

FOOD SAFETY CONCERNS INFLUENCE NEOPHOBIC RESPONSE TOWARDS KADAZANDUSUN TRADITIONAL FOOD IN DOMESTIC TOURISTS

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Abstract: *Gastrotourism is a major component of a country's tourism activity and traditional food is one of its core products. However, food safety concerns and food neophobia in tourists have become an obstacle in effectively promoting local traditional foods. The objective of this study was to measure food neophobia and food safety concerns in domestic tourists toward Kadazandusun traditional food. A total of 600 domestic tourists from Peninsular Malaysia were recruited from places frequented by tourists and shopping malls in Kota Kinabalu city. They completed self-administered questionnaires on food neophobia and food safety concerns. Most respondents were ranged from not neophobic to having slight food neophobia. In food neophobia, doubts about cleanliness, perception of weirdness of traditional foods, and unpleasant display were the main reasons. The tourists' religious background, educational levels, annual income and region of origin were also factoring that influenced their acceptance of these traditional foods. In conclusion, to help tourists appreciate Kadazandusun traditional foods, there are rooms for improvements in their presentation, incorporation of fusion cooking, and increasing promotion efforts through mass media.*

Keywords: *Kadazandusun, Traditional Food, Food Neophobia, Food Safety*

Background of Study

Sabah is one of the largest states of Malaysia. It is situated at the northern part of Borneo and has become a popular holiday destination for both international and domestic tourists. It is not contiguous with Peninsular Malaysia with the South China Sea in between these two-land mass. With its impressive geographical features and diverse natural resources, Sabah tourism

and hospitality industry has developed into a valuable income generator as indicated by 11.8% increase in inbound tourists with an estimated income of MYR 6.4 billion for 2017 (Han, 2017). Another good indicator of Sabah's tourism growth is the additional 453 weekly domestic flights into the Kota Kinabalu International Airport (Geraldine, 2018, April 30). The bulk of these arrivals is domestic tourists. Other than good accommodation and transportation, food and beverage also play an important role in building memorable travel experience (Jalis, Che & Markwell, 2014; Quan & Wang, 2004; Santich, 2003; Yusoff, Zahari, Kutut & Sharif, 2013). Food is inseparable from culture and heritage of an ethnic group. Gastrotourism is regarded as one of the main components in the wholesome delivery of cultural tourism. Through gastrotourism, visitors are able to explore and experience the uniqueness of a location or a community (Ivanova, Terziyska & Trifonova., 2014; Sapawi, Ng, Azizan & Ooi, 2017; Williams, Williams Jr. & Omar, 2014). Traditional food of an ethnic group is regarded as a valuable national and cultural treasure. Traditional ethnic food can represent the inheritance of old knowledge, ethnic rituals, locally available resources as well as common practices of food preparation. Thus, the food and beverage industry have a role in tourism beyond fulfilling tourists' basic necessities for sustenance.

Consumers tend to avoid foods that are unfamiliar or novel to protect themselves from potential health risks (Grunert and Valli, 2001). Rationally, most tourists have short period of stay and want their vacation to be uninterrupted by avoidable illnesses. In order to prevent such illnesses, concerned tourists exclude unfamiliar foods and unrecognized food providers from their holiday itinerary. When tourists perceive that the food environment gives rise to such need to protect their health, they would leave out Sabah traditional food from their must-do list. Similar observations regarding sanitary conditions and foodborne illnesses have been reported in international tourists' approach to Ghanaian traditional food (Amuquandoh, 2011) and to food served in Mexican hotels (Torres & Skillcorn, 2004).

Kadazandusun traditional food is unique as the cuisine offers distinctive flavours developed from indigenous ingredients that are only available in Sabah. However, it is less popular compared to fresh and dried marine products, which are the main attraction to tourists visiting Sabah (Md Zain, Mohd Zahari, Hanafiah & Zulkifly, 2015). Moreover, few promotional efforts had been done to highlight Kadazandusun traditional cuisine (Tey, 2013). The distinct flavour of the dishes, seasonal availability of native food ingredients and lingering food safety concerns contribute to difficulties in showcasing the cuisine in media and food exhibitions compared to other Malaysian ethnic cuisines. All these factors contribute to neophobic response to unfamiliar traditional foods among tourists. Food neophobia negatively affects tourists' acceptance of traditional foods. The purpose of this study therefore, was to measure the level of food neophobia among domestic tourists on Kadazandusun traditional food and to investigate their food safety concerns regarding its consumption.

