INTERNATIONAL TOURISTS' PROTECTION INTENTIONS TO USE FOOD HYGIENE CUES IN THE CHOICE OF DESTINATION LOCAL RESTAURANTS

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Abstract: This study examines international tourists' protection intentions to utilize food safety cues in the choice of destination local restaurant, reducing the risk of contracting a foodborne illness. A survey was conducted of 398 first-time foreign travellers to Malaysia. The results driven by Exploratory Factor Analysis reveals that food safety indicators comprised three dimensions: visual food safety cues, information food safety cues, and the level of restaurant patronage. Cluster analysis confirmed that protection intention to use different food hygiene cues differs across tourists' subgroups of gender, age, nationality, level of income, level of education, travel purpose, and trip arrangement.

Key words: food hygiene, food safety, local restaurant, foodborne illness, traveler's diarrhea, Malaysia tourist

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INTRODUCTION

For a growing number of international voyagers, traveling to enjoy familiar food, or trying new cuisine, has become a vital element of the tourism experience (Ahlawat et al., 2019). Locally produced food products and culinary traditions express cultural identity (Yilmaz et al., 2018) via taste, food procurement, preparation, and the entire dining environment (Henderson, 2014). Indeed, the diversity and unique flavors of destination local food consistently delight travelers (Hendijani, 2016), and contribute

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significantly to the sustainability of tourism (Sims, 2009). It is no surprise that the strong link of local food to travel and tourism is reflected in the menu trends of destination restaurants, which can determine the distinctiveness of one destination over another and creates a unique selling point (Haven-Tang & Jones, 2006).

While sampling destination local food on a plate may be a wonderful game and exotic cultural activity, a voyager's stomach isn't always up to the challenge of foodborne illness. This problem can potentially become the primary travel issue (DuPont et al., 2009) and the top tourist concern when considering international destinations (Reichel et al., 2007). Even though the vast majority of foodborne illness cases in tourists go unreported or are not systematically investigated, contracting a foodborne illness while traveling, known as the "traveler's diarrhea", is the most common travel-associated disease (Hagmann et al., 2014). Traveler's diarrhea affects almost 30% to 70% of tourists (Heather, 2015), particularly travelers in South East Asia, Africa, and Latin America (Barrett & Brown, 2016). It occurs when tourists consume food and water contaminated by bacteria, viruses, parasites, toxins, chemicals or physical matter, which may cause a range of symptoms including fecal urgency, abdominal cramps, tenesmus, nausea, or vomiting (Steffen et al., 2015). Regardless of the geographic distribution and prevalence of traveler's diarrhea, destination local restaurants largely contribute to travel-induced diarrhea because of poor hygienic food practices (Centre for Disease Control and Prevention [CDC], 2013; Gautret & Parola, 2017). Food poisoning outbreaks reported in the travel news can easily highlight the high association between tourists patronizing non-sanitary destination local restaurants and traveler's diarrhea (Yasami, 2018). Eating food at destination restaurants with standards of sanitation lower than those to which tourists' immune systems are accustomed, frequently places travelers at high risk of contracting a foodborne illness (Wongleedee, 2013). In Malaysia, cases of alleged foodborne illness associated with patronizing restaurants are nothing new and such association remains one of the major consumer issues (Cheng, 2016; Sharifa Ezat et al., 2013). Despite the Malaysian government's regular inspections of food premises and strict penalties for serious food safety violations, unhygienic food handling practices in Malaysia food premises have been found to play a prominent role in developing foodborne diseases (Soon et al., 2011).

However, the news of travel-induced diarrhea and rising public health-consciousness have led to tourists' feelings of insecurity and concerns toward food safety when dining at international tourism destinations. Although both their choices of food type and eating location expose consumers to food-related hazards (Miles et al., 2004), it is almost impossible for them to verify the safety of their food even after buying it (Golan et al., 2004). As a result, consumers are of the view that they only have control over the choice of their eating environment while dining out. They often rely on the local authorities' regular and constant inspection services to ensure the safety and hygiene of food serving at restaurants. Besides these inspections, there is a broad range of observable food hygiene indicators and external sources of information that largely contribute to the consumer's appraisal of food safety at restaurants (Aksoydan, 2007; Henson et al., 2006). For instance, the perception of restaurant cleanliness is inherent in a set of food hygiene indicators which may operate as decision variables (Barber et al., 2011).

