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## Sustainable Consumption Practices of Students in an Urban Setting: A Case in Selangor

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### Abstract

This paper analyzes conservation behaviour of university students. Data is gathered in 2010 from 248 full-time UiTM Shah Alam students of different fields of study using survey questionnaire. The study analyses conservation behaviour of university students in relation to specific socio-demographic characteristics. Specifically, analysis includes investigation into the relationship of gender, urban-rural strata of student's background, parents' highest education level and fields of study with conservation behaviour around the campus area and in their lifestyle. Results show significant relationship between conservation behaviour of university students with rural background and parents with school education as their highest education level.

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*Keywords:* Conservation behavior; university students; strata; parents' education

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### 1. Introduction

Environmental problems are the result of industrial production and consumption pattern and behavior of consumers (Aini et al., 2003). Malaysia faces environmental problems similar to other developing

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economies and while the economy has progressed, the increase in incomes has yet to be reflected in the betterment of environmental conditions in the country.

Studies show that people are generally very concerned about the environment. However, to attain sustainability in the environment, it is the commitment rather than the concern or short term actions that are important markers for long term social change.

This paper analyzes conservation behaviour of a group of young adults, namely university students. The emphasis on students is relevant as they will grow and develop to become future leaders responsible for 'environmental stewardship and sustainability' (Wray-Lake et al., 2008). Also, the development of stance, obligation and ability to sustain and look after the environment starts at an early age (Aini et al., 2003).

## 2. Literature Review

In the literature of conservation behaviour, recycling dominates empirical work. Guerin et al. (2001) for instance, analyzes the determinants of recycling behaviour using multilevel analysis and discovered that households tend to separate waste more when there are more participation by activists in national environmental organizations. Similarly, for local studies, environmental behavior studies focus on recycling and waste management behaviour. An example is Omran et al, (2009) on the attitude of recycling of solid wastes in Alor Setar town. There are relatively few studies that include the analysis of purchasing behaviour and other conservation efforts (Vining & Ebreo, 2002).

'People who are concerned with the deteriorating environment do make certain adjustments in their life style and behaviour' (Atiqul Haq et al., 2010). In a recent study by Aini et al.(2007), it was found that students are generally aware of but, only moderately concerned with environmental issues. Only 10% of the students were able to define environment and the adoption of the principles of sustainable consumption in their daily lives was modest. Furthermore the findings showed that environmental education had raised environmental consciousness of students but was ineffective in changing the actions and behaviour patterns of the students. The students who participated in the study were upper secondary school students aged 15-17 years old, and had already undergone formal environmental education at both primary and secondary school education levels. In view of this, the current study is undertaken to investigate the levels of environmental knowledge and involvement of university students in sustainable consumption practices. Saahin et al. (2010) had examined the environmental attitudes of middle school students and the results shoed that attitudes of 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade students towards the environment were generally positive and statistically significantly related to school, class, education level of father, education level of mother, and monthly income status.

In a study involving university students in United States, Emanuel et al. (2010) found that sustainable programs and practices are being implemented on a number of college campuses in Alabama and Hawaii. He found that the students were concerned about wasteful consumption and pollution. However, a large number of students surveyed expressed concern for and willingness to participate in sustainable practices, and there seems to be a "commitment gap" among students. Bun Lee (2008) examined the environmental attitudes of African American college students and found that similar to Emanuel et al.(2010), the students were also modestly pro-environmental. In terms of behaviour, it was found that students who had pro-environmental attitudes tended to recycle more. However the majority of students did not recycle regularly. More than half of the students said that they tried to conserve electricity and 75% of respondents said that they never or rarely used public transportation or carpooled. The respondents also did not purchase environmentally friendly products. The study demonstrated a low correlation between environmental attitudes and behaviours of American college students.

In a conservation behavior study of undergraduate university students in the country, Tan & Lau (2009) made an attempt to seek relationship of conservation behavior and gender and found the result inconclusive. The study also analyzed if there is significant difference between business and non-business students in their consumption behavior and discovered that there is no significant difference and their sustainable consumption behavior is moderate in general.

This study would like to further probe into finding out if there is significance in difference in conservation behavior of university students with regard to gender, parents education level, urban-rural background and fields of study.

