsible Environmental Behaviour among Malaysian Youth

Construct	Environmental Literacy		Atmosphere		Hydrosphere		Lithosphere		Biosphere	
	r	p	r	p	r	p	r	p	r	p
Environmental Responsible Behaviour	.275**	.000	.227**	.000	.241**	.000	.290**	.000	.211**	.000
• 3R	.218**	.000	.168**	.000	.183**	.000	.219**	.000	.196**	.000
• Green Purchases	.226**	.000	.176**	.000	.206**	.000	.224**	.000	.187**	.000
• Power Savings	.249**	.000	.194**	.000	.224**	.000	.242**	.000	.215**	.000
• Water Savings	.172**	.000	.173**	.000	.153**	.000	.217**	.000	.073**	.000
• Travel Modes	.224**	.000	.186**	.000	.190**	.000	.245**	.000	.171**	.000

CONCLUSION

The role of literacy in shaping responsible environmental behaviour is an important consideration in efforts to create individuals with pro-environmental behaviour (PEBs). Behaviour is also influenced by a variety of external and internal factors that change over time, such as demographic factors, but these are largely beyond one's control. In this study, the finding shows that the levels of environmental literacy and responsible environmental behaviour among youths showing the high levels. It was observed that when environmental literacy was at a high level, so was responsible for environmental behaviour. Similarly, the correlation test also showed a positive correlation between the variables and sub-variables of environmental literacy and responsible environmental behaviour. Besides, the study shows that there was a significant relationship between environmental literacy in shaping responsible environmental behaviour citizenry. It could then be shown that the outcomes of the study succeeded in achieving the objective set at the beginning of the paper. However, in terms of race, this research does not establish inequalities and could be a recommendation for future studies. Hopefully, this research also will form the basis of further studies on the level of literacy and environmentally responsible behaviour, and will raise the knowledge of serious environmental problems in Malaysian society.

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