In a nutshell, the high association of foodborne illness and restaurants (Angelo et al., 2017; Gould et al., 2013; Mun, 2020) may lead consumers to hold restaurants most responsible for food safety violations (Omari & Frempong, 2016) thus looking for some extrinsic tangible food hygiene cues in their restaurant selection (Ungku Fatimah et al., 2010). Consumers rely on tangible indicators because the key hygiene aspects influencing

the safety operation of a restaurant, such as kitchen and food storage containers are not always observable (Henson et al., 2006). Moreover, some of the food hygiene indicators, like freshness of food, food temperature, and cooking level are experience features and cannot be evaluated before purchasing. In such contexts, the existence of reliable and observable food safety indicators is decisive. It helps consumers to engage in protective measures by not patronizing restaurants that are judged to increase the risk of contracting a foodborne illness (Yasami, 2018). The intention to adopt a protective health behavior in confronting the threat of restaurant-associated foodborne illness correlates systematically with the protection motivation theory [PMT] (Rogers, 1975). The central premise of PMT is that people tend to protect themselves from the harms that are caused by physical, psychological, and social threats (Williams, 2012). This theory explains how cognitive perception of risk and perceived efficacy variables are thought to predict an individual's protection intentions. In line with the theory, consumers engage in a preventive measure by patronizing restaurants that have a satisfactory level of food hygiene. While the literature sheds light on the roles of these food hygiene indicators in consumer decision-making, there is presently little tourism research directed toward understanding travelers' protection intentions to adopt such cues in their choice of local restaurants.

Furthermore, while different types of "background variables" are of potential relevance to behavioral intentions, as other attitudinal theories propose (Ajzen & Fishbein, 2005; Ajzen, 1991), there is nothing in the PMT to propose which of these factors change the direction and strength of protection intention and hence deserve attention in the travel context. It solely represents the theoretical gap identified by the present study. In an attempt to bridge the gaps, the specific objectives of this study are to:

1. Determine food hygiene indicators that international tourists most/least intend to adopt in the choice of local restaurants.
2. Examine the dimensionality of food hygiene cues that international tourists tend to adopt in their choice of local restaurants.
3. Find out whether or not protection intention to adopt food hygiene dimensions differs across various subgroups of gender, age, nationality, level of education, level of household income, visit purposes, and trip arrangement.

LITERATURE REVIEW

Food hygiene cues and restaurant selection

Growing concerns about restaurant-associated foodborne illness may highly influence consumers' perceptions of food safety risks (Yasami, 2018). This is particularly important in the tourism context, when perceptions of food safety risks, may result in tourist hesitation and refusal to eat local food (Cohen & Avieli, 2004). However, using a risk reliever to reduce the perception of food safety risk is nothing new, and many risk relievers exist, such as utilizing restaurant hygiene indicators in restaurant selection (Bai et al., 2019), searching for specific food brands, information acquisition, taking advice from family and friends, looking for guarantees (e.g., laboratory tests or quality assurance), and images of the food store have been frequently adopted by consumers to mitigate the unpleasant health consequences of consuming unsafe food (Yeung et al., 2010).

Food hygiene is the conditions and actions necessary to ensure the safety of food at each point of the food supply chain, from farm to fork, to prevent foodborne illness. When it comes to restaurants, the key indicators that influence a restaurant's food hygiene operation are usually hidden backstage at the restaurant (Cousins et al., 2002). Therefore, consumers rely heavily on tangible aspects of food hygiene practices, such as the cleanliness of the physical environment, equipment, and staff appearance, to base

