

## FACTORS AFFECTING GREEN FOOD PRACTICES AND CONSUMER SUBJECTIVE WELL-BEING

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### ABSTRACT

*The purpose of this study is to determine the factors that influencing green food practices based on FCQ, and explain the relationship between practices of local consumer towards green food and consumer subjective well-being. Data were collected by interviewing the total numbers of 600 respondents that have been chosen by using simple random sampling method which involved four areas in Klang Valley. Descriptive statistics and Pearson correlation were used to analyze the information of a factors that affecting green food practices and subjective wellbeing. Food Choice Questionnaires (FCQ) has been used in this study to determine the factors that influencing green food practices. The results indicated that socio-demographic variables play an important role to affect green food consumption. Besides that, results of this study also have found that most of the factors: sensory appeal, natural content, health, ethical concern, convenience, familiarity, mood, and price have a significant relationship with green food practices. Regression analysis found that mood is the most significant factors besides two other factors that are health, and familiarity, and it is 0.148 more likely to affect consumer practices toward green food. At the end, with a significant relationship result ( $r=0.082^*$ ,  $p=0.044$ ) between green food practices and consumer well-being which is as stated by Lynn & Liselot (2011), it will affect well-being. Future research should focus on a similar study with the extended scope to all states in Malaysia. Appropriate strategies for green food promotion may perhaps be developed for sectors with different priorities.*

Keywords: Food Choice Questionnaires (FCQ), Green Food, Consumer Well-being

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### Introduction

Food is human basic need for survival. World rapid development along with the changes of demographic and economic structures directly and indirectly, have affected the consumer lifestyles, tastes and preferences, food safety awareness, environmental protection, health and animal welfare (Phuah et. al., 2012). The demand on safety, wholesome, healthy and nutritious food has increase and led people to purchase green food (Frewer & Miles, 2001).

Malaysia as one of developing country in the world also faces a great challenge to ensure between development and environmental sustainability (Tan & Lau, 2010). Nowadays, as the demand for healthy and nutritious food and take green food into consideration where green food are defined as a healthy, environmental friendly, concern on food safety and animal welfare products, Malaysia is no exception on choosing green food. However, green food practices in Malaysia are still at infancy stage. Malaysian consumer is less concerned about food safety but have a higher level of consciousness in health awareness (Shaharudin et. al., 2010).

Based on previous studies in Malaysia, researcher focusing more on green food consumer demographic characteristics (Hughner, et. al., 2007) rather than the factors affecting green food consumption (Kotler, 2003).

There are several factors that will affect green food practices. The FCQ is a tool to measure the motives underlying people selection of a food (Steptoe, et. al., 1995). As stated in FCQ, there are nine factors that influence consumer toward green food which is sensory appeal, natural content, health, ethical concern, weight control, convenience, familiarity, mood and price. These factors have affect consumer green food practices on taking green food as consideration of food choice to consume and health. The rapid growth of personal income and population growth have changed the characteristics desired by consumers against food choices toward a healthier lifestyle and nutritious (Phew et. al., 2011). Lynn & Liselot (2011) said that this will led to consumer subjective wellbeing.

In sum, this study will investigate the green food consumer demographic characteristics such as income,

gender, level of education and etc. This study also determine the relationship between factors affecting green food consumption (FCQ) and green food practices, and the relationship between practices and consumer subjective well-being as end result of green food consumption. The most affecting factors toward consumer green food practices also been studied.

### Review of the literature

The patterns of food consumption have changed consumer sustainable lifestyle due to rapid economic development during the past two decades with a growth rate of about 6% per year since 2000 (Golnaz et. al., 2012). Rising incomes and a relatively high population growth among Malaysian also change consumer tastes towards more healthy, better quality food, safe, clean, environmental friendly and sustainable consumption (Abdul Rahim, 2009). Abdul Rahim (2009) also found that the results of similar studies in Malaysia where consumers concerned about their health and the environment and have a positive attitude towards sustainable food. This has led to rapid growth in the food and agricultural industries and increasing demand for agricultural products (Golnaz et. al., 2012). This change has resulted in the development of many new types of agricultural products such as food Genetic Modified Foods (GMF), Environmental Management System (EMS) and local organic product. Agricultural products have been developed with value added through high prices.

