

**KNOWLEDGE, ATTITUDES AND PRACTICES OF  
CAMPAIGNS ON RECYCLE: A CASE STUDY  
AT AMDI, USM**

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**ABSTRACT**

In Malaysia, the recycle program existed since the 90s. Nonetheless, the people's concerns towards the programme are still inadequate. The failure of the recycle programme was due to a half-hearted response and involvement from the government and the private sectors. The objective of this paper is to study the attitudes, practices and knowledge of employees of the Advanced Medical and Dental Institute (AMDI) towards the recycle campaign. In this study, a total of 78 respondents were selected to represent the whole employee population of AMDI. The results of the study showed that 95% of the total respondents practiced recycling. Majority of the respondents knew that recycling is important in their everyday life. However, the practices of recycling to them are still small and unproductive. The authorities should be more transparent in developing a new approach in organising a similar campaign in the future.

**KEYWORDS:** *Knowledge, attitudes, practices, recycle*

## **1. INTRODUCTION**

Concerns about the destruction of the environment developed since a long time ago. However, the vibrant urbanisation process in Malaysia has sidelined the issues of safeguarding the environment. Although the recycling campaign was launched as early as 1993, the success of the campaign is still in question. A social study in Penang has shown that people are more concerned about other issues as compared to the environment (Chelliah 1983).

Various steps were taken by the government to address this matter. In Malaysia, earlier studies done in cities like Kuala Lumpur-Petaling Jaya showed that people are more aware of the damage done to the environment, but it is not a priority. People are more concerned about the problems of unemployment, poverty and housing (Abdul Samad 1990). In 2006, research on the level of environmental concerns and the practice of green consumerism in Petaling Jaya (Mohamad Fazli *et. al* 2006) found that many respondents are concerned about issues of the environment, but do not fully practice it in their everyday life. An in-depth analysis showed that there is a positive and a significant correlation between the level of concern and the practice of green consumerism ( $r=0.301$ ,  $p<0.01$ ).

Recycling is the process of collecting, sorting and reusing certain materials that would otherwise be considered waste or by reprocessing them into a new product. Recycling can help avoid unnecessary wastage and reduce pollution by lowering the use of raw materials, energy and water. When we use less or recycle these otherwise waste products, there will be less energy use for waste collection and dumping (and from burning) and less use of water (from siltation of waste disposal sites). All these can help reduce pollution and the emission of greenhouse gas.

Recycling is a practice which involves awareness and dedication. It is an essential practice because waste materials provide negative impact to the

environment. The process of recycling effectively increases the life-cycle and sustainability of a previously used material by reprocessing it into a new usable product. For example, municipal solid waste generates leachate, while decomposed landfills release methane. Leachates and methane pollute the air and give a negative impact to human health, livestock and the environment. By recycling these materials before they reach the dumping sites help reduce pollution caused by solid waste decomposition.

Recycling is important as it can help reduce global warming and the destruction of living habitats as a result of deforestation. The diminishing demand for raw materials can help preserve and maintain our natural resources from depleting. A case study in Batu Pahat (Wee *et. al* 2005) showed that recycling habits among the people in the district are still low albeit their general knowledge on this matter is quite encouraging. A lot of excuses were given to why the recycling programme was not a success.

## **2. RESEARCH OBJECTIVES**

This study was done during the Advanced Medical and Dental Institute (AMDI) Recycling Campaign at the AMDI campus, Universiti Sains Malaysia, Kepala Batas on 9 March 2010. The main objective of this study is to gauge the level of knowledge, attitude and practice of respondents on their recycling habits and activities. This study also gauges the level of concern of the respondents on the issues of environment and the practice on the use of recycling products amongst consumers.

## **3. METHODOLOGY**

The instrument used in this study is a set of questionnaire distributed to selected respondents and filled by the respondents themselves. The level of concern is measured by the use of a Likert Scale starting from 5=strongly agree, 4=agree, 3=neutral, 2=disagree and 1=strongly disagree. Overall, the

questionnaire consists of 28 must-be-answered questions. The score for each answer were totalled and tabulated to find the mean score.

A pilot questionnaire study was done prior to the real study. The pilot study was undertaken at the administration office of AMDI at Lot 8, in Taman Bertam Putera. 30 respondents were chosen at random according to their units/departments. The questionnaire consists of four sections. Below are the results of the reliability value for every section.