their judgment on food hygiene and safety (Jones, 2002). Furthermore, consumer perception of cleanliness attributes linked to staff, restaurant environment, and equipment is thought to influence restaurant selection (Bai et al., 2019; Park, 2014; Ungku Fatimah et al., 2010). The relevant evidence to back up the above facts has been provided by several studies, indicating how consumers rely on some observable food hygiene cues, such as cleanliness of a restaurant's dining rooms and utensils, the waitstaff's appearance and clothing, the level of restroom hygiene, and restaurant exterior, to decide where to eat (Adam et al., 2014; Bai et al., 2019; Kim et al., 2019; Henson et al., 2006; Park et al., 2016; Park & Almanza, 2014; Yassami, 2018). Additionally, consumers associate the level of patronage with restaurant reputation (Kim et al., 2010) and a crowded restaurant with a lot of customers usually represents high quality of food and standards of food safety (Henson et al., 2006). Previous studies also supported different sources of information used by consumers to assess the safety of food and resulting impacts on restaurant selection. These are restaurant inspection notices, press media, and broadcasting, friends and relatives' recommendations, and internet-based information (Ali et al., 2019; Bai et al., 2019; Choi et al., 2013; Choi et al., 2019; Harris et al., 2018; Seo et al., 2015; Uggioni & Salay, 2014; Wong et al., 2015; Yannopoulou et al., 2011).

A growing body of the consumer behavior literature suggests that the provision of food safety-related information in the form of inspection notices is a reliable source of information that consumers consider in restaurant selection (Choi et al., 2013; Choi et al., 2019; Fleetwood, 2019; Uggioni & Salay, 2014; Vainio et al., 2020; Wong et al., 2015). These inspection notices either in the form of a letter, or grade, are issued by local health authorities and simply measure a restaurant's compliance with the front of the house and backstage sanitation codes. Posting health inspection grade cards in restaurants often leads to consumers establishments with a higher level of hygiene standards (Jin & Leslie, 2003). Word of mouth (WOM) also has a strong effect on consumer evaluation of food safety in a particular restaurant and future decision-making. This now includes both the traditional form of WOM made by a small group of friends and family (Ali et al., 2019; Bai et al., 2019; Harris et al., 2018) and the online word of mouth (eWOM) generated by social media networks (Seo et al., 2015; Zhang et al., 2017). Most specifically in the context of travel, Yeung and Yee's study (2013) indicated that international tourists frequently seek tour guide advice in the choice of destination restaurants to reduce food safety risks.

Bringing up these two strands of the literature suggests that consumers evaluate the safety of a restaurant based on multiple food hygiene indicators. Some of these cues are observable indicators directly perceived by consumers such as the cleanliness of staff, eating environment, and equipment. The other safety cues are mostly formed by external sources of food safety-specific information. These indicators often reflect others' opinions about the safety of food-service establishments, perhaps based on their past patronage. Past researchers have frequently suggested different categories of food hygiene indicators contributing to consumers' judgment of restaurant food safety (Aksoydan, 2007; Barber & Scarcelli, 2009; Henson et al., 2006; Ungku Fatimah et al., 2011; Park et al., 2016). However, the hygiene factors relevant to food, staff, equipment, and restaurant environment remain consistent across almost all of their studies.

Apparently, incorporating food factors such as freshness, temperature, and cooking levels in this classification may be considered irrelevant since safety factors cannot be easily evaluated before purchasing. Following the literature, a tourist's similar reliance on food hygiene cues for the choice of restaurant is not unexpected. Thus, the current paper aims to examine the roles of all these indicators in one study, with a special focus on international tourists and destination local restaurants.

Socio-demographics and travel factors of influence

In the process-based approach, and particularly the value-expectancy class of theories, an individual's motivation to select a protective behavior among different alternatives is a product of his/her success expectations and the value perceived for it (Green, 2002). In these theories, motivation is usually operationalized by the intention that initiates or sustains an actual behavior (Ajzen & Fishbein, 1970; Rippetoe & Rogers, 1987). The well-known figure of the value-expectancy theories is the theory of protection motivation theory (PMT). PMT proposes that the interplay between social background factors (e.g. age, gender, education, religion, etc.) and other PMT constructs including subjective appraisals of threat and coping responses forms protection intention as an immediate antecedent to preventive behavior (Weinstein, 1993). This particular theory has been widely applied to explain health behaviors (Yasami, 2018). However, people with different background factors such as education (Wee et al., 2014), age (Wammes et al., 2005), gender (Quick et al., 2013; Yasami, 2018), and even different country of residence (Hung et al., 2016; Schroeder & Pennington-Gray, 2015; Yasami, 2018) might have different scores of health-protective behavioral intentions.