Green food concept is refer to foods that are safe to be consumed, fine quality and nutritious food produces under the principle of sustainable development (Phuah et. al., 2012). Green food also refers to a food that is healthy to consume, use less chemicals, more concern on food safety and environment and it achieve consistency high standard of animal health and welfare than conventional foods (Phuah et. al., 2012). Three main factors in affecting consumer's green food choices are food safety, animal welfare and environmental concern (Fraser, D., 2001). Based on public opinion, increasing in farming methods will produce a healthy, safe, high quality food and reduce the negative impact toward environment and increase the animal welfare level (Passile & Rushen, 2005). Therefore, the demand increased for a healthier , safer , better quality green food , and protecting the environment and animal welfare which shows consumers concerned about the diet and food intake lifestyle negative impact cause the consumer to choose green food for survival (William & Hammit, 2011).

The intention of consumers' to consume green food is made up from some factors that stated as in FCQ which is sensory appeal, natural content, health, ethical concern, convenience, familiarity, mood and price. Green food practices in every country in this world are different. As in Malaysia, green food concept is still new and at infancy stage, so an effort to promote green food concept to Malaysian people must being done broadly.

There are various factors that could affect consumer toward green food. This has been proving through past research. FCQ introduce and categorize into nine factors that will affect consumer toward green food (Steptoe, Pollard & Wardle, 1995). Previous study of sensory appeal factor shows that consumers are not attracting to green food visual characteristics (Radman, 2005) because most of the consumers choose visual characteristics as a minimal choice in choosing food (Thompson & Kidwell, 1998). However, not all green foods have an unattractive physically. This is because there were a several significant factors for the marketers to consider consumer opinion in product appearance and have been prove by Thompson and Kidwell (1998) that there are more visual defects especially on green food which affect consumer to buy green food.

Lockie at. al. (2002) said that natural content is the main reason of buying green food. Natural content is concern of unprocessed food, non-additives, and free chemical food. Natural content terms can give a positive impact toward consumer buying behavior (Zeinab & Seyedeh, 2010).

Many studies have touched on green food content difference with ordinary foods which related to health. Green food is a low fat food with high carbohydrate compare to other food. For example, green food has a high vitamin C percentage content which can help to protect human body. Part of that, the natural content in green food also can help in preventing cancer. Green food also can help on consumer's body weight control. Ethical concern is stated by Ottman (1992) where the green food was produce based on consumer, government and organization attributes such as the Environmental Management System (EMS) procedure, animal welfare, and environmental concern and so on.

Previous studies on relationship between consumption and well-being found that there a very weak or even negative relationship (Ahuvia, 2008). However, some aspects of consumption appear to contribute to an individual's happiness. Xiao & Li (2011) demonstrated that higher green purchase was associated with higher life satisfaction.

## Research methodology

The survey was conducted using mall-intercept personal survey where green foods were sold and the availability of green food within the mall locations was confirmed. Potential respondents were approached while they were shopping in supermarkets located in 4 different locations in Klang Valley which is in Federal Territory of Kuala Lumpur, Federal Territory of Putrajaya, Ampang, and Subang Jaya using simple random sampling. 600 respondents were requested to fill up the questionnaires by trained enumerators on average total 30 minutes by each respondent to answer the questionnaires.

The questionnaires were designed especially to identify factors that affecting consumer's green food practices and their well-being. The first section asked for respondent's background such as gender, income, level of education, and etc.

The next section asking about the factors that affecting consumer green food practices which adapted from Food Choice Questionnaires (FCQ) developed by Steptoe, Pollard & Wardle (1995). The questions were related to food in general that is consumed on a typical day. The FCQ consisting of nine factors namely sensory appeal, natural content, health, ethical concern, weight control, convenience, familiarity, mood and price. Sensory appeal is when sight, smell, sound, feeling and taste were choosing as an important consideration. Natural content is concern with the use of chemical, additives and natural ingredients, while health is when the food consumption ensures consumer well-being. The factor of ethical concern is when the green food provides ethical analysis and guidance for human conduct in the production, distribution, preparation and consumption of food. Other factors such as weight control is related to consumer weight body control, convenience on purchasing and preparation of the green food, familiarity as the green food was consumed regularly or exposed to it, influencing mood for example can reduce stress or be happy, and the price factor which it is related to consumer limited resources; money. This factors was measured using Likert Scales from four responses which is 1=least important, 2=not important, 3=important, and 4=most important.

