

# THE AMBIVALENT ATTITUDE OF HOSPITALITY AND TOURISM STUDENTS TOWARDS ENERGY SAVING AND CARBON REDUCTION BEHAVIOUR

by

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## ABSTRACT

This paper explores ambivalent attitude of environmental concerns toward energy saving and carbon reduction behavior of hospitality and tourism students. The research is employed quasi-experimental design and hypotheses are tested by using a 2x2x2 design. A total of 304 responses of hospitality and tourism students in Taiwan are collected. The finding indicates that ambivalent attitude of environmental concern does mediate the strength of information towards energy saving and carbon reduction behaviour. This result shows that providing students with strong information regarding to the importance of environment will enhance the intention to take action on energy saving and carbon reduction

## **KEYWORDS**

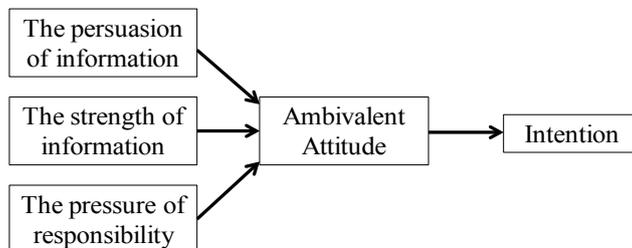
Ambivalent Attitude, Energy Saving, Carbon Reduction, Hospitality, Tourism

## INTRODUCTION

International tourism has continued to show continual growth and becomes one of the most important economy entities. According to UNWTO (2012), the worldwide arrivals of international tourist grew by 5.7% in the first two months of 2012, and the number of international tourists arrivals are expected to be increased by 3% to 4 % and projected to reach on billion for the first time in 2012. Tourism becomes a significant global environmental issue because of the depletion of natural resources, and negative effects on the environment (Hindle et al., 2007). Among different travel choices within the transport, accommodation, attraction and activity subsectors, transportation clearly dominates the bill, with a contribution of 65–73% for international and domestic tourists, respectively (Becken, Simmons, & Frampton, 2003). Most consumers concerns about environmental issues mostly in climate change, but there is a weak link between environmental concerns and intended behaviours. Some researches indicate that ambivalent attitude has mediator effect on attitude-behaviour relations.

The study aims to focus on the mediating impact of ambivalent attitude on the relationship between intention and its predictors, the persuasion of information, the strength of information, and the pressure of responsibility.

The assessment of ambivalent attitude is based on the Griffin formula using the unipolar positive and negative evaluation scales. The research is employed quasi-experimental design and hypotheses are tested by using a 2x2x2 design. A total of 304 responses of hospitality and tourism students in Taiwan are collected. The hypotheses were tested using multiple regression analysis.



*Hyp1* : The persuasion of information will affect students toward the ambivalent

*Hyp2* : The strength of information will affect students toward the ambivalent attitude

*Hyp3* : The pressure of responsibility will affect students toward the ambivalent attitude

*Hyp4* : the ambivalent attitude will affect the intention

*Hyp5* : The ambivalent attitude has the mediator effect on the persuasion of information, strength of information and pressure of responsibility

As can be seen on Table 1, the result shows the outcome of hypothesis 1, 2, and 3. The hypothesis 2 is supported, while hypothesis 1 & 3 are not supported. Hypothesis 1 predicts that the persuasion of information has significant influence on the ambivalent attitude. Unlike the hypothesis, the effect of persuasion of information is not statistically significant in the ambivalent attitude ( $F=2.280, p =.597$ ). According to the study from Tormala & Petty (2002), participants tended to resist persuasion, and they became more certain of their initial attitudes. Bassili(1996) indicated the more certain participants were about their attitudes, the less attitude change they evinced in response to persuasive arguments. Petty, Brinol, & Tormala (2002) found that participants feel confidence when the message topic was high in personal relevance. These studies indicated that participants have no ambivalent attitude toward a persuasive message when they are certain on their attitude. Therefore, even the hypothesis 1 is not supported, it can be explained that the students feels confidence that it is right attitude to have energy saving and carbon reduction behaviour.