Most specifically, the variation in adopting food hygiene cues in their choice of restaurants was sometimes observed to be based on socio-demographic characteristics including age, gender, level of education, and nationality (Aksoydan, 2007; Bai et al., 2019; Barber & Scarcelli, 2009; Barber et al., 2011; Becker et al., 1999; Henson et al., 2006; Tuzunkan & Albayrak, 2017). For instance, the study conducted by Aksoydan (2007) indicated that men considered the cleanliness of dining utensils in the restaurant selection, whereas this factor was trifling for women. However, the study's results stand in contrast to the work done by Bai et al. (2019), indicating that women consider more hygiene indicators to evaluate the food safety of restaurants compared to men. Tuzunkan and Albayrak's research (2017) showed how women attributed more importance to the work staff's clothing than men. Similarly, university graduates considered work staff's appearance and high standards of personal hygiene as the most important decision variables.

Moreover, a study done by Henson et al. (2006) illustrated that the use of food hygiene indicators in restaurant selection differs by socioeconomic characteristics of age, gender, and level of education. Young men with a high level of education use food hygiene information cues in the choice of restaurant. On the contrary, the respondents in the older age group predominantly employ visual standards of food hygiene such as the cleanliness of work staff's appearance in their choice. Likewise, mature consumers' perceptions of waitstaff's appearance and behaviors largely influenced their restaurant selection in Kim's study (2008). However, elderly respondents are more concerned with restaurant cleanliness compared to younger respondents according to Barber and Scarcelli (2009) and Henson et al. (2006). The cross-cultural studies conducted by Becker et al. (1999) in the United States and Hong Kong have revealed how national culture also influenced the customer's assessment and expectations of restaurant service quality.

American respondents ranked sanitation as the most important service quality dimension, compared to Hong Kong customers that put it in as the second priority among six service quality dimensions. In the travel context, the study conducted by Yasami (2018) demonstrated that female, African, and tour package travelers have high protection intentions to use food hygiene indicators in the choice of local restaurants. Furthermore, visit purpose and household income explained preference heterogeneity in using different sources of information about destination products and services (Cai et al., 2001; Luo et al., 2008). To sum up, each of the aforementioned socio-demographic and travel characteristics may influence consumer intention to utilize food hygiene cues in

restaurant selection. Following the lead observed in the literature, this study considered nationality, age, gender, level of education, monthly household income, travel purpose, and trip arrangement as the factors that influence tourists' protection intentions to adopt food hygiene indicators in their choice of destination local restaurant.

MATERIALS AND METHODS

Survey instrument

A self-administered questionnaire was developed upon an extensive review of the literature to collect data regarding all the areas investigated. The questionnaire had two parts. The first part required respondents to provide information on socio-demographic and travel characteristics of age, gender, level of education, monthly household income, nationality, travel purpose, and trip arrangement. The second part was designed to address the protection intentions of international tourists to use food hygiene indicators in their choice of local restaurant using a seven-point Likert scale, where 1= strongly disagree and 7= strongly agree. Fifteen food hygiene indicators were adopted and adapted from the previous literature (Aksoydan, 2007; Ali et al., 2019; Bai et al., 2019; Barber & Scarcelli, 2009; Barber et al., 2011; Choi et al., 2019; Harris et al., 2018; Henson et al., 2006; Fleetwood, 2019; Park et al., 2016; Yeung & Yee, 2013). The study instrument was given to a panel of experts in the fields of food safety and hospitality management to evaluate the face and content validity of the food hygiene measures. In line with their suggestions, minor corrections were made on the questionnaire for accuracy and ease of understanding.

Sample and data collection

Convenience sampling was employed to collect data from the arrival section of Kuala Lumpur international airport which is Malaysia's busiest entry point in terms of international arrivals. Kuala Lumpur was selected for its importance as the most visited city by Malaysian international tourists (Huijun et al., 2015). The international first-time travelers were approached at the arrival section and invited to participate in this research. If they agreed to participate, they were asked to select answers based on their preferences of food hygiene indicators in the choice of destination full-service local restaurants.