Literature Review

There are several related aspects discussed as to provide a platform basis of understanding on the conducted research.

Kadazandusun Traditional Food

The Kadazandusun is the largest ethnic group in Sabah comprising of 40 subgroups as recognized by The Kadazandusun Cultural Association (KDCA) constitution (Kadazandusun Cultural Association, n.d) and their predominantly practised organised religion is Christianity (Barlocco, 2014). They constituted 24.5 percent of the population in the state of Sabah (DOSM, 2011). The influence of common Kadazandusun food is visible in the Sabah

traditional cuisine offerings, such as fermented, cured and pickled foods (Junidih, 2015; Wanita P.B.S Division of Moyog, 1990), and insects (Chung, 2010). Bambang (wild mango) is fermented and tuhau (wild ginger torch) is pickled, originally to prolong its storage. Wild game and fish are fermented with rice into bosou, with the addition of pangi seed (*Pangium edule*). Fish can also be pickled with the addition of pangi seed and consumed soon after without undergoing the process of fermentation. Wild vegetables and herbs are consumed fresh or pickled and eaten together with other dishes. Pangi is also used in Indonesian and Peranakan (indigenous + Sinitic) cuisines. In comparison to the cuisines of the Malays, Chinese and Indians in Malaysia, the Kadazandusun traditional food has a milder taste, with less usage of spices and oil. In the latter, the more common cooking methods are boiling and grilling. As a result of choice of ingredients and preparation methods, the resultant main flavour notes are salty, sour, pungent and tangy (Renata, 2017).

Besides pickling, the Kadazandusuns also consume insects such as *butod* (*Rhynchophorus ferrugineus*), a common beetle larva that survives on decaying *rumbia* or *sagoo* trees (Chung, 2010). These larvae are commonly prepared by stir-frying or eaten raw. Other insects in Kadazandusun, Murut and Rungus diets are crickets, honey bee brood, grasshoppers, rice bugs, cicadas and termites (Chung, 2010). Insects have become part of the Kadazandusun traditional food because of their availability. They are inexpensive to acquire and are excellent substitute source of protein other than meats and fish.

Food Safety Concerns of Traditional Food

Food is an essential necessity for survival and at the same time, it could be the cause of diseases and death if it becomes contaminated. Food safety includes cleanliness in the process, preparation and handling of food to ensure that is safe to eat (Griffith, 2006). Differences in views on food safety, perceptions of food risks and reported behaviours when choosing food are associated with differences in socio-economic backgrounds in Brazil (Behrens et al., 2015). In Malaysia, according to the Ministry of Health's Food Safety and Quality Control Division, most Malaysians have the attitude of dismissing visible threats to food safety in food outlets (Azizan, 2013). Many cases had been reported regarding unsanitary practices in preparation and handling of foods at local restaurants in recent years (Abdul-Mutalib et al., 2015) despite the country's implementation of food safety regulations for foodservice operations. In Western countries where ethnic foods such as Chinese, Indian and Mexican cuisines are increasingly becoming mainstream, these cuisines are the most frequently involved in foodborne illnesses, although increased surveillance due to language barriers and differences in culture may cause a representation bias in detection of cases (Fusco et al., 2015).

Definition of Food Neophobia

Food neophobia is referred to as reluctance and avoidance of trying or consumption of new foods (Barrena & Sanchez, 2012; Pliner & Hobden, 1992). This food personality trait functions as an automatic response to protect oneself from potential harm of consuming unfamiliar food or substances. However, food neophobia limits an individual's food choices and may contribute to nutritional deficiency especially among children. The Food Neophobia scale (FNS) was developed by Pliner and Hobden (1992) to test an individual's willingness to consume new foods. Socio-demographic factors do influence an individual's food neophobia level. From previous studies, it was found that the level of this food-trait personality varies according to the consumer's age (Ozgen, 2014; Pliner & Salvy, 2006; Stratton, Vella, Sheeshka & Duncan, 2015). Young consumers are less neophobic and tend to be more adventurous eaters than their older counterparts as they are more eager to gain new experience by trying new foods.

