Effect of Students' Attitude on Environmental Factors and Green Practice (Reduce, Recycle & Reuse)

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Abstract
Going green must derive from green practice. The green practice involves 3R process that focus on effort to reduce, recycle, and reuse. The recycle issue always became on top in the list, indirectly other effort reduce and reuse also important toward environmental concerns. Thus, the researchers found it vital to conduct a study on the green practice process related to 3R (reduce, recycle, and reuse) based on affective and cognitive environmental, also interested to assess the role of students' attitude as a mediator in the relationship between the variables of interest. For that reason, 112 respondents were selected to participate and all of them completed set of questionnaires. The findings show that, only affective environmental and students' attitude have a significant and positive influence towards 3R processes. In addition, students' attitude does not mediate the relationship between affective environmental and 3R since the indirect effect is smaller than direct effect. This finding determine Universiti Teknologi MARA students are putting their efforts and support toward environmental concern. Thus, business industry and tertiary institutional may need to collaborate to start encouraging their customers move effort toward 3R process to support green practice.

Introduction
Going green is not just recycling all the products that we used, it involves more effort than this. Each person playing the important roles to maintain, sustain and protecting the environment. A study from Chua et al (2011) said the prospect of a green future in Malaysia is very bright, meanwhile pursuing green technology in economic and social developments

not only helps to sustain the non-renewable fuels, safeguards and minimises the environmental degradation due to carbon emissions, it also creates a strong green economy and industry, in line with the country's vision as well as the rest of the world economies. The environmental issues have been brought into many discussions. Previous studies in entrepreneurship education also mentioned that emotions have received much less attention from researchers (Kurczewska et al., 2017) compared to cognition. According to Wolski (2009) several universities around the world have made commitments to promote strategies for creating more sustainable universities, through their teaching, their campuses and their management. Activities of going green held in 3R program that comprising activities of reduce, recycle and reuse. Even though the trend of sustainable development has not yet fully permeated to all disciplines, academics, and university leaders, many universities have become engaged in it (Lozano et al., 2013). Furthermore, trend in business have been seen having an increasing awareness on the significance of going green. Savolainen (2015) also stated in modelling information behaviour, the main emphasis on its cognitive dimensions while the role of which affective factors such as emotions and feelings has remained secondary.

Literature Review
Affective Environmental

Affection is regarded as a subjective concept concerning both dispositional affect (personality that is more stable), specific emotion (intense and short-term), and mood (low intensity but lasting, resulting from stimuli) (Cardon et al., 2012; Kurczewska et al., 2017; Mustapha et al., 2018). While, affective dispositions can be defined as affective reactions that individuals display towards environmental deterioration (Hines, Hungerford and Tomera, 1987; Kals and Maes, 2002; Kollmuss and Agyeman, 2002; Fettahlioglu, Timur and Timur; 2016). In other words, affective tendencies are the state of the individual to be sensitive both to the environment and the environmental problems and to take moral and ethical values of the society into consideration while making decisions about the environment and showing responsibilities towards the environment (Roth, 1992; Fettahlioglu et al., 2016).

Cognitive Environmental

Cognition is a term for the process of gaining awareness in which individuals recognize and seek information. It relates to perceiving, recognizing, conceiving, judging, and reasoning. The cognitive construct consists of declarative and procedural knowledge. The difference between these two is that the first refers to the method of link the concepts together and the second is the abilities to apply this knowledge. Dieser (2015) mentioned positive correlations between pro-environmental preferences and scores on a knowledge test and negative correlations with egocentric environmental attitudes and knowledge scores. Furthermore, Bogner (2016) reported a connection between environmental attitudes and knowledge where positive relationships between knowledge and environmental perception were found. Meanwhile, Mustapha et al (2018) in their study has found that it is not hidden fact that environmental affection highly affected towards student's environmental attitude compared to the environmental cognition.

Students' Attitude

Attitudes about littering include feelings scepticism about whether littering is truly a deviant behaviour, if it seriously harmful to the environment, and whether it is worth

mitigating (Keep Louisiana Beautiful, 2017). In one of public Malaysian university, mentioned the students' positive littering behaviour was high due to lack of littering facility provided, followed by low littering awareness and infrequent campaign activities (Asmui et al., 2019). This is consistent with a previous study conducted in one of the private universities in Bandung, Indonesia, students still throw garbage carelessly even though in place there is garbage pit (Anwar et al., 2017). Therefore, those factors showed the affective and cognitive environmental affect the students' attitude and 3R processes.