Full-service local restaurant in Malaysia has been introduced to the respondents as the local Malay, Chinese, and Indian restaurants, where guests are given a range of food options delivered by the wait staff. International students and transient travelers were excluded in line with WHO's definition of tourist (Holloway, 2006). A total of 298 usable questionnaires were obtained from April 2019 through May 2019. This sample size easily satisfied Burn and Bush's sample-size requirements (2010). Once the questionnaires were collected, the content was entered into the Statistical Package for the Social Sciences (SPSS) version 18. During data screening, the normal distribution of the dependent variable across each sample group was satisfied since the values of skewness and kurtosis fell into a proper range of +/- 1.5 (Tabachnick & Fidell, 2013). Moreover, the Shapiro-Wilks test and histogram graph positively supplement the assessment of normality. No univariate outliers were detected by examination of box plots.

RESULTS AND DISCUSSIONS

Demographic profiles of respondents

The majority of respondents were male (60.7 %) and Asian (43.3%). The age of respondents mostly ranged from 18 to 37 years old (69.2 %). More than two-thirds of the respondents were educated and claimed to have at least a bachelor's degree (73.9 %). Almost half of the respondents reported their monthly household income as less than 1000 US\$ (58.7 %). Leisure tourists were the largest group among the respondents (65.1%) followed by business travelers (15.8%). Finally, 60.1 % of the respondents arranged their trips individually.

Protection intention to adopt food hygiene indicators

The level of agreement attributed to the various food safety cues was assessed upon a seven-point Likert scale. A large numerical score indicates a high agreement rating. As depicted in Table 1, food hygiene indicators that international tourists most intended to adopt in the choice of the local restaurants were “the cleanliness of restaurant dining tables, chairs, and utensils” ($M=5.17$, $SD=1.450$) and “high patronage of the international tourists” ($M=5.12$, $SD=1.361$). The adoption of risk mitigation measures may substantially deviate from required action solely due to the perception of disease risk. The item “The people’s opinions and views posted on Facebook, Twitter, Yelp, and other social media platforms” demonstrated the minimum contribution ($M=4.66$, $SD=1.507$). The food hygiene indicators which reflect others’ comments on the restaurant selection, were considered to be less strong among the food hygiene indicators under study. This may be because comments are perceived as reliable when they are posted by people with whom readers have close social relationships (Pan & Chiou, 2011) as supported by the current study results (see last item in Table 1). Although official inspection scores may be the most reliable and visible indicators to communicate food safety related information to consumers (Fleetwood, 2019), the respondents highly relied on their subjective judgements of cleanliness of restaurant environment, equipment, and staff in restaurant selection. The adoption of these risk mitigation measures may substantially deviate from required action solely due to the perception of disease risk (Usuwa, 2020). On the other hand, international tourists may not understand the meanings of the Malaysian grading system and therefore not adequately employ them in the choice of local restaurant.

Table 1. Mean scores of the 15 items measuring respondents’ protection intentions to use food hygiene cues in the choice of local restaurant ($n = 298$)

Food Hygiene Attributes	Mean	SD
Clean exterior/outside	5	1.592
Pleasant odor/smell	5.10	1.566
Clean work staff 's clothing and appearance	5.07	1.541
Clean dining tables, chairs, and utensils	5.17	1.450
Clean toilets	4.96	1.579
Clean floor	5.32	1.355
Clean menu	4.81	1.421
No flies in the restaurant	4.68	1.522
Good inspection score	5.02	1.368
High patronage/crowding of the international tourists	5.12	1.361
High patronage/crowding of the local people	4.94	1.461
Highly recommended by other tourists on TripAdvisor	4.71	1.493
Highly recommended by people on Facebook, Twitter, Yelp, etc.	4.66	1.507
Highly recommended by the tour guide	4.74	1.545
Highly recommended by family and friends with past visit experience	5.01	1.477

Dimensions of Food Hygiene Cues Using EFA

Exploratory Factor Analysis (EFA) was employed to examine the dimensionality of the fifteen food hygiene indicators in the restaurant selection. Two attempts were made to extract the final results. The first attempt came up with two items reporting cross-loading. They were “cleanliness of floor” and “no flies in the restaurant”. After removing these two items, a second attempt at EFA was made. Three factors with a minimum eigenvalue of 1.0 or higher were identified through a principal component method with Varimax rotation. The adequacy of data was supported by the Kaiser–Meyer–Olkin ($KMO=.954$)

and significant Bartlett's test (Beavers et al., 2013). Thirteen items were retained as the cut-off point for the factor loadings set at an absolute value of 0.45 (Andriotis et al., 2008). These dimensions accounted for 83.35 % of the total variance and consisted of visual food safety cues, information food safety cues, and level of patronage. Cronbach's alpha was higher than 0.7 for all dimensions, suggesting a suitable internal consistency as proposed by Hair et al. (2010). The details are reported in Table 2.