Consumers with high education and have substantial income have low food neophobia tendencies (Choe & Cho, 2011; Siegrist, Hartmann & Keller, 2013; Tourila, Lähteenmäki, Pohjalainen & Lotti, 2001). Tertiary education institutions provide conducive environments for cultural exchanges and interaction among adult students of different ethnic groups. However, difference in ethnic backgrounds do affect food neophobia levels. Muhammad, Zahari Abdullah & Sharif, 2015) and their food choices (Mohd-Any, Mahdzan & Cher, 2014). People are accustomed to foods that were introduced by family members during their early childhood. These familiar foods are based on the cultural and environmental backgrounds they lived in.

Acceptance of Traditional Food Among Tourists

Tourists avoid consumption of unfamiliar food to protect themselves from any potential health hazards. Although young Malaysian tourists could be adventurous diners (Lim, Ramli, Yusof and Cheah, 2015), there could still be low acceptance of traditional foods as tourists have been reported to do (Choe & Kim, 2017). The low acceptance was formed from assumptions that the quality and taste were not up to the tourists' expectations. Such assumptions may arise from representation of poor hygiene and food safety practices in food preparation and location management of small local foodservice providers in most developing countries. Local delicacies are often sold by street vendors, majority of whom have minimal formal food safety education and awareness of risks of foodborne illnesses (Kharel, Palni and Tamang, 2016). This can be reflected on the tendency of international tourists to put their trust on both hotel and grocery store food safety management and are less trusting of hygiene management of street food vendors and monitoring by local government agency representatives (Wongleedee, 2013).

On the other hand, cultural differences do contribute to the level of acceptance of traditional foods. The preference for intense and exotic flavours varies among individuals as preferences are developed through learning experiences during childhood, in which the family's cultural norms play significant role in daily food preparation and accepted flavour principles (Forestell, 2017; Prescott, Young, O'Neill, Yau & Stevens, 2002). Thus, Asian tourists are more willing to try foods from other Asian countries due to the close similarities of culture and food preferences. However, Mak, Lumbers, Eves and Chang (2012) found that American tourists were the most likely to partake of local foods in foreign countries compared to most tourists from other Western countries. This could be attributed to the availability of various fusion and ethnic cuisines due to the mixture of gastronomic cultural backgrounds in the United States.

Materials and Methods

This study was a quantitative and cross-sectional research. The survey used standardized self-administered questionnaires in Malay and English, which were distributed at well-known tourist spots and shopping malls in Kota Kinabalu city. The questionnaire was modified from previous studies on food neophobia (Pliner & Hobden, 1992) and food safety concerns (Amuquandoh, 2011; Muhammad, Ibrahim, Ahmad and Hanan, 2016). It contained a total of 14 closed-ended items. For the first ten items on food neophobia, respondents indicated their responses on a **7-point scale (1 = 'strongly disagree' to 7 'strongly agree'**; with 2 and 6 = moderately; 3 and 5 = slightly). The total Food Neophobia Score (FNS) was calculated by adding the individual scores for each item (Pliner & Hobden, 1992). The FNS scores ranged from 10 to 70, with a higher value indicating less receptivity towards new foods (i.e., greater food neophobia). For the next four items on food safety concerns, the same method was used. Then, acceptance of three Kadazandusun dishes were measured, namely *noonsom tuhau*

(pickled wild ginger torch) (Lajius, 2014), *noonsom bambangan* (fermented wild mango) (Lajius, 2014) and *hinava* (fish cerviche) (Nandu, Modoit, Moguil & Bingkasan, n.d). These dishes were selected because they are popular among the Kadazandusuns and easily available. **Pictures of these foods were shown to respondents and they indicated their responses on a 7-point scale (1 “fully acceptable” to 7 “objectionable”).** Socio-demographic data provided by respondents were age, gender, ethnic group, state of origin within Malaysia, religion, education level and annual income level.

Respondents were domestic tourists who were visiting Kota Kinabalu. The survey was conducted during peak tourism seasons, which were March, May, August and November 2017 and January 2018. The study obtained data using quota sampling. The quotas were decided according to information about domestic tourist arrivals to Sabah (Sabah Tourism Board, 2017). Trained enumerators approached potential respondents with these screening questions: “Are you from Peninsular Malaysia and visiting Sabah for less than 2 weeks?” and “Have you tried Kadazandusun traditional food?” If potential respondents answered both questions negatively, they were not invited to participate in the study. A total of 600 questionnaires were completed and all these responses provided usable data. The data obtained from the survey was analysed using SPSS 21.0.