The third section conducted to provide respondent's practices towards green food and green food consumption within 3 months ago and measured using 9 items having Likert Scales from five responses from 1=never to 5=always. The final section consisted of respondent's subjective wellbeing as a whole using a structured questionnaire with a Likert Scales responses of 1 to 5 (1 represent strongly disagree and 5 represent strongly agree).

Data were analyzed using SPSS 22.0. Descriptive statistics, Pearson correlation and multiple regressions were used to analyze the information gathered from questionnaire. Descriptive analysis were used to summarize the socio demographic data into simpler summary to make it easier to understand and measure while Pearson correlation is used to indicate a relationship between factors that influencing green food consumption and practices. Pearson correlation also been used to determine the relationship between green food practices and well-being. However, multiple regressions also being used to indicate the underlying factors that influence green food practices the most.

The reliability of the variables were tested by using the Cronbach's Alpha and been extracted were the KMO must be more than 0.50.

## Analysis of findings

### Profile of respondents

Table 1: Profile of respondents

Items	n	%
<b>Gender</b>		
Male	238	39.7
Female	362	60.3
<b>Age</b>		
20-30	311	51.8
31-40	150	25.0
41-50	81	13.5
51-60	48	8.0
61-72	10	1.7
<b>Ethnic</b>		
Malay/Bumiputra	382	63.7
Chinese	166	27.7
Indian	52	8.7
<b>Education Level</b>		
Primary School	13	2.2
Lower Secondary School	87	14.5
Higher Secondary School	124	20.7
Certificate/Diploma	156	26.0

Degree	177	29.5
Master/PhD	42	7.0
Other	1	0.2
<b>Status</b>		
Married	362	60.3
Single	215	35.8
Other	23	3.8
<b>Job Sector</b>		
Government Sector	149	24.8
Public Sector	271	45.2
Business/Freelance	86	16.5
Housewives/Unemployed	65	10.8
Retire	16	2.7
<b>Employment Category</b>		
Professional and Managerial	149	24.8
Technical and Services	139	23.2
Support Staff	125	20.8
General Workers	70	11.7
Others	43	7.2
<b>Income (RM)</b>		
2000-2999	181	30.2
3000-4000	285	47.5
4001-9000	109	18.2
9001-20000	25	4.2

In this study, majority of the respondents are female with 362 (60.3%) respondents and male with 238 (39.7%) respondents. This is because female is more likely doing most of the food shopping for the household rather than male (Anne & Sally, 2000). The mean age of the respondent was 34.22 years. More than one third of the respondents were between the ages of 20-30 (51.8%). This supported by Crask and Reynolds (1978) that frequent food shopping tended to be younger, more educated, and had higher incomes.

For ethnicity, 382 (63.7%) were Malays, 166 (27.7%) were Chinese, and the remaining 52 (8.7%) were Indian. Klang Valley residents are mostly Malays and this population was reported by Department of Statistics Malaysia (2010). More than half of the respondents were married 362 (60.3%) and 215 (35.8%) were single.

The respondent were highly educated as 177 (29.5%) of them is a degree holder and none of them not in school before. Most of the respondents were in public sector 271 (45.2%) and 149 (24.8%) of them are in government sector.

The mean monthly income of the respondents was RM3,846.18. This was supported by Department of Statistics Malaysia (2013) that the mean monthly Malaysian household income in 2012 is RM5000. Thus, the respondents were generally perceived as middle-income group. Almost half of the respondents (47.5%) received a monthly income ranging RM3,000 to RM4,000. Income level difference was related to respondents academic qualification and working experience.

Factors affecting green food and practices

Table 2 shows the result of analysis to identify the relationship between factors that affecting consumer towards green food which is includes nine factors as stated in Food Choice Questionnaires (FCQ) by Stephoe, Pollard & Wardle (1995) and green food practices. The relationship is shown as below:

Table 2: Relationship between factors affecting green food consumption and practices

Items	Green Food Practices	
	r	p
<b>Factors (FCQ)</b>		
Sensory Appeal	0.150**	0.000
Natural Content	0.121**	0.003
Health	0.145**	0.000
Ethical Concern	0.140**	0.001
Weight Control	0.070	0.089
Convenience	0.139**	0.001
Familiarity	0.216**	0.000
Mood	0.229**	0.000
Price	0.119**	0.004

Notes:

