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Psychological Factors on Food Neophobia among the Young Culinarian in Malaysia: Novel food preferences

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Abstract

This study examined the effects of psychological factors towards willingness to taste and cook novel foods among the young culinarians. Three hundred (300) students from culinary arts program in three culinary institutes in Malaysia participated in this study. Through self-administered survey questionnaires, the results revealed that most of the young culinarians are enthusiastic in preparing dishes that are novel to them. Nevertheless, the psychological factors negatively correlated with the willingness to taste and cook novel foods ($r = -0.800$, $p < .001$). Therefore, it is suggested that treatment involving a combination of desensitization exposure of foods may reduce these types of rejections.

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Keywords: Psychological factors; neophobia; young culinarian; Malaysia

1. Introduction

Food neophobia lead to the tendency in consuming the same types of food over and again and contribute to the restriction of tasting other foods (Olabi, Najm, Baghdadi & Morton, 2009). Meanwhile, extensive available studies

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on food neophobia have been focusing on the children (Falciglia, Couch, Gribble, Pabst & Frank, 2000; Galloway, Lee & Birch, 2003). Using Health Eating Index, Falciglia et al. (2000) found that neophobic children are consuming less variety of food and had a higher intake of saturated fat. Galloway et al. (2003) states that 7-year-old girls with food neophobia consumed fewer vegetables and fewer preferences on the variety of food intake. Looking at the level of food neophobia towards the children with parent educational background, Mustonen, Oerlemans & Tuorila (2012) revealed that the children of well-educated parents had tasted a larger number of foods thus displaying lower behavioural neophobia compared to children with fewer educated parents.

On food neophobia among the young adults, Pliner & Hobden (1992) used the Food Neophobia Scale (FNS) by comparing the level of food neophobia between international college students of Lebanese and American. They found that the Lebanese students are higher in the FNS score in adapting the novel foods. The reason for the higher score is owing to their current diets and their culture that caused them reluctant to consume the novel foods (Rozin, 1997; Stallberg-White and Pliner, 1999). Choe & Cho (2012) revealed that Korean college students' FNS score were slightly higher than American due to the wellness and growing preferences for higher diet thus avoiding and rejecting the novel foods that they perceived to be high in salt and fat (Park, Park & Choi, 2008).

Despite this, there is still lack of studies at food neophobia among the young culinarians. Gisslen (2007) argued that to be knowledgeable and highly diversified in their skill, the young culinarians are required to learn, prepare and taste enormous types of foods. They are also trained to be the future sensory panels that clearly involved with sensory of taste in evaluating the novel foods product for new market entrance (McWilliams, 2010). In this sense, having food neophobia not only might limit young culinarians' food preferences, habits, exposure and knowledge of food but creativity or even career progression. Therefore, food neophobia among these individuals is considering as interesting issue to be investigated.

2. Literature review

2.1. Psychological factors

The psychological factors are often associated with human that is the consumer behavior; the individual's decision making in terms of purchasing of certain items and food choices. On the other hand, psychological factors are also related to individual mind and emotions. They are hard to describe, this is owing to the differences between one person to others, depending on their background and lifestyles. Notably, some psychological factors such as beliefs, habits, values and past experiences with food have a constant influence on the foods selection, while choices made as a result of emotions, self-concept and attitudes can vary from day to day.

Psychological factors such as motivation, personality and attitudes towards food and nutrition had been reviewed and shown to essentially influence nutritional behavior including food neophobia (Zielinska, 2006).

2.2. Motivation

Motivation is a driving force that impels human whether to commit actions, and this is derived from positive and negative motivational forces. Need, desire and wants are the examples of the positive drives while fear or aversions are the examples of the negative drives (Schiffman & Kanuk, 2010). Both of these motivational forces lead a different intensity of the food selection and rejection.

2.3. Familiarity with food

The familiarity of food contributes to the human level of food acceptance and rejection (Tourila, 2001). One might tend to accept or reject something that they need based on their familiarity towards it. To date, familiarity might not only confine in acceptance or rejection of foods only; it also can occur towards the acceptance of goods or services. Several researches have been carried out, and it is found that there is relationship between familiarity and level of acceptance and satisfaction. Herera & Blanco (2011) state that significant differences exist between high and low levels of familiarity in influence of trust on acceptance as well as in the influence of satisfaction and loyalty. Meanwhile, the scholars assert that consumer with greater familiarity and experience with certain product

will contribute to higher effect of trust on acceptance and loyalty. Similar research done by Heiman & Muller (1996), looked at impact of familiarity towards newly produced product.