Research Findings

The socio-demographic profile of the respondents (Table 1) reflected the domestic tourist arrivals by state of origin in Peninsular Malaysia. The top three tourist arrivals were from Selangor (20.2%), Johor (15.3%) and Kuala Lumpur (13.2%). There were 347 (57.8%) female and 253 (42.2%) male respondents. A majority of respondents were from the 21 – 30 years age group (39.5%), followed by those aged 31 – 40 years (30.8%). Most respondents described themselves as Malays (44.7%), followed by Chinese (41%), Indians (13%) and other ethnic groups (1.3%). Most respondents were Muslims (44.8%), followed by Buddhists (30.0%) and Hindus (12.0%). The majority of respondents were educated to at least undergraduate degree level (62.2%) and earned an annual income of MYR 12,000 – 59,999 (61.2%).

Table 1: Socio-Demographic Characteristics of Respondents

Category	N	(%)
<u>State of origin</u>		
Selangor	121	(20.2)
Johor	92	(15.3)
Kuala Lumpur	79	(13.2)
Perak	60	(10.0)
Negeri Sembilan	60	(10.0)
Kedah	54	(9.0)
Melaka	48	(8.0)
Perlis	46	(7.7)
Penang	40	(6.7)
<u>Gender:</u>		
Male	253	(42.2)
Female	347	(57.8)
<u>Age (years):</u>		
21-30	237	(39.5)

Category	N	(%)
31-40	185	(30.8)
41-50	120	(20.0)
51-60	58	(9.7)
<u>Ethnic group:</u>		
Malay	268	(44.7)
Chinese	246	(41.0)
Indian	78	(13.0)
Others	8	(1.3)
<u>Religious affiliation:</u>		
Muslim	269	(44.8)
Buddhist	180	(30.0)
Hindu	72	(12.0)
Christian	71	(11.8)
Sikh	2	(0.3)
Others	6	(1.0)
<u>Educational level:</u>		
No formal education	5	(0.8)
Primary school	32	(5.3)
Secondary school	160	(26.7)
Undergraduate degree	373	(62.2)
Postgraduate degree	30	(5.0)
<u>Annual income (MYR):</u>		
<12,000.00	124	(20.7)
12,000.00 – 59,999.00	367	(61.2)
60,000.00 – 120,000.00	92	(15.3)
>120,000.00	17	(2.8)

Table 2 shows the items and their corresponding means and standard deviations. The most neophobic response was for the item “I am afraid to eat food that I have not tried before” where 22.2% of respondents indicated that they “slightly agree” with the statement. On the other hand, 24.2% indicated “moderately disagree” and 24.2% indicated “slightly disagree” with the item “I am not willing to try new traditional food”; 24.5% indicated “moderately disagree” with the item “I will not try any new traditional food when travelling because I worry that it unsafe to eat”; and 29.7% indicated “moderately disagree” with the item “I do not eat almost all types of food.”

Table 2: Mean and Standard Deviation for Items in FNS Scale

Item	Mean	SD	% of response ^a						
			1	2	3	4	5	6	7
1 “I rarely try new and different kinds of traditional food.”	4.4	1.8	5.8	13.8	13.2	11.0	26.0	18.8	11.3

	Item	Mean	SD	% of response ^a						
				1	2	3	4	5	6	7
2	“I will not try Kadazandusun traditional food if I do not know it.”	3.7	1.7	8.7	19.2	21.3	19.5	14.8	10.5	6.0
3	“I do not trust Kadazandusun traditional food because I do not trust its cleanliness.”	3.4	1.6	12.0	18.5	24.0	17.3	18.7	6.0	3.5
4	“I am afraid to eat food that I have not tried before.”	3.8	1.7	9.0	17.2	19.7	16.2	22.2	10.5	5.3
5	“I do not like traditional foods from other places or countries”	3.2	1.5	13.7	25.0	23.7	17.2	12.5	5.5	2.5
6	“I think Kadazandusun traditional food is too weird to be consumed.”	3.9	1.6	7.5	14.3	19.2	20.3	20.0	14.0	4.7
7	“I will not try any new traditional food when travelling because I worry that it is unsafe to eat.”	3.4	1.6	10.2	24.5	22.8	16.2	16.5	7.0	2.8
8	“I do not eat almost all types of food.”	2.8	1.5	22.0	29.7	22.0	10.5	10.0	4.0	1.8
9	“I am very fussy about traditional food.”	3.7	1.5	7.3	19.3	20.7	22.0	18.0	9.2	3.5
10	“I am not willing to try new traditional food restaurant.”	3.3	1.5	12.0	24.2	24.2	16.2	14.0	7.3	2.2

^a1 = “Strongly disagree” to 7 = “Strongly agree”; 2 & 6 = “Moderately”; 3 & 5 = “Slightly”; 4 = “Do not know”; mode is shown in bold.