Hypothesis 2 expects that the strength of information will affect students toward the ambivalent attitude. As Table 1, the data shows the result is statistically significant ( $F=6.619, p =.011$ ). The research further test the paired-sample to examine the difference between strong and weak information and find the strong information has higher the ambivalent attitude. According to Sangpikul and Batra (2007), it is vital to provide to information regarding to ecotourism concepts for encouraging youths in helping conserve natural tourism resources .

Hypothesis 3 assesses the pressure of responsibility toward the ambivalent attitude. The result is shown in Table 1, and the finding is not statistically significant ( $F=.726, p=.395$ ). According to the research form Murray & Ayoun (2011), hospitality students agree sustainability is extremely important. Hence, the research can imply that student hold responsibility toward sustainability as an overall concept and has no ambivalent attitude. It can explain why the hypothesis is not supported.

**TABLE 1  
LINEAR REGRESSION RESULTS**

	Sum of Squares	df	Mean Square	F	Significance
Regression	27.707 <sup>a</sup>	7	3.958	1.994	.056
Residual	587.479	296	1.985		
Total	615.186	303			
persuasion of information	.555	1	.555	.280	.597
strength of information	13.138	1	13.138	6.619	.011
pressure of responsibility	1.442	1	1.442	.726	.395

Note: Dependent variable=ambivalence  
a.  $R^2 = .045$  (Adjusted  $R^2$  square = .022)

Hypothesis 4 anticipates that the ambivalent attitude will affect the intention. Regression model analysis (Table 2) shows that the result is statistically significant ( $F=58.494$ ,  $p=.000$ ). Thus, the hypothesis 4 is supported, and ambivalent attitude can predict the intention involving energy saving and carbon reduction behaviour.

**TABLE 2  
REGRESSION ANALYSIS OF VARIABLE**

	Sum of Squares	df	Mean Square	F	Significance
Regression	37.822	1	37.822	58.494	.000
Residual	193.333	299	.647		
Total	231.155	300			

Note: Independent variable= ambivalence ; Dependent variable=Intention

Hypothesis 5 anticipates that The ambivalent attitude has the mediator effect on the persuasion of information , strength of information and pressure of responsibility. According to Baron and Kenny (1986), the mediating effect has to meet 3 conditions: (a) independent variable should affect the mediator, (b) independent variable should affect the dependent variable, and (c) the mediator should affect the dependent variable. As there is only hypothesis 2 is supported, this research test the mediating effect of ambivalent attitude between strength of information and intention (Table 3). The result shows that ambivalent attitude has the mediating effect.

**TABLE 3  
THE MEDIATING EFFECT OF AMBIVALENT ATTITUDE  
BETWEEN STRENGTH OF INFORMATION AND INTENTION**

Model	Unstandardized Coefficient		Standardized Coefficient	T value	Significance
	B value	Standard Error	$\beta$		
Constant	5.898	.074		79.480	.000
Strength of information	-.205	.104	-.114	-1.979	.049

The theoretical contribution of the research lies in the finding that the strength of information can affect the ambivalent attitude and the intention involving energy saving and carbon reduction behaviour. By manipulate the information, the student will enhance the intention to perform the energy saving and carbon reduction.

Results support Costarelli & Colloca's (2007) work that ambivalent attitude has the mediating effect on attitude-behaviour. With high strength of information, the respondent will have higher ambivalent attitude and strong intention of energy saving and carbon reduction behaviour. The finding raises the issue that the importance of providing strong information regarding to energy saving and carbon reduction should be acknowledged. As previous researches by Busby (2003), Lewis (2005), and McKercher et al.(2012), a successful curriculum to enhance the sustainable behaviour should be taught. According to this research, it will be effective to change students' behaviour by providing strong information of energy saving and carbon reduction in hospitality and tourism curriculum. As a result, this is an interesting result for hospitality and tourism educators that a well-organized curriculum of energy saving and carbon reduction should be developed.

The findings of the current study help to gain useful insights into how the strength of information affects energy saving and carbon reduction behaviour. This suggests that the mediating role of ambivalent attitude should be recognized. The demonstrated effects may have implications for understanding various predictions on the energy saving and carbon reduction behaviours and ambivalent attitude.

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