2.4. *Health*

It is undeniable that healthy food consumption is essential in the human daily food preferences. To date, it is reported that people are tendency in liking the food that are chemical-free such as the organic food. The impacts of health consciousness and environmental attitudes toward organic foods may boost individual healthy lifestyles that indicate physical health-related actions (Nie & Zepeda, 2011). The scholars also added that personal health does also play an important role in customer emphasizing on health as motivations food acceptance.

For some reason, another health factor such as the allergen might also be the other reason that limits one's food preferences. Food allergy is defined as an undesirable immunologic reaction to a dietary protein. Whereby, Wasserman & Watson (2011) state that it involved with a broad array of signs and symptoms that are associated with bodily systems including the gastrointestinal and respiratory tracts, the skin, and cardiovascular system. The reactions may be immediate or delayed, and every individual might have different sign of allergen to certain types of foods.

Owing to the allergen for a certain type of food, it may cause some individuals to reject the food that they perceived will cause harm towards their body. As a result, not to exaggerate food allergen might also becoming one the factor that causing individuals to be diagnosed with food neophobia however it might not in a large scale.

2.5. *Belief*

From the perspectives of psychological factors, belief consists of very large number of mental images or verbal statements that reflect a person's particular knowledge and assessment of something such as person, store, brand and even the food (Schiffman & Kanuk, 2010). Belief can be the understanding that is possessed by the individual without any justification. For example, beliefs are mental images that affect a wide range of specific attitudes that, in turn, influence the way a person to likely respond in food selection and rejection. Fallon & Rozin (1980) have identified three basic belief dimensions that provide a useful framework for understanding human food acceptance and rejection, which are sensory affective, anticipated consequences and disgust.

2.6. *Sensory affective*

Initially, sensory perceptions play a crucial psychological part in acceptance and rejection of foods (Furst, Connors, Bisogni & Folk, 1996). Sensory affective reactions to foods, involve accepting or rejecting a food because of its sensory characteristics such as the taste, smell, texture or appearance. Martin & Pliner (2005) stress out that the sensory affective rejections, often referred to as rejections based on distaste, are referring to the belief or knowledge that the potential food has an unpleasant taste, smell, texture or appearance.

2.7. *Anticipated consequences*

Martins (2005) asserts that foods that are thought to be harmful whether in short or long term, are usually be rejected whereas foods that deemed to be beneficial in short or long term are accepted. For instance, one may reject eggs because they believe that it contained high level of cholesterol that they believe will impact their health in the future. Or they may accept broccoli because it is high in vitamins. Individuals may also avoid items that will cause dangerous to them in short term, such as shellfish or any allergen foods that are specific to themselves, or they might reject foods that had gone past its due date, such as milk, owing that they are fear that the items will cause gastrointestinal upset.

2.8. Disgust

Disgust is the rejection of food based on the ideational properties. In other words, foods are rejected because of what they are, where they come from or their social history (who touched them or ate them). For instance, one might avoid consuming the catfish or eel, as they are similar to the snake figure thus it will create unpleasant feeling upon consuming the foods. In another case, one might not able to consume rabbits, owing to the emotional feeling towards them, which are deemed and looked as adorable creature.

On the other hand, Cooke, Wardle & Gibson (2003) explain that disgusting items are often presumed to taste bad or thought to be harmful if incorporated into the body, even in small, undetectable quantity in a dish.

3. Methodology

The research was carried out through the quantitative approach through questionnaire distribution. The survey questionnaire was distributed to 300 young culinarian students from three higher learning institutions in Klang Valley, Malaysia namely Universiti Teknologi Mara, KLMU College and PTPL College by using purposive sampling technique. The questionnaire was designed based on the Food Neophobia Scale (Tourila, 2001). As for the questionnaire structure, it was divided into four major sections. Section A was designed to assess the respondents' level of food neophobia, Section B was designed to assess the influence of psychological factor of the respondents towards the level of food neophobia, while Section C was designed to measure the respondents' willingness to taste and cook. Section D focused on respondents' demographic profile. Likert scale from 1 (strongly disagree) to 7 (strongly agree) was used to measure the item. Statistical analysis was carried out with the Statistical Package for Social Sciences (SPSS).