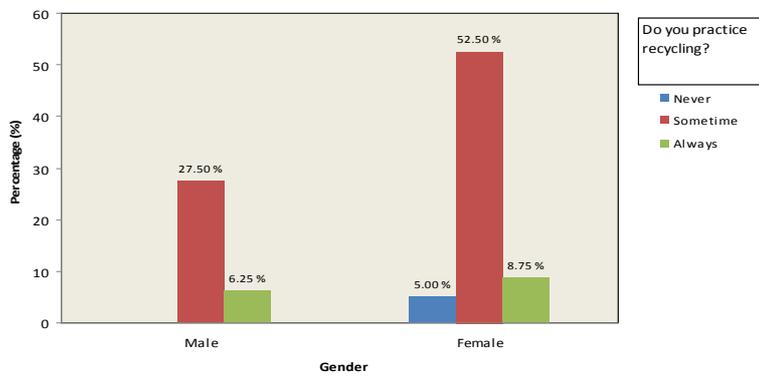
**Table 1 : Information on background of respondents (n=78)**

<b>Variables</b>	<b>SD</b>	<b>n(%)</b>
<b>Gender</b>	0.479	
Male		25 (32.5)
Female		53 (67.9)
<b>Age</b>	0.502	
20-39		71 (84.5)
40-49		9 (10.7)
>50		4 (4.8)
<b>Education level</b>	0.810	
Primary School		3 (3.6)
Secondary School		14 (16.9)
Certificate/Diploma		46 (55.4)
Bachelor Degree		17 (20.5)
Postgraduate		3 (3.6)

## 4. RESULTS

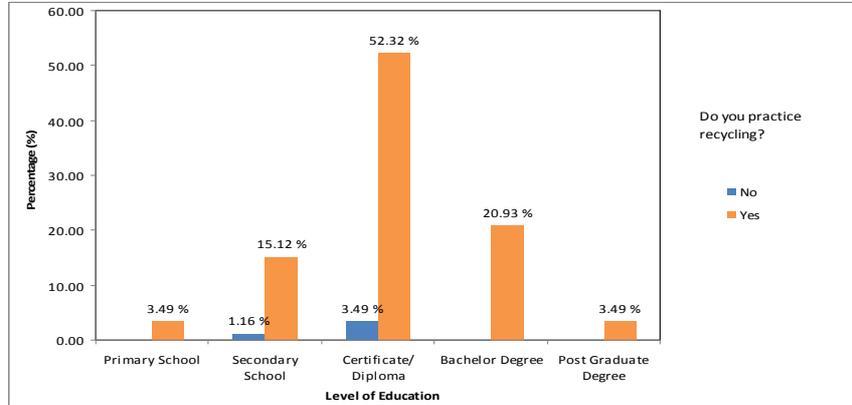
### 4.1 Recycling Practices

With reference to Graph 1, in the recycling practices category according to gender, 95% of the respondents practice recycling regularly (male 33.75%, female 61.25%) while only 5% (female) do not practice recycling.



**Graph 1: Recycling Practices Category according to Gender**

The bar chart in Graph 2 shows the percentage of respondents who practice recycling according to their level of education. In general, the respondents with certificate/diploma showed a higher percentage (52.33%) followed by those with bachelor degrees (20.93%).



**Graph 2 : Recycling Practices according to Level of Education**

The correlation table below showed that there is no linear relationship between the practices of recycling and gender ( $p\text{-value} = 0.147$ ). However, there is a positive linear relationship between the practice of recycling and education level ( $p\text{-value} = 0.035$ ).

**Table 2: Correlation between the practices of recycling against gender and level of education**

Independent Variables	Pearson Correlation	<i>P-value</i>	N
Do you practice recycling vs Gender	-0.164	0.147	80
Do you practice recycling vs Education level	0.227	0.035	86

**4.2 Level of Knowledge**

Table 3 shows the respondents’ basic knowledge on the type of materials that can be recycled. The average total for this statement is 1.85. This clearly showed that the respondents agree that the materials that can be recycled are as stated in Table 3. Overall, the highest average respondents’ choice for materials