The first factor, visual food safety cues, accounting for 68.6 % of variation across the sample, heavily loaded onto "cleanliness of exterior", "pleasant odor/smell", "cleanliness of waitstaff's clothing and appearance", "cleanliness of dining tables, chairs, and utensils", "cleanliness of toilets", "cleanliness of restaurant menu", and "inspection score". This factor was all about the respondents' visual appraisal of the food hygiene indicators of restaurants, of which the tourist's visual assessment of the cleanliness of dining tables, chairs, and utensils was the most important consideration in the restaurant selection. Items loading strongly onto the second factor were "reviews posted in TripAdvisor," "reviews posted in Facebook, Twitter, Yelp, etc., or other social media platforms," "tour guide's advice," and "family and friends' advice". This factor indicates that food safety cues explained 8.56% of the variation across the sample. The results discussed so far, indicate that family and friends' advice were considered by the respondents as the most important source of food safety-related information (M=5.01, SD=1.477). Factor three, the level of restaurant patronage consists of "level of patronage of the international tourists" and "level of patronage of local people" explained 6.08% of the total variance. The high mean value of the patronage level of international tourists (M=5.1, SD=1.361) illustrates that travelers are more likely motivated to comply with what other travelers judge about the safety of a restaurant.

Table 2. Cronbach's α and exploratory factor analysis results

Food hygiene attributes	Factor Loading	Eigen value	% of variance explained	Cronbach's alpha
Factor 1- visual food safety cues		7.93	68.60	0.96
Cleanliness of restaurant exterior	0.81			
Pleasant odour/smell	0.83			
Cleanliness of work staff clothing and appearance	0.84			
Cleanliness of dining tables, chairs, and utensils	0.82			
Cleanliness of toilets	0.78			
Cleanliness of menu	0.72			
Inspection score	0.76			
Factor 2- Information food safety cues		2.11	8.56	0.74
Reviews posted on TripAdvisor	0.786			
Reviews posted on Facebook, Twitter, Yelp, etc.	0.819			
Tour guide's advice	0.834			
Family and friends' advice	0.733			
Factor 3-Level of restaurant patronage		1.179	6.08	0.93
Level of patronage of the international tourists	0.93			
Level of patronage of the local people	0.72			
Total			83.35	0.96

Cluster analysis

To investigate whether particular subgroups of travelers are more or less inclined to utilize the food safety indicators in their choice of local restaurants, the factor scores were subjected to the cluster analysis with squared Euclidian distance applying the Ward

algorithm. The three-cluster solution was selected as the best fit for the study data (Table 3). Cluster 1, accounting for 47% of the respondents, was intended to utilize both the observed standards of restaurant hygiene and level of patronage in the choice of a local restaurant, suggesting a reliance on self-assessment of restaurant hygiene and crowding. Cluster 2, accounting for 37.9% of the respondents, intended to utilize both the observed standards of restaurant hygiene and level of patronage in the choice of a local restaurant, suggesting a reliance on self-assessment of restaurant hygiene and crowding. The respondents in cluster 3 based their protection intentions on the restaurant patronage level and external sources of information, suggesting that they were reliant on restaurant crowding, and advice from others in their restaurant selection. This cluster accounted for 6.4 % of the respondents.

Table 3. Clusters of factor loadings for respondents' intentions to use food safety indicators

Factor	Cluster1	Cluster 2	Cluster 3
	Self-assessment of restaurant hygiene	Self-assessment of restaurant hygiene and crowding	Restaurant crowding and advice from others
Visual food safety cues	0.62	0.71	-1.08
Information food safety cues	-0.18	0.34	0.53
Patronage levels	-0.20	0.58	0.89
Numbers of cases	143(48%)	136(45.6%)	19(6.4%)

To figure out how protection intentions to use the three identified dimensions of food hygiene in the restaurant selection differed by socio-demographic and travel characteristics, the demographic composition and travel patterns of the three clusters were explored (Table 4). The respondents grouped in cluster 1, had an over-representation of females.