For food safety concerns (Table 3), the mean group response was between “slightly disagree” to “do not know” for all items regarding food safety concerns. The item regarding unpleasant display of Kadazandusun traditional foods preventing respondents from eating it was the most prominent in eliciting a “Slightly agree” response.

Table 3: Mean and Standard Deviation for Items on Food Safety Concerns

	Items	Mean	SD	% of response ^a						
				1	2	3	4	5	6	7
1	“Fear of illness deters me from eating Kadazandusun traditional food.”	3.7	1.6	7.7	16.5	24.5	20.0	16.0	9.8	4.8
2	“I have suspicion that the Kadazandusun traditional food contains ingredients that cause me to have an allergic reaction and this discourages me from trying it.”	3.9	1.6	7.2	16.2	21.5	16.5	20.0	14.0	4.3

3	“The unpleasant display of Kadazandusun traditional foods prevent me from eating it.”	4.0	1.6	6.5	16.	18.	17.	22.	14.	5.7
					2	2	3	0	2	
4	“I can prevent any disease and remain healthy by not trying Kadazandusun traditional food.”	3.4	1.6	10.	24.	18.	21.	15.	8.0	2.7
				0	2	7	3	2		

^a1 = “Strongly disagree” to 7 = “Strongly agree”; 2 & 6 = “Moderately”; 3 & 5 = “Slightly”; 4 = “Do not know”; mode is shown in bold.

The level of acceptance towards three Kadazandusun common traditional dishes was also measured in the survey. According to the Table 4, hinava (fish ceviche) and noonsom tuhau (pickled wild ginger torch) had almost similar levels of acceptance, mean 3.5, *SD* 1.7 and mean 3.5, *SD* 1.6, respectively. The higher level of acceptance were for noonsom bambangan (fermented wild mango) with 27.7% of respondents indicated “Acceptable”, and noonsom tuhau with 26.2% of respondents indicated “Slightly acceptable”. There seemed to be two groups of acceptability for hinava with 22.5% of respondents indicated “Do not know” and 21.2% indicated “Acceptable”. These findings might reflect their perception of the traditional foods being weird or unappealing. The small differences in the mean and *SD* might be caused by the near identical flavours and preparation styles of these dishes.

Table 4: Mean and Standard Deviation on Acceptance Level of Kadazandusun Traditional Dishes

Items	Mean	SD	% response ^a						
			1	2	3	4	5	6	7
Hinava (fish ceviche)	3.5	1.7	11.5	21.2	18.0	22.5	11.8	10.8	4.2
Noonsom Tuhau (pickled wild ginger torch)	3.5	1.6	9.0	20.7	26.2	17.2	13.2	9.5	4.3
Noonsom Bambangan (fermented wild mango)	3.2	1.5	10.7	27.7	24.3	18.7	9.5	6.7	2.5

^a 1 = “Fully acceptable”, 2 = “Acceptable”, 3 = “Slightly acceptable”, 4 = “Do not know”, 5 = “Slightly unacceptable” 6 = “Unacceptable”, 7 = “Objectionable”; mode is shown in bold.

Total FNS scores were added up as the sum of scores from the 10 items on food neophobia. Respondents were then divided into tertiles of FNS scores, representing low (10 – 23.3), medium (23.4 - 47.4) and high (47.5 – 70) food neophobia groups, which translated to neophiles, neutrals and neophobes respectively. The cut off points were at one standard deviation (12.0) from the mean 35.4, and the respective numbers of respondents in each category were 94 (15.7%), 403 (67.2%) and 103 (17.2%). Similar classification was used in previous studies measuring consumer food neophobia (Choe & Cho, 2011; Olabi, Nalm, Baghdadi & Morton, 2009; Ritchey, Frank, Hursti & Tuorila 2003; Tuorila *et al.*, 2001). There are significant differences in FNS scores when respondents were grouped by socio-demographic indicators (see Table 5).