3R Processes

      3R processes are not new for many citizens including university students. In Malaysia, the trash bins equipped with three different colours widely provided by many university campuses and colleges as to mainly facilitate students to practice 3R. In addition, consumers claimed that the less the facilities provided, and the more inconvenience felt by them in carrying out the process of recycling, the lower would be the participation in recycling (Latif, Omar, Biding and Awang, 2013; Asmui et al., 2018). Littering education has been taken place since the students were in kindergarten and primary schools. However, the problematic point of view of today's generations is that they have the rights of limitless ownership without taking into account the responsibilities towards society and humanity (Astrom, 2011; Ashtankar, 2016; Asmui et al., 2018). This condition caused the efforts of government and university to achieve and maintain the cleanliness of campuses and colleges failed.

The Relationship between Affective environmental, Students' Attitude and 3R

      Affective learning in environmental education in relation to individual attitudes is significant and has laid the groundwork that environmental education helps promote positive attitudes toward the environment (Gardner, 1983). Findings on several studies have shown that there were impacts of affection on attitude (Carrus et al., 2008). Moreover, there were also studies on the impact of affection on green behaviours (reduce, reuse and recycle) (Meneses, 2010). Furthermore, some studies findings show a more significant impact of affection towards consumers' green behaviour (Lee, 2009).

Methodology

      This study is based on adapted questionnaire from the previous studies (Nameghi et al., 2013 & Ehsaneh et al., 2012) targets students at higher learning university as the sample. The questionnaire used is divided into two parts where Part 1 accumulated by four sections such as the environmental affective (five items); environmental cognitive (six items); students' attitude (five items); and 3R (reduce, reuse, recycle) process (three items each), whereas Part 2 is a demographic section. The questions are in a five Likert-scale format range from 1 (strongly disagree) until 5 (strongly agree). The questionnaire was distributed and a total of 112 respondents completed the survey.

      The data analyses were conducted by two steps using IBM-SPSS AMOS version 24 software including descriptive analysis and structural equation modelling. First, analysis of covariance structure was used to examine the mediation model and investigate the causal relations between the main variables. Second, mediation test procedures used to obtain estimated value of the indirect effects and to test their significance by using standardized regression weight with students' attitude used as mediating variable. The mediation occurs statistically if the indirect effect obtained is higher than the direct effect.
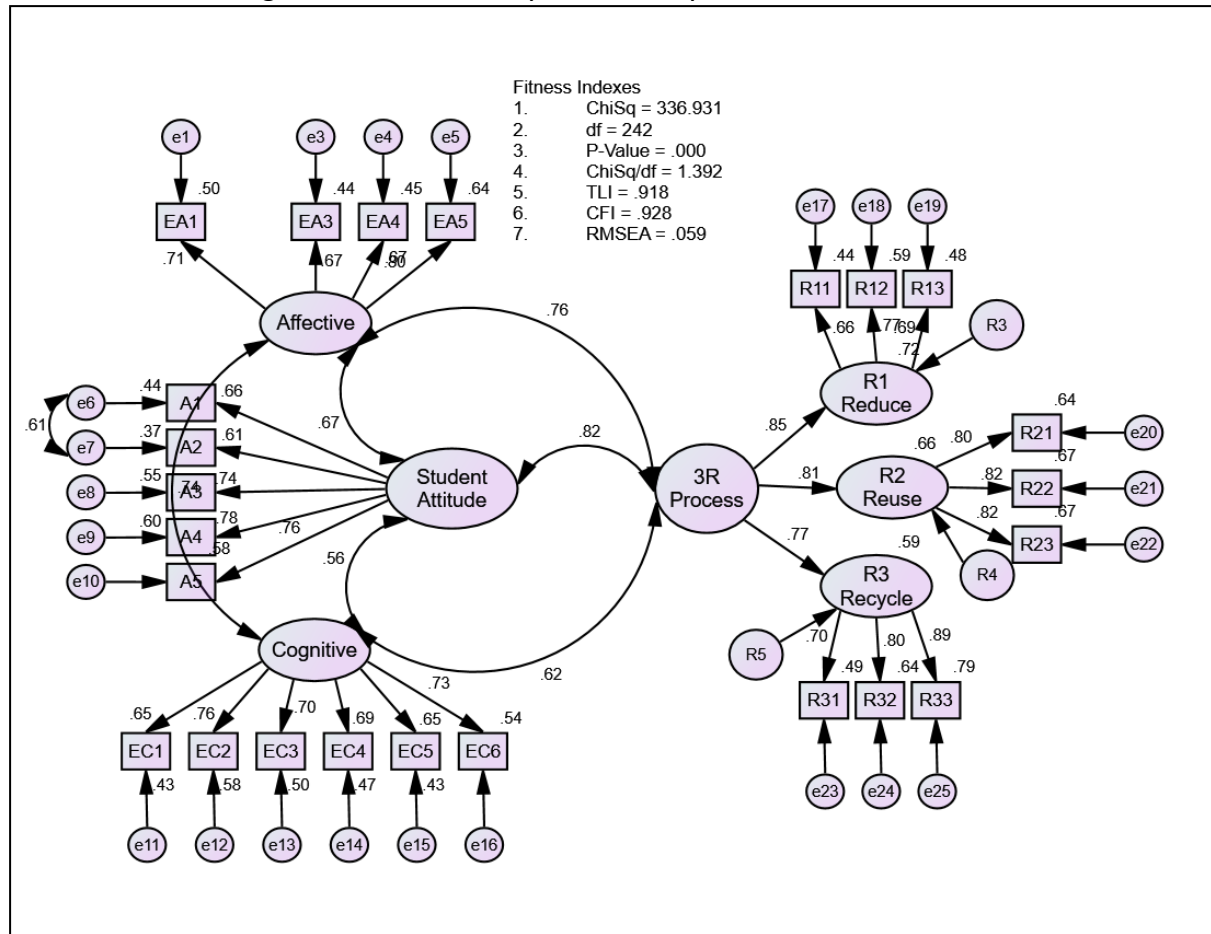
Reliability and Validity