### **3. Methodology**

The study took place during the month of September in 2010. Data was gathered using survey questionnaire on approximately 300 full-time undergraduate UiTM Shah Alam students representing three major clusters of study available in the university. Respondents were chosen at random and were asked to fill in the questionnaire with guidance from trained enumerators. Prior to the survey, a pre-test was conducted to assess the validity of the questionnaire.

#### *3.1. The Questionnaire*

The questionnaire covers research area larger than the scope of study discussed in this paper. Nonetheless, for this paper, the part of the questionnaire relevant to it is divided into two parts. One is looking at behavior of the students in their daily life that may relate to conservation practices. From a 27 item statements on conservation behavior used in the pilot study, 15 were used for the final survey. Statements relate to respondent's behavior and decisions in consuming goods and services, such as in dealing with waste products and in incorporating conservation practices in making purchases and their daily routines. Most of these statements are posed as positive statements and they take responses in the form of seven-point Likert scale answers ranging from 1 = "strongly disagree" to 7 = "strongly agree."

In another section of the questionnaire, questions seek to find out socio-economic and demographic background of respondents. Personal information requested includes age, gender, race of respondent and study information such as faculty and program name the respondent is in and how long have the students been enrolled in the program. Family information is also asked which includes urban-rural status and state of origin of respondent. Also asked are gross income of parents and occupation and highest education level of each parent.

This study aims at finding out if students residing and learning in an urban surrounding such as in UiTM Shah Alam are practicing conservation behavior in their daily student life. This finding may provide policy-makers insight into the behavior of the urban and educated young adults in maintaining their daily life as to whether their actions are sustainable or not. Also will be investigated is the possible relationship of some socio-economic and demographic information of respondents with their behavior or decisions in using and buying goods.

### 3.2. Research Questions and Method of Analysis

The primary research questions of this study are as follows:

- RQ1: Is there any significant difference between gender and conservation behavior?*
- RQ2: Is there any significant difference between strata (urban and rural background) and conservation behavior?*
- RQ3: Is there any significant difference between parents' education level and conservation behavior?*
- RQ4: Is there any significant difference between different faculties (students' field of study) and their conservation behavior?*
- RQ5: What is the level of conservation behavior exhibited by university students?*

Analysis of study takes the form of independent sample t-test and ANOVA. Independent sample t-tests were performed to measure the differences in conservation behavior between gender, strata, parents' highest education level and fields of study represented by faculties. ANOVA is performed to test whether significant differences in means exist between the different fields of study of respondents, represented by faculties.

## 4. Results and Discussions

From the 300 survey questionnaire collected for study, only 248 are used after those with missing values were dropped from further analysis. From the total of 248 respondents, 29.2 percent are male and the rest female. The students are of the age between 18 to 19 years old. Survey is conducted in the urban university setting of Shah Alam area. However, in terms of student's strata background, 61 percent of them come from urban areas in Malaysia while the rest are from rural areas. In terms of parents' education, it can be summed up as having school education at most (meaning either attending primary or secondary education) or having tertiary education ( meaning either having certificates, diploma or degrees at any level). Fifty-six percent of parents of respondents have only school education, with the remaining having tertiary education.

Fifteen items were employed in measuring the conservation behavior of university students in a public university and the Cronbach's alpha is 0.73. This value shows that the fifteen items used for study are reliable and it is considered reliable based on minimum alpha value of 0.70 (Nunnally, 1978). The items representing conservation behavior are listed in Table 1.

Results for independent sample t-tests vary for different socio-demographic variables tested (table 2). In terms of relationship between conservation behavior and urban-rural strata of respondent's hometown, it is found that there is significant difference between the two, with students from rural background showing more of conservation behavior than those coming from urban background.

It is interesting to note that the most significant conservation behavior items are consistent in the sense that these items show conservation behavior to be higher among respondents from rural background (table 3). These behavior items are energy conservation (turn off electricity not in use and purchase of energy saving appliances), water conservation (turn off taps not in use) and some waste recycling behavior (use of designated recycle bins and some reuse activities).

Meanwhile, result of study shows that there is no significant difference in conservation behavior between male and female students as well as between parents' highest education level. However, there are a number of specific conservation behavior items that are significant and worth mentioning (table 4). It is found that female students are more likely to bring student's own water tumbler to class than their male

counterparts. And for parents' highest education level, specific significant conservation behavior items are the use of designated recycle bins, buying for items with less packaging and the purchase of energy-savings appliances. It is found that these behavior are more common for respondents with parents having no tertiary education.