Respondents who were older had significantly more neophobic scores than respondents in younger age groups. Respondents from northern Peninsular Malaysia were significantly more neophobic than their southern and central counterparts. Respondents who described themselves as Malays and Indians, as well as Muslims and Hindus or Sikhs, were significantly more neophobic than other ethnic groups or other religious affiliations. Respondents whose highest attained educational level were “no formal education”, primary and secondary schools were significantly more neophobic than respondents who attained higher levels of education.

Respondents whose annual income were less than MYR60,000 were significantly more neophobic than respondents who reported income higher than that threshold.

Table 5: Comparison of FNS Scores by Socio-demographic Groups

Socio-demographic groups		N	Mean	SD	P value ¹
Gender					0.145
	Females	347	34.8	12.0	
	Males	253	36.3	12.0	
Age group (years)					<0.001
	21 – 30	237	31.6 ^a	10.8	
	31 – 40		35.3 ^b	11.7	
	41 – 50		37.8 ^b	11.4	
	51 – 60		47.1 ^c	10.6	
Region of origin					<0.001
	Southern Peninsular Malaysia	200	32.8 ^a	12.3	
	Central Peninsular Malaysia	200	34.0 ^a	11.1	
	Northern Peninsular Malaysia	200	39.5 ^b	11.6	
Ethnic group					<0.001
	Other ethnic groups	8	28.9 ^a	7.7	
	Chinese	246	32.3 ^{a,b}	11.9	
	Malay	268	37.7 ^b	11.7	
	Indian	78	38.1 ^b	11.1	
Religious affiliation					<0.001
	Other faiths	6	27.2 ^a	12.0	
	Christian	71	32.0 ^{a,b}	11.1	
	Buddhist	180	32.4 ^{a,b}	12.3	
	Muslim	269	37.7 ^b	11.7	
	Hindu / Sikh	74	38.5 ^b	11.0	
Highest educational level					<0.001
	Postgraduate degree	30	26.8 ^a	6.6	
	Undergraduate degree	246	30.9 ^{a,b}	10.6	
	Higher education	127	36.8 ^{b,c}	10.7	
	Secondary school	160	40.7 ^c	11.6	
	No formal education	5	41.6 ^c	19.3	
	Primary school	32	45.6 ^c	12.8	
Annual income (MYR)					<0.001
	>120,000	17	27.9 ^a	5.6	
	60,000 – 120,000	92	30.3 ^a	10.2	
	12,000 – 59,999	367	35.9 ^b	11.7	
	<12,000	124	39.0 ^b	13.1	

¹ Test for comparison of means was unpaired t-test for 2 groups, and oneway ANOVA for more than 2 groups.

^{a,b} Superscripts denote significant difference in FNS scores for the socio-demographic group described.

From the findings, despite the domestic tourists' food neophobia ranging from not neophobic to slightly neophobic, these tourists are still cautious and even had displayed a certain degree of reluctance to try Sabah traditional food especially Kadazandusun cuisine. Based on the obtained socio-demographic data, respondents in the youngest age groups were mostly Chinese (n=136, 57.4%) whilst the oldest age groups were mostly Malays (n=37, 63.8%) (Likelihood ratio $X^2 = 51.4$, $df = 9$, $p < 0.001$). Ethnic groups and age groups were significantly associated with sub-categories of food neophobia. Most respondents who expressed food neophobia were Malays (n=56, 54.4%) compared to those who expressed food neophilia were Chinese (n=51, 54.3%) (Pearson $X^2 = 14.1$, $df = 6$, $p < 0.029$). Respondents who expressed food neophobia were mostly those aged 51 – 60 years (n= 32, 31.1%) compared to those who expressed food neophilia were mostly aged 21 – 30 years (n=54, 57.4%) (Pearson $X^2 = 82.5$, $df = 6$, $p < 0.001$). Respondents who expressed food neophobia were mostly Muslims (n=56, 54.4%) compared to those who expressed food neophilia were mostly Buddhists (n=37, 39.4%) (Likelihood ratio $X^2 = 18.5$, $df = 10$, $p = 0.048$).