Reliability and validity were used in this study through unidimensionality, validity and reliability to ascertain or evaluate the fitness of the measurement models (Zainudin, 2015). Zainudin (2015) and Hair et al. (2010) stressed that unidimensionality is achieved when the measuring items have acceptable factor loading for the respective latent construct and the recommended factor loading value for latent construct is around 0.6 and above, and all in one direction. Secondly, validity is access through convergent validity, discriminant validity, and constructs validity. Convergent validity is achieved when the average variance extracted (AVE) is at least 0.5, construct validity achieved for each of the fitness indexes, as shown in Table 1 for a required level, and discriminant validity achieved when the construct is free from redundant items and the correlation between exogenous constructs is at most 0.85. Thirdly, reliability must satisfy two criterias; composite reliability (CR) achieved for CR at least 0.6 and AVE is at least 0.5 (Zainudin, 2015; Hair et al., 2010).

Table 1
The three categories of model fit

`Name of Category	Name of Index	Index Full Name	Level of Acceptance
Absolute Fit	Chi-Square	Discrepancy Chi-Square	P-value > 0.05
	RMSEA	Root Mean Square of Error Approximation	< 0.08
	GFI	Goodness of Fit	> 0.09
Incremental Fit	AGFI	Adjusted Goodness of Fit	> 0.09
	CFI	Comparative Fit Index	> 0.09
	TLI	Tucker-Lewis Index	> 0.09
	NFI	Normal Fit Index	> 0.09
Parsimonious Fit	Chisq/df	Chi-Square/ Degrees of Freedom	< 3.0

Figure. 1. Confirmatory factor analysis between variables

The goodness of measurement model fit was tested to examine how well the model fits the data is shown in Table 2.

Table 2
The goodness of measurement model fit

`Name of Category	Name of Index	Value Index	Result
Absolute Fit	RMSEA	.059	Minimum value achieved
Incremental Fit	CFI	.918	Minimum value achieved
	TLI	.928	Minimum value achieved
Parsimonious Fit	Chisq/df	1.392	Minimum value achieved

Figure 1 shows all the paths with standardized regression coefficients has factor loadings at least 0.6 and all measurement in positive direction so that the unidimensional was achieved as suggested by Zainudin (2015) after removed labelled item EA2. In addition, convergent validity was also achieved because all AVEs is greater than 0.5, all the fitness indexes of construct validity achieved as shown in Table 2 for a required level, and discriminant validity achieved because all construct is free from redundant items and the correlation between exogenous constructs is at most 0.85 (Zainudin, 2015; Hair et al., 2010).

Findings and Discussion

In total 38 (33.9%) male and 74 (66.1%) female students aged less than 20 years old were involved in this study with all of them have experience in green practicing. The following Figure 2 shows the structural equation modelling between all the constructs.