Table 1. Descriptive statistics of items representing conservation behavior used for study

No	Items	Mean (N=248)	Std. Deviation
1	I do not mind paying high price for a good as long as it last long	5.34	1.502
2	I turn off fans & lights in empty classrooms whenever I see them switched on	5.33	1.457
3	I buy refillable detergents or soaps and refill the bottles when empty	5.17	1.640
4	I make use of both sides of papers when writing or printing whenever possible	5.06	1.515
5	I turn off the tap whenever I brush the teeth	5.06	1.683
6	I reuse grocery bags	4.91	1.541
7	I prefer to have food bought wrapped in paper than in polystyrene	4.88	1.781
8	I purchase energy-savings appliances whenever possible	4.79	1.491
9	I throw rubbish according to types in the designated recycle bins whenever I can	4.78	1.587
10	I like to donate my unused items	4.40	1.624
11	I reuse gift wrappers for rewrapping or other uses	4.38	1.698
12	When buying I look for items with less packaging	4.34	1.465
13	I find bringing my own grocery bag when shopping inconvenient	4.28	1.820
14	I use disposables often as it is convenient	4.28	1.624
15	I bring my own water tumbler to class	4.10	1.914

Table 2. Independent sample T-test of conservation behavior by gender, strata (hometown) and parents' highest education levels

Conservation behavior items	Mean	Significance level
Gender	Male = 4.7914 Female = 4.7506	0.698
Urban-rural strata (hometown)	Urban = 4.6463 Rural = 4.8776	0.024
Parents' highest education levels	School = 4.7886 Tertiary = 4.6747	0.123

ANOVA results show that there are significant differences in mean values for the different faculties, with the mean value for applied science students being the highest (table 5). This indicates that science students represented by the applied science faculty have the greatest conservation behavior than non-science students represented by respondents from law, hotel and catering and art and design faculties.

Table 3. Independent samples test and group statistics of selected conservation behavior items for strata

Socio-demographic characteristics	Mean	Significance level
I turn off fans & lights in empty classrooms whenever I see them switched on	Urban = 5.13 Rural = 5.60	0.017
I turn off the tap whenever I brush the teeth	Urban = 4.86 Rural = 5.38	0.022
I reuse grocery bags	Urban = 4.78 Rural = 5.20	0.045
I reuse gift wrappers for rewrapping or other uses	Urban = 4.19 Rural = 4.74	0.015
I throw rubbish according to types in the designated recycle bins whenever I can	Urban = 4.64 Rural = 5.03	0.066
I purchase energy-savings appliances whenever possible	Urban = 4.62 Rural = 5.01	0.055

Table 4. Independent samples test and group statistics of selected conservation behavior items for gender and parents' highest education level

Socio-demographic characteristics	Mean	Significance level
I bring my own water tumbler to class	Male = 3.70 Female = 4.34	0.017
I purchase energy-savings appliances whenever possible	School education = 4.95 Tertiary education = 4.58	0.055
I throw rubbish according to types in the designated recycle bins whenever I can	School education = 5.01 Tertiary education = 4.49	0.011
When buying, I look for items with less packaging	School education = 4.55 Tertiary education = 4.07	0.011

Table 5. ANOVA test of conservation behavior by respondents' field of study

Faculty	N	Mean	Std. Deviation	Significant level
Law	45	4.4548	.73777	
Applied Science	54	5.0210	.67799	
Hotel and Catering	104	4.6564	.76311	0.001
Art and Design	45	4.8756	.66082	
Total	248	4.7390	.74471	

## 5. Conclusion

This study sought to discover the pattern of sustainable consumption behaviour among university students in Malaysia. The results indicated that there were no significant differences between male and female students and parents' highest education level with consumption behaviour. However, there is a significant difference between urban rural strata (students' background) and sustainable consumption behaviour of university students. The study also indicated that significant differences exist between faculties and their sustainable consumption behaviour. Applied science students exhibited the highest level of sustainable consumption behaviour as compared to other faculties such as Law, Hotel and Catering and Art and Design.

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