They had an undergraduate degree and an over-representation of the respondents were between 28-37 years old. The majority of the Middle Eastern people were categorized in this cluster. The nationality, level of education and income, visit purpose, and trip arrangement balance of cluster 1 approximately followed the sample as a whole. The over-representation of female respondents in cluster 1, may stem from the women's higher tendency to have control on the coping responses (Zimmermann et al., 2013).

The membership of cluster 2, had an over-representation of men, the youngest (aged 18 to 27 years) and oldest (47 years and over) age groups, with an undergraduate degree. Europeans were mostly grouped in this cluster. Finally, cluster 3, to which only a small proportion of respondents belonged had over-representation of the youngest age groups, respondents that had received their master's degree or higher. They were mostly group travelers from western countries with higher income (>\$3,000) that aimed to visit Malaysia for business purposes. The high proportion of travelers who bought tour packages in cluster 3, refers to the group travelers' high reliance on a tour guide's advice and other tourists' judgments of food safety. The particular pattern of the cluster membership can be also explained by the fact that travelers from Western countries with higher education levels and higher annual household income are more likely to use the Internet to assess information towards travel products and services (Heung, 2003). The current study findings comply with past studies reflecting the influence of socio-demographic and travel characteristics on the use of different food hygiene indicators in the choice of restaurant (Aksoydan, 2007; Bai et al., 2019; Barber & Scarcelli, 2009; Barber et al., 2011; Becker et al., 1999; Cai et al., 2001; Henson et al., 2006; Luo et al., 2008; Tuzunkan & Albayrak, 2017; Yasami, 2018).

CONCLUSION, IMPLICATIONS AND LIMITATIONS

Upon existing literature, the present study provides the first in-depth analysis of tangible food hygiene indicators that operate as the decision-making variables in

restaurant selection. According to the study findings, three distinct food hygiene dimensions were detected. The first dimension refers to the observable indicators of restaurant food hygiene. The second dimension encompasses information food safety cues reflecting others' opinions and reviews about restaurant safety. The third dimension was associated with the level of patronage in the restaurant. International tourists were inclined to utilize visual food safety cues alongside information cues and the level of restaurant crowding in their choice of a local restaurant, reducing the risk of foodborne illness. Further, the research results illustrated that intentions to use different food hygiene cues differed across tourists' subgroups of gender, age, nationality, level of income, level of education, travel purpose, and trip arrangement.

Table 4. Cluster membership by respondent socio-demographic and travel characteristics (n=298)

Characteristics	Cluster 1 Self-assessment of restaurant hygiene	Cluster 2 Self-assessment of restaurant hygiene and crowding	Cluster 3 Restaurant crowding and advice from others
Gender			
Male	59 (41.2 %)	107 (78.7 %)	15 (79%)
Female	84 (58.8 %)	29 (21.3 %)	4 (21%)
Age			
18-27	9 (6.3%)	63 (46.3%)	14 (73.7%)
28-37	101 (70.6%)	11 (8.1%)	2 (10.5%)
38-47	25 (17.5%)	38 (28%)	2 (10.5%)
48-57	8 (5.6%)	24 (17.6%)	1 (5.3%)
Nationality			
Asian	67 (46.9%)	60 (44.1%)	2 (10.5%)
African	23 (16.1%)	15 (11%)	1 (5.3%)
American	10 (7%)	21 (15.4%)	5 (26.3%)
European	5 (3.5%)	27 (19.9%)	8 (42.1%)
Middle East	23 (16%)	2 (1.5 %)	0 (%)
Oceanian	15 (10.5%)	11 (8.1%)	3 (15.8`%)
Level of education			
High school or equivalent	23 (16.1%)	37 (27.2%)	0 (0%)
Vocational/technical school	3 (2.1%)	16 (11.7 %)	0 (0%)
Bachelor degree	78 (54.5%)	78 (57.4 %)	2 (10.5%)
Master degree	20 (14 %)	4 (3 %)	14 (73.7%)
Doctoral degree	19 (13.3%)	1 (0.7%)	3 (15.8%)
Monthly household income			
Under US\$ 1,000	66 (46.2%)	77 (56.6%)	2 (10.5%)
\$1,000 - \$2,999	49 (34.3%)	59 (43.4%)	2 (10.5%)
\$3,000 - \$4,999	26 (18.1%)	0 (0%)	10(52.7%)
\$5000- \$6,999	2 (1.4%)	0 (0%)	5 (26.3%)
Visit purpose			
Business	4 (2.8%)	26 (19.1%)	17 (89.5%)
Visiting friends and relatives	1 (0.7%)	32 (23.5%)	2 (10.5%)
Holiday/leisure	119 (83.2%)	75 (55.2%)	0 (%)
Medical-related trip	19 (13.3 %)	3 (2.2%)	0 (%)
Trip arrangement			
Tour package	43 (30%)	59 (43.4%)	17 (89.5%)
Individually planed	100 (70%)	77 (55.6%)	2 (10.5%)