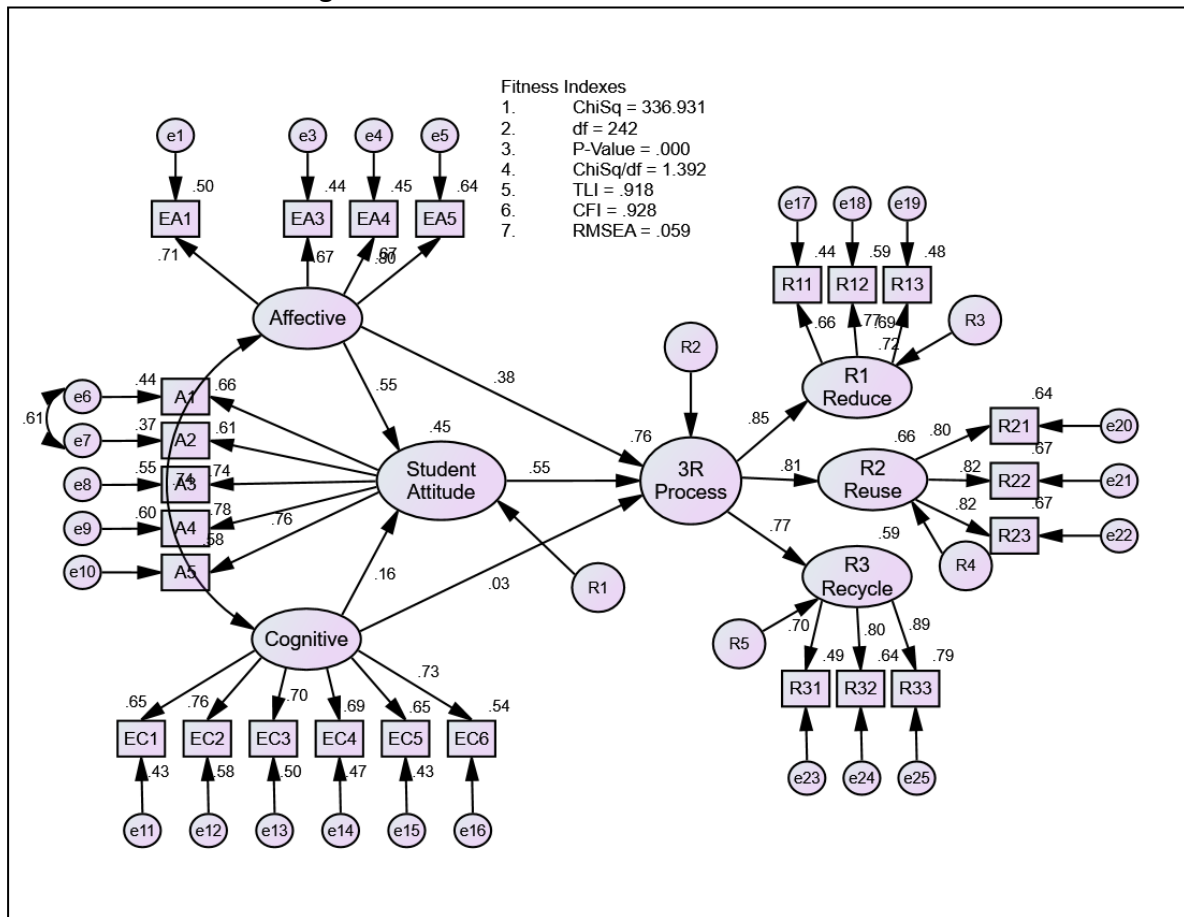Figure. 2. The measurement model between variables