4. Results and discussion

4.1 Respondents' profile

Almost 93.0% respondent were Malay (N=279), follow by Chinese 4.00% (N=12) and India 2.00% (N=6). The remaining 1.0% (N=3) represents the other group. The gender distribution was higher for female students compare to the male consumers. Among 300 respondents, the majority (53.7%, N=161) is male, and the rest (46.3%, N=139) are female. Most of the respondents (77%, N=231) are in the range between 18 to 20 years old. 18.7% (N=56) of the respondents are in the range of 21 to 23 years old, 3.7% (N=11) are in the range of 24-26 years old and the rest 0.7 % (N=2) above 27-29 years old. The percentage distribution of age range of the respondents is shown in the Figure 4.3 below. 87.0 % (N=261) of the respondents were diploma holders. 13.0% (N=39) of them were bachelor's degree holders. 53.0% (N=159) of the respondents' father were high school, 13.0.% (N=39) were in diploma holders, while 22.0% (N=66) were bachelor's degree holders, 10.3% (N=31) master's degree holders and lastly 1.7% (N=5) of them is Ph.D. holders. 68.3%, (N=205) of the respondents' mother were high school, 15.3% (N=46) were in diploma holders, while 13% (N=39) were bachelor's degree holders, 2% (N=6) were master's degree holders and lastly 1.3%, (N=4) of them is Ph.D. holders. 45.3 % (N=136) of the respondents' parents monthly income from below to RM 3,000 and 26.7% (N=80) of their monthly income were below RM 4000 to RM 6000. While, 15.0% (N=45) is 7000 to 10,000, and the remaining 9.7% (N=29) between 11,000 and 14,000, followed by 2.0% (N=6) is 15,000 to 18,000 and lastly 1.3% (N=4) with the parent income of 19,000 and higher. A total of 70.0% (N= 210) of respondents had been raised in the urban area followed by 30.0% (N=90) in the rural area.

3.1. Psychological factors

3.1.1. Motivation - Familiarity with foods

Table 1. The mean score and standard deviation for familiarity of food

Descriptive Statistics		
Items	Mean	Std. Deviation
I only like the food that I had eaten since I was kid.	3.91	1.41
I only consume food that I am familiar with	3.83	1.37
I only familiar with the food that resembles the food that has been prepared by my parents before this.	3.67	1.45
I only would eat food that resembles the food that has been prepared by my parents before this.	3.40	1.59

Based on the table, the most outstanding result in this sub-dimension analysis was “I only like the food that I had eaten since I was kid” with score of (M=3.91, SD=1.41), and the lowest score was “I only would eat food that resembles the food that has been prepared by my parents before this” with score of (M=3.40, SD=1.59). This indicates that the respondent are like the food that they had eaten since they were kids, while they slightly disagree that they only eat the food that resembles the food that prepared by their parents. This is maybe owing to the nature of a young culinarian that expose to various type of foods during their study.

Table 2. The mean score and standard deviation for health

Descriptive Statistics		
Items	Mean	Std. Deviation
It is important for me to eat food that suit the food pyramid.	4.86	1.49
I am particular of what I eat because of my allergy	3.61	1.65
I am particular about my weight control.	3.15	1.81

According to the mean score table, the most outstanding result in this sub-dimension analysis was “It is important for me to eat food that suit the food pyramid” with score of (M=4.86, SD=1.49), and the lowest score was “I am particular about my weight control.” with score of (M=3.15, SD=1.81). Most of the young culinarian slightly agree that it is important for them to eat food that suit the food pyramid, this is owing to the young culinarian have the basic knowledge pertaining to the food pyramid. In addition, some of the young culinarians also slightly disagree that they are particular of what they eat because of they own allergy (M=3.61, SD=1.65).

3.1.2. Belief – sensory affective

Table 3. The mean score and standard deviation for sensory affective

Descriptive Statistics		
Items	Mean	Std. Deviation
This food has an unpleasant taste.	3.65	1.49
This food has the undesirable color.	3.64	3.83
This food has an unpleasant smell.	3.49	1.43
This food has an unattractive appearance.	3.45	1.49

This item is to measure the sensory affective of the respondents towards the food (familiar or unfamiliar) that they are unwilling to consume. According to the mean score table, the most outstanding result was “This food has an unpleasant taste.” with score of (M=3.65, SD=3.83) and “This food has the undesirable color” with score of (M=3.64, SD=3.83). While the low score was “This food has an unpleasant smell.” with a score of (M=3.49, SD=1.43) and “This food has an unattractive appearance” with a score (M=3.45, SD=1.49). Most of the young culinarian are not entirely belief that the food they are unwilling to consume either familiar or unfamiliar has an unpleasant smell and appearance.