From the theoretical viewpoint, the study outcomes represent a significant advancement in the study of consumer behavior in the travel and tourism context. Information seeking and utilizing tangible resturant hygiene indicators in the choice of

local restaurant are the subsequent behavioural responses to perceived risk as a motivational construct in consumer psychology. Because the risk of contracting a foodborne illness involves consumers' perception of the negative consequences of consuming unsafe food, consumers cope with this situation by using various risk-reduction strategies that they believe effective. The previous research has focused largely on the health-protective behavioral intention of the consumers, with little significance attached to international tourists, who represent the most vulnerable population against foodborne illness. On the other hand, the proven differences in protection intentions according to socio-demographic and travel characteristics suggest that these characteristics may no longer deserve to be treated as "background factors" influencing protection intention indirectly through perception, attitude and self-efficacy as attitudinal theories propose (Ajzen & Fishbein, 2005; Ajzen, 1991; Rogers, 1975, 1983). They directly influence protection intentions as well. From the tourism perspective, the current study findings add to the existing body of knowledge by explaining the heterogeneity of tourists' safety preferences in the local restaurant selection.

From the managerial perspective, the research outcomes are expected to benefit the tourism and hospitality industry by drawing awareness towards the food hygiene scale used by international tourists to evaluate the food safety standards of destination local restaurants. It also brings to light the less emphasized but effective components that need specific plans to remove the barriers from using them (e.g. food inspection score, online restaurant reviews). Moreover, results relevant to the dimensionality of food hygiene indicators help to improve the planning of future effective risk communication messages through the most used communication channels. Such intervention is critical, as traveler's diarrhea may put tourists' travel plans on hold and ruin the overall tourist experience (Yiamjanya & Wongleedee, 2013) which in turn, may easily damage the destination image. The use of food hygiene cues in the choice of destination local restaurants can reduce the risk of restaurant-associated foodborne disease. As a result, fewer cases of food poisoning leads to the spread of positive word of mouth. Such an unpaid spread of positive messages plays a crucial role in promoting a destination's food image and enhancing potential travelers' intentions to consume destination local food.

The study findings also make incentives for local food establishments to pursue the proper standards of food hygiene to affect tourists' feeling of food safety and security. Additionally, socio-demographics and travel factors provide a well-constructed segmentation of international tourists, which efficiently directs resources and risk communication efforts for the segment targeted. As the study respondents were first-time travelers, this research predominantly examined the protection intention of travelers whose perception was "a priori" perception (Di Marino, 2007). This type of perception originates from the media and promotional efforts and represents a mental picture of a destination without actual visitation. "A priori" perception is different from "a posteriori" and "in situ" perceptions, as tourists with later perceptions hold a more realistic perception of the destination's products and services. Future studies may wish to examine such differences. Asians, who made up a high proportion of the study respondents, were mostly from Malaysia's neighboring countries where people share a large similarity in food culture. This similarity might influence the present study findings.

Moreover, this study contains no direct factors underlying protection intention, such as perceived risk, attitude, self-efficacy, or social support. Further research would be valuable to figure out the links of these aforementioned factors to protection intention. The current study greatly emphasized the observable standards of the restaurant's food hygiene, which is mostly linked to the eating environment. Therefore, improvement to the hygiene scale could be made by incorporating additional measurement items related to the waitstaff, who largely determine consumers' perceptions of restaurant services (Pettijohn et al., 2004).

These items can be relevant to the expected behaviors of staff working at a restaurant, like not coughing or sneezing onto food or never touching food with their hands.

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