\*p<0.05, \*\*p<0.01, \*\*\*p<0.001

From nine factors in FCQ, there are eight factors that is significantly and positively related to green food practices which is sensory appeal, natural content, health, ethical concern, convenience, familiarity, mood and price. Correlation analysis shows the relationship between two variables; digits that are nearer to 1 show the better relation between two variables. The relation between practices and sensory appeal is 0.150; this is positive and shows a positive relation. Practices with natural content are 0.121, health is 0.145, ethical concern is 0.140, convenience is 0.139, familiarity is 0.216, mood is 0.229, and price is 0.119. The highest digit is for mood and lowest is for price. This shows that green food consumer rated mood, familiarity and sensory appeal as more important. The value of practices was not related to the important placed on weight control. This is because weight alent cultural preference for thin bodies (Steptoe, et. al., 1995) and the sex difference indicates that women pay more attention to this factor than do men (Wardle & Steptoe, 1991).

Results from the regression analysis in Table 3 found that mood is the most significant factors and it is 0.148 more likely to affect consumer practices toward green food. This result could indicate a higher importance of emotions in a daily practices in Malaysia. Familiarity (0.009) is the second most significant factors after mood and followed by health with significant value 0.068.

Table 3: Regression analysis of factors affecting green food practices

	B	Sig.	β
Sensory Appeal	0.139	0.171	0.061
Natural Content	0.036	0.814	0.012
Health	0.166	0.068**	0.099
Ethical Concern	0.053	0.682	0.020
Convenience	-0.057	0.534	-0.089
Familiarity	0.301	0.009*	0.128
Mood	0.171	0.007*	0.148
Price	0.020	0.853	-0.009

Notes:

R-squared: 0.078

\*p<0.05

\*\*p<0.10

Based on the result, much concern on green food health and mood must at the top priority among green food producer to meet the consumer need and want.

#### Green food practices and subjective well-being

In order to examine the relationship between green food practices and subjective well-being, Pearson correlation once again applied to investigate the relationship which is green food practices as independent variable and dependent variable is subjective well-being and shown as in Table 4 below.

Table 4: Relationship between green food practices and subjective well-being

Items	Subjective Well-being	
	r	p
Green Food Practices	0.082*	0.044

Notes: \* $p < 0.05$

Based on the table above, the correlation result shown the value in the significant (1-tailed) column is more than 0.05 ( $r=0.082$ ,  $p=0.44$ ), therefore there is a significant positive relationship between green food practices and subjective well-being. The study of Xiao and Li (2011) demonstrated that higher green purchase was associated with higher life satisfaction. This has proven that the more frequent they practice green food consumption, the greater well-being they have. Green food practices must be improved so that it can ensure the well-being since consumer also considering health and mood factors.

#### Discussion, implications and direction for future research

From the findings, it is obvious that mood, familiarity, and sensual appeal have a positive impact on affecting green food consumption. It indicates that people have intention to purchase green food for its benefit in well-being. However, according to the results, health is not the first important factor for respondents and they point it as the fourth important factor compared with other variables. Details show that health could be one of the good items to encourage individuals to purchase healthier foods as organic ones to predict a better future for them as mood received a highest response and have strong relationship with practices. This is because some aspects of consumption appear to contribute to an individual's happiness as mood is someone's feeling and emotion (Nicalao et. al, 2009; Zhong & Mitchell, 2010; Hudders & Pandelaere, 2012; Dunn et. al., 2008). The findings from multiple regression analysis expose that eight items (sensory appeal, natural content, health, ethical concern, convenience, familiarity, mood and price) reveal the relationship with green food. The mood items related to general alertness and emotion is the more significant factors that affecting green food practices. This will led to consumer subjective well-being when they feel satisfied to consume. From the gathered information, a practice toward green food consumption has a positive relationship with consumer subjective well-being. People consider that when they practices goes up, they will have more well-being in green food consumption. This item will also lead consumers to react positively toward green food.

This study serves to reach a better understanding about factors that affecting Malaysian consumers have on green food. It helps to distinguish the existing regulation and government to support on green food consumption. In addition, this study also helps to provide good information about the taste preferences of local consumer especially to manufacturer and marketers. With this, this study can help to produce better green food for consumer.

In summary, future research could yield useful insights by studying different product categories based on the factors that affecting green food practices and investigating how this practice would give impact to their well-being. Besides that, in the future, a study should focus on a similar study with the extended scope to all states in Malaysia. Appropriate strategies for green food promotion may perhaps be developed for sectors with different priorities.

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