3.1.3. Belief – anticipated consequences

Table 4. The mean score and standard deviation for anticipated consequences

Descriptive Statistics		
Items	Mean	Sd.
I will not consume this food because I am afraid that this food will cause harm to my body.	3.51	1.74
This food might contain something that endangers my stomach even with the modest amount.	3.41	1.68
The origin of this foods and the way it is prepared makes it unappealing.	3.37	1.68

These items are to measure the anticipated consequences of the respondents towards the food (familiar or unfamiliar) that they are unwilling to consume. According to the mean score table, the highest score in this sub-dimension analysis was “I will not consume this food because I had bad history with the food that cause illness to my body” with score of (M=3.51, SD=1.74). Most of the young culinarian are slightly disagree that whether the food is familiar or unfamiliar can bring harm to their body and health.

3.1.4. Belief – disgust

Table 5. The mean score and standard deviation for disgust

Descriptive Statistics		
Items	Mean	Std. Deviation
Any dish that contained the tiniest amount of this food would be unappealing.	3.64	1.54
This food creates an unpleasant feeling in my stomach.	3.63	1.56
Eating this food makes (or would make) me nauseous	3.49	1.74

These items are to measure the disgust of the respondents towards the food (familiar or unfamiliar) that they are unwilling to consume. According to the mean score table, the highest score is “This food create an unpleasant feeling in my stomach” which is the value of (M=4.15, SD=1.47). By looking at all the mean score, most of the young culinarian are slightly disagree that whether the food is familiar or unfamiliar, they were slightly disagree that by consuming these foods will cause them to nausea, unpleasant feeling and unappealing event with the tiniest amount.

3.1.5. Willingness to taste and cook novel foods

Table 6. The mean score and standard deviation for willingness to taste and cook novel foods

Item	Mean	Sd.
I feel enthusiastic in preparing dishes that are novel to me	4.78	1.70

I will not afraid to prepare any dishes that use raw ingredients that had the undesirable texture and appearance towards me.	4.72	1.86
When it comes to sensory analysis, I am willing to evaluate the score of the food that I am unfamiliar with.	4.66	1.73
When it comes to sensory analysis, I am willing to taste the food that I am unfamiliar with.	4.55	1.63
I will not afraid to handle any dishes that use raw ingredients that had the undesirable texture and appearance towards me.	4.48	1.65
I am willing to prepare the dish that contained the ingredients that I had not familiar with	4.22	1.65

These items are used to measure the respondent level of willingness to taste and cook novel foods. According to the mean score table, the most outstanding result in this sub-dimension analysis was “I feel enthusiastic in preparing dishes that are novel to me” with value of (M=4.31, SD=1.77), and the lowest score was “I am willing to prepare the dish that contained the ingredients that I had not familiar with.” with value of (M=3.65, SD=1.52). From the highest value of mean above, it is as expected where most of the young culinarian are enthusiastic in preparing dishes that are novel to them. It indicate that most of the young culinarian are passionate in producing the novel foods. And from the lowest value of mean, it indicates that even though the ingredients is unfamiliar towards them, but as the culinarian individual they are still willing to prepare the dish then using the unfamiliar ingredients.

Table 7. Pearson correlations matrix for study variables

		Willingness to taste andLevel of food cook neophobia	Psychological factors
Willingness to taste and cook	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	300	
Level of food neophobia	Pearson Correlation	-.800***	1
	Sig. (2-tailed)	.000	
	N	300	300
Psychological factors	Pearson Correlation	-.835***	.849***
	Sig. (2-tailed)	.000	.000
	N	300	300

**. Correlation is significant at the 0.01 level (2-tailed).

All relationship between variable is significant. The highest relationship is between psychological factors and level of food neophobia (r=.849, p <.001). Followed by the relationship of total psychological factors towards level of food neophobia (r=-.835, p<.001). Lastly, the relationship of level of food neophobia towards the willingness to taste and cook novel foods (r= -.800, p<.001) with 99% confident interval. Noted that, for the variables that stated with negative values, it indicates that the relationship is negatively correlated.

4. Conclusion

The finding from this study contributes to more extensive understanding in nature and human behaviour in particular with individual in culinary realms. Prior, it is undeniable that associating the level of food neophobia among the young culinarians is deemed to be somewhat unrealistic to be looked into. The reason is, the young culinarians are the individuals who are supposedly has no aversion in taste and cook numerous foods whether familiar or unfamiliar. However, it is interesting to stress out that from this study, the result has shown contradicting views. There are different degrees of food neophobia in young culinarian which is low, medium and high. Respectively, although the accounted numbers are mostly in low and medium level, while only a small numbers of

young culinarian that belongs to the high neophobia group, it still indicates that food neophobia also exists even on the individuals who are dealing with foods. Whereby, this phenomenon is undesirable as in the future these young culinarians who will be the ones that become chef, food critique and food panellists.

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