Respondents whose highest level of education was secondary school (n=45, 43.7%) were the most represented among food neophobes compared to those with an undergraduate degree (n=57, 60.6%) were the most represented among food neophiles (Likelihood ratio $X^2 = 91.8$, $df = 10$, $p < 0.001$). Respondents whose annual income were MYR12,000 – RM59,999/year were most represented among food neophobes (n=63, 61.2%) as well as among neophiles (n=57, 60.6%) (Pearson $X^2 = 27.9$, $df = 6$, $p < 0.001$). This observation could be attributed to the large percentage of this income group (n=367, 61.2%) among all respondents. As expected, there was a significant association between highest level of education attained and annual income (Likelihood ratio $X^2 = 170.3$, $df = 15$, $p < 0.001$).

Discussion and Conclusion

Education and income levels affected the level of food neophobia. The findings from this study were similar to those reported by Muhammad et al. (2015b). Highly educated individuals are more open-minded as they are more likely to have been exposed to experiences related to other cultures via learning in class or social interactions with peers. Moreover, Miselman, King and Gillette (2010) and Muhammad et al. (2015b) also reported that consumers with high educational qualifications and high-income levels were mostly urbanites. Urbanites leaned more towards food neophilic personality, which was developed through a broader access to food and various ethnic cuisines in the proximity of their homes. The present study found that the level of food neophobia is different in the three regions of Peninsular Malaysia. This observation was also reported on tourists in Brazil (Ribeiro and Behrens, 2015). Ribeiro and Behrens (2015) found that people from different regions are exposed to different levels of acculturation and gastronomic diversity, which caused distinctive food neophobia levels.

Food safety concern was one of the factors that influenced willingness to try new traditional foods. Issues regarding food safety would spread fast through social media, which is currently the most effective information exchange platform. Philip (2015) reported that Malaysian consumers were likely to effectively get information about food safety via social media, other than through formal education. With wide reporting of recent cases of food safety violations, Malaysians were becoming careful of the foods they ate. Consumers' perception of risk could also be influenced by limited access to information regarding ingredients and cuisines unfamiliar to them. Fisher and Frewer (2009) suggested that to overcome this problem, information on benefits and attributes of foods should be presentable and made easy to be

shared. In this case of Kadazandusun traditional foods, these could encourage and increase domestic tourists' familiarity with the ingredients used. A positive expectation on quality could be created with the aid of images or pictures that were included with any information made available (Piqueras-Fiszman & Spence, 2015).

Other than food safety concern, religious beliefs and practices have also been reported to be important factors in selection and acceptance of food and beverages (Bashir, Bayat, Olutuase & Latiff, 2018; Khan, 1981). Muslim domestic tourists would find it advantageous to travel within Malaysia as this gave them easy access to familiar and halal certified foodservice outlets. However, many Muslim domestic tourists would become cautious when the foodservice outlets were operated by owners who adhered to religions other than Islam. They might have reservations that taboo foods and ingredients prohibited for consumption by Islam might be used in certain dishes. They would then have an aversive attitude and be more meticulous in food selection. For example, many Muslim domestic tourists believe that eating butod (sago beetle larvae) is forbidden by Islamic teachings (Paran, 2015 February 06) and some Buddhist followers practice vegetarianism (Grygus, 2008). According to Battour, Ismail and Battor (2010) and Rahman (2014), availability of halal food and beverage are the top consideration in choosing a travel destination for Muslim tourists.

Furthermore, the mild flavour profile of Kadazandusun traditional food did appeal to most domestic tourists from Peninsular Malaysia, who were more familiar with the stronger flavour profiles of Malay, Chinese and Indian ethnic cuisines. For example, Malay cuisine contained very strong, spicy, rich and aromatic flavours due to generous usage of various herbs, spices and cooking methods that accentuated these ingredients (Nur-Syuhada, Fadzilah, Khairunnisa & Rosmaliza, 2015).

At present, the appearance and presentation of Kadazandusun traditional food might not be appealing to domestic tourists. Appearance and presentation are vital elements in acceptability of foods. Colour composition and plating style improved food acceptability among targeted consumers (Deroy, Michel Piqueras-Fiszman & Spence, 2014; Stewart & Goss, 2013). Therefore, providers of Kadazandusun traditional foods are recommended to revamp the way of presenting the cuisine to increase its appeal to their tourists. Extensive promotional efforts, positive information sharing and improvement on food safety could increase the acceptability of Kadazandusun traditional foods. These food providers and foodservice outlets could also look into providing halal Kadazandusun traditional foods for tourists as the demand for more halal food and beverage choices are growing exponentially over the years.

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