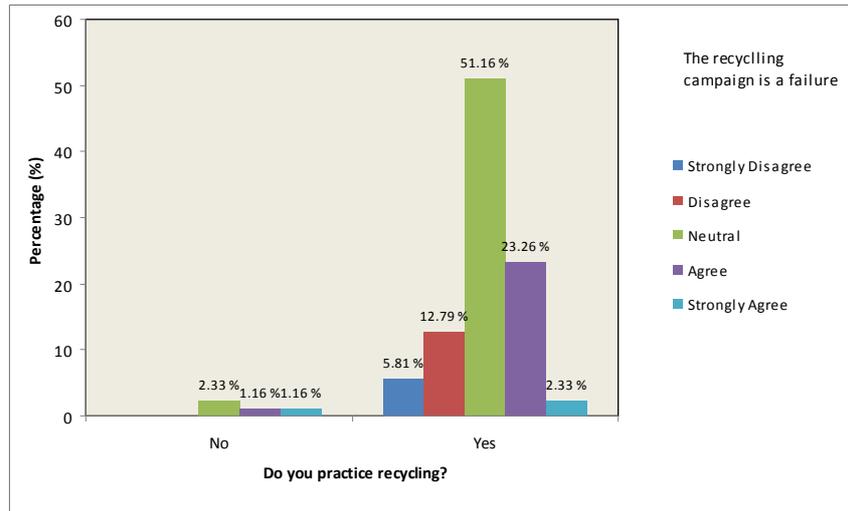
that can be recycled is paper (98.9%), cardboard (95.4%), plastic (89.7%), metal (89.7%), furniture (87.4%), glass (75.9%) and computer (74.7%).

However, the average respondents who chose food waste and printer ink toners are 1.63 and 1.59 respectively. This showed that they are not sure whether food waste and printer toners can also be recycled. In Table 3, it also showed that on average (Min=4.63), the respondents agreed with the statement that safeguarding the environment is important to them. This is proven with agreeing to the statement that recycling can improve water and air quality (Min=4.63), generate the economy (Min=4.41), reduce usage of dumping site (Min=4.83) and help remove toxic waste in more effective ways (Min=4.59).

**Table 3 : Knowledge of Recycling**

	<b>Min</b>
Papers	1.99
Cardboard	1.97
Food residues	1.59
Glass	1.83
Plastics	1.93
Metal	1.94
Printer ink toners	1.63
Computers	1.82
Furniture	1.93
<b>Total average</b>	<b>1.85</b>
Improve water and air quality	4.63
Generate the economy with other/new production from waste materials	4.41
Reduced usage of dumping and burning site.	4.83
Dispose toxic waste such as mercury and lead from electronic appliances in a safe method.	4.59
<b>Total average</b>	<b>4.62</b>

### 4.3 Perceptions on Recycling Campaigns



**Graph 3 : Perceptions on Recycling Campaigns**

Graph 3 shows the respondents perception on recycling campaigns according to their practices. More than 50% of the respondents did not give a similar response whether the recycling campaigns in Malaysia is a success or a failed project, although they participated in the programme by practicing recycling. Those who still practice recycling believed the recycling campaigns in Malaysia did not fail (18.6% Disagree).

However, after looking at the graph in detail, it shows that 25.59% of the respondents agreed that the recycling campaigns in Malaysia had failed although they still practice recycling. The recycling campaigns in Malaysia probably failed because there was little exposure and encouragement from the authorities. The electronic media, print media and the Internet also play a significant role as the medium to propagate and make the recycling campaigns more effective (4.38%). A case study in the Batu Pahat District showed that the

respondents gained much information on recycling from various sources (Wee *et. al* 2005).

## 5. CONCLUSIONS

Overall, this study has found out that the respondents still practice recycling although not entirely. The study also found that the majority of people who practiced recycling are those from the 20 to 39 years of age bracket. The correlation also showed that respondents with a high education level, practice recycling. The analysis of the study also showed that there is a positive correlation between the education level of the respondents and their recycling practice. This proved that their general knowledge influences their attitude and practices on the recycling campaigns.

Almost all or 98.9% of the respondents choose paper as the most likely object to be recycled as compared to other materials. Respondents also agreed that with recycling, the practice can help improve the quality of water and air, generate the economy, reduce the use of dumping sites and efficiently stamp out practices of haphazard toxic waste dumping. Many of the respondents, who practice conservation on paper usage, save on electrical use and utilize email in communications, are those from the recycling way category, but also agreed that they do not practice them entirely. The relationship between respondents of recycling practice and those from the conservation group showed a low correlation between these two groups. In general, although they practice recycling but they do not practice them in a regular manner.

In conclusion, almost half of the respondents are not convinced that the recycling campaigns in Malaysia is a success or otherwise due to the 51.6% of the respondents who chose 'neutral' as compared to those who provide other answers. The electronic media, the print media and the Internet are still regarded as the desired medium to initiate commercialisation for recycling campaigns.

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