Table 3

The standardized regression weights and its significance for each path

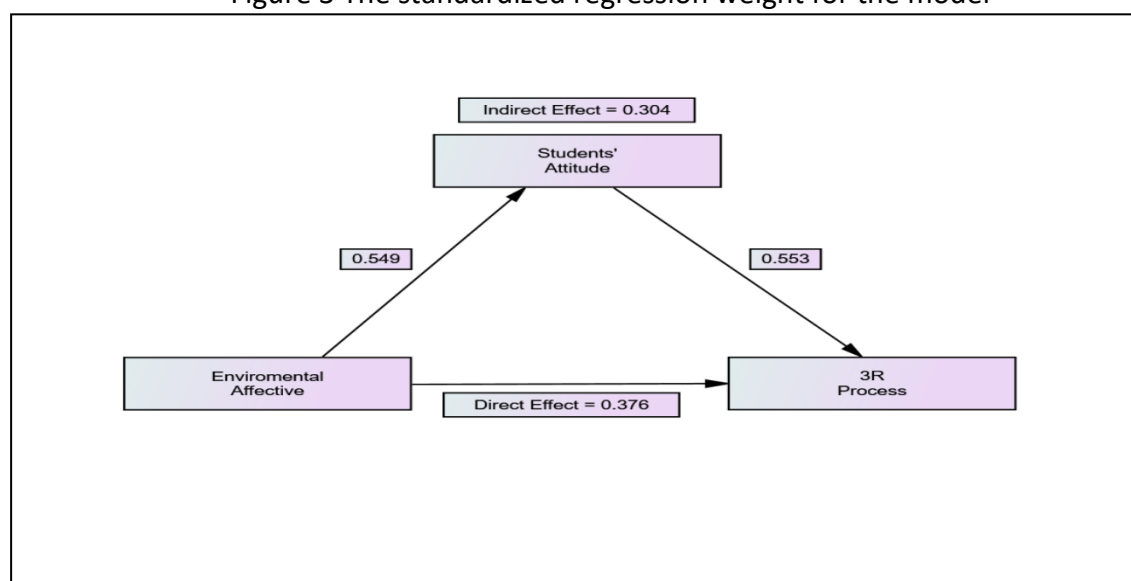| Hypothesis statement of Path Analysis	Estimate	p-value	Result
H1: Environmental affective has significant effect on students' attitude	.549	.003	Significant
H2: Environmental cognitive has significant effect on students' attitude	.159	.338	Not Significant
H4: Environmental affective has significant effect on 3R process	.376	.037	Significant
H4: Environmental cognitive has significant effect on 3R process	.027	.847	Not Significant

H5: Students' attitude has significant effect on 3R process	.553	.000	Significant

Firstly, the path between environmental affective and attitude among higher learning students is positive ($β$ = .549) indicated that students' attitude positively affected by environmental affective. The effect is significant at 5% level of significance (p-value = .003) which is consistent to the previous studies by Mustapha et al. (2018), Carrus et al. (2008) and Gardner (1983). In contrast, the other path between environmental cognitive and students' attitude is not statistically significant at 5% level of significance ($β$ = .159, p-value = .338). It shows that this study only revealed that the environmental affective affected the students's attitude compared to previous study (Asmui et al., 2019; Anwar et al.,2017) which stated that the both elements affected the students' attitude.

In addition, environmental affective and students' attitude has significant effect on 3R (reduce, reuse, recycle) process at 5% level of significance ($β$ = .376, p-value = .037; $β$ = .553, p-value < .001), but not significant effect occurred between environmental cognitive and 3R process (p-value = .847). This study found that the students' attitude existed positive significant effect towards green behaviours (reduce, reuse and recycle) which consistent to Lee (2009) and Meneses (2010)

A mediating variable; students' attitude is responsible for the relationship between the predictor and the outcome. As stated earlier, students' attitude has been categorized as mediator variable on the relationship between environmental affective and the 3R process, also between environmental cognitive and the 3R process. The test for mediator only meaningful if the direct effect is statistically significant at least at 5% level of significance. Since the direct effect between environmental cognitive and 3R process is not statistically significant, therefore the mediation test will focus on environmental affective only. To examine the total direct and indirect effect of environmental affective on 3R process through students' attitude, the following Figure 3 illustrate the procedure for testing mediation.

Figure 3 The standardized regression weight for the model

The result of direct effect between environmental affective and the 3R process is 0.376 and the indirect effect between these two variables is 0.304. This finding revealed that

the direct effect is higher than indirect effect, which means that the mediation is not occur. As a result, it can be concluded that the higher learning institution students' attitude does not mediate the relationship between environmental affective and the 3R process.

Conclusion and Recommendation

The analysis showed that the environmental affective among the students is optimistic towards 3R processes. This study also proved that the students have significant positive feeling towards 3R practices because they exercised 3R concepts correctly and surely. Due to this finding, the environmental affective among the university students is a significant predictor towards 3R processes because the students' feeling shows their responsibilities towards the environment. This is consistent with the previous studies that environmental affection highly affected student's environmental attitude compared to the environmental cognition.

The analysis presented that the students' attitude has significant effect towards 3R processes. This positive result indicated that their attitude is highly regulated to 3R processes because they found that the 3R practices are useful and rewarding to the ecological system. Therefore, the students positively reacted towards 3R practices.

Thus, this study is able to validate the past researches on the link among students' attitude, environmental affective and 3R processes. This validation shows that the university need to put priority on the issues relating to 3R practices by continuing make efforts towards motivating the 3R practices among the students. It is also hoped that this study will inspire everybody, any agencies or relevant authorities to assist everyone in practicing 3R through positive attitudes and showing positive culture of green practice. Future study can be conducted to identify the knowledge, attitude and perception of public towards green practices especially in making 3R processes as positive habit.

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