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Determinants of Authentic Experiences in Ethnic Restaurants: A Multisensory Perspective (Taste, Visual, & Olfactory) of Generation Y in Hong Kong

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Abstract

Ethnic restaurants deliver food and culture that are readily available in the local market. When transferring their food to a new place it can be difficult to keep the authenticity of the food. The exact ingredients or the cooking methods used in their native cuisine might not be applicable to Hong Kong. This study aims to explore the relationship of multi-sensory elements in Southeast Asian ethnic restaurants with Generation Y’s emotional response and perceived authenticity. A survey using the convenience sampling method was designed to study a modified framework for multisensory shopping behavior introduced by experimental psychologist Charles Spence. There were 193 usable responses collected from THEi campus and other different universities in Hong Kong. The findings have shown that the visual and taste cues have a linear relationship with positive emotional responses and perceived authenticity. The findings imply that ethnic restaurant businesses can utilize more sensory elements to provide an authentic ethnic dining experience and differentiate themselves in a competitive market.

Keywords: Authenticity, Emotion, Ethnic restaurant, Generation Y, Multisensory experience

Introduction

Ethnic restaurants do not just act as food service businesses, but they also serve as a cultural representation of food and culture from other countries in a local market (Wood and Munoz, 2007). There are six types of mainstream ethnic cuisines that can be found in Hong Kong: Korean, Japanese, Vietnamese, Thai, Italian, and French cuisine (Hong Kong Census and Statistics Department, 2009). These cuisines are facing difficulties in accomplishing the culinary aspect of authenticity, i.e. the exact ingredients and cooking methods used in their home country (Brown, Edwards, and Hartwell, 2010). The restaurants might need to consider utilizing different cues to enhance the authenticity of the ethnic service delivery especially if they want to capture generation Y (Millennials) who are very different from Baby Boomers and generation X. Concerning generation Y and their spending habits,
their dining preferences and overall social conscious has changed society’s view of their market potential. With advents in their use of technology, economic status and education, a different approach should be considered (Smith & Nichols, 2015). Generation Y are labelled as open-minded, energetic, innovative, and social and they account for 26.6% of the Hong Kong population (Hong Kong Census and Statistics Department, 2015). This group is becoming a sizable consumer group with considerable disposable income in society. The selling points of ethnic restaurants applied to engage Baby Boomers and generation X may not be applicable to generation Y. It is important to know different elements in ethnic restaurants that can resonate with them in order to provide memorable and authentic dining experiences. At the same time, such knowledge will facilitate the ethnic culture promotion to a new sizable generation through the ethnic dining environment.

Many restaurant firms in today’s market are trying to design their ambiance to appeal to consumers on an emotional level utilizing a multi-sensory perspective (e.g. Starbucks) (Spinney, 2013). This research is an attempt to study the relationship of sensory cues (taste, visual, and olfactory) of generation Y’s perceived authenticity and emotional response in ethnic restaurants as well as identifying the sensory cues that will enhance customers’ authentic dining experiences in ethnic restaurants. The newly organized research model of the multisensory shopping behaviour framework brings out the concept that multisensory elements in the store environment have an influence on customers’ emotional response and cognitive response and finally influence the behaviour of customers (Spence et al., 2014). The current study is trying to limit the exploration level of the conceptual framework, which only explores the effect of multisensory experience on the affective and cognitive response. In other words, the influence of affective and cognitive response on customers’ behaviour is not included in the study and has been reserved for future study.

**Objectives**

The aims of this study are to explore whether sensory attributes such as the visual, taste, and aromatic cues of ethnic restaurants affect generation Y’s emotions (positive and negative) and cognitive response (perceived authenticity). Finally, the relationship between emotional response and perceived authenticity is explored. As this is a preliminary study, only linear relationships of the factors are studied.

**Hypothesis**

**Emotion**

- H1. Visual cues have a positive effect on customers’ emotions
- H2. Visual cues have a negative effect on customers’ emotions
- H3. Taste cues have a positive effect on customers’ emotions
- H4. Taste cues have a negative effect on customers’ emotions
- H5. Olfactory cues have a positive effect on customers’ emotions
- H6. Olfactory cues have a negative effect on customers’ emotions

**Perceived authenticity**

- H7. Visual cues build up customers’ perceived authenticity
H8. Taste cues build up customers’ perceived authenticity
H9. Visual cues build up customers’ perceived authenticity

Emotions in response to Perceived Authenticity
H10. Positive emotional responses have a positive effect on perceived authenticity
H11. Negative emotional responses have a negative effect on perceived authenticity

Review of the Literature

Brief history
The Mehrabian-Russel model (1974) discussed the relationship of environmental stimuli (e.g. colour, light, sound, and heat), customers’ emotional response (pleasure, arousal, and dominance), and their willingness to approach the business setting. Originally developed for the retail setting, the research model has been validated to explain the effect of environment on customers’ behaviour in hotels and restaurants. Bitner’s Servicescape (1992) demonstrated how environmental elements (e.g. music, layout, equipment, decor) influences customers’ perception of services and their behavioural intention (e.g. affiliation, staying longer, satisfaction, dissatisfaction, etc.). Pine & Gilmore (1999) reported research related to multi-sensory stimulation of customers’ experience and later developed a model that measured the delivery of authentic experiences. The model examined a real/fake matrix, which was used to render authenticity (Gilmore & Pine, 2007). The aforementioned research models have been applied to customers’ dining experiences and behavioural intention in ethnic restaurants. However, in the Hong Kong context, there is little to no research studying such relationships. Recently, experimental psychologists from the University of Oxford proposed new dimensions in studying customers’ experiences and shopping behaviour. The study mentioned that the multisensory aspects (i.e. visual, auditory, tactile, olfactory, and gustatory) in a store environment influence customers’ shopping behaviour (Spence et al., 2014). The model offers a new insight to study the authentic experience of customers in ethnic restaurants, which is worth adapting for this study.

Generation Y
The Baby Boomer generation has been a driving force for the economy; however, this group is aging (Ordun, 2015). Although it still has major consumption power in society, there is an emerging purchasing power with potential even larger than that of the Baby Boomer generation: generation Y. Generation Y has been deemed as the web generation or net generation (Cambal, & Zibrinova, 2011), who were born in the rapidly growing economy with fast technological and social change. This living environment has given this group of consumers a very different set of characteristics and values. They are good at utilizing the internet and modern technologies, which allow them to acquire an abundant amount of information in a much faster way than in the past (Rawlins et al., 2008). Products, which are interesting, insightful, or trendsetting, are most attractive to them. In addition, they are more accustomed to processing information using multisensory means. These seem to be the most effective medium to convey messages to generation Y individuals (Lendel, Siantova, Zavodska, & Sramova, 2017). For example, within an ethnic restaurant setting, the sensory cues favoured by the older generations or people from the country of origin will not necessarily be favoured by generation Y in
Hong Kong. Thus, it is essential to know the sensory cues that can resonate with generation Y to create memorable and positive ethnic dining experiences.

**Multisensory shopping behaviour framework**

The framework developed by previous researchers directly relates to retail practices. However, the researchers mentioned that the model is applicable to different products and companies that try to influence the sensory experience of their target segments (Spence et al., 2014). The framework shows general evidence that positive sensory elements make consumers have positive emotional responses and stimulates favourable behaviour. This is a new approach applied by many firms that are trying to enhance customers’ experiences on an emotional as well as multi-sensory level (Neff, 2000; Spinney, 2013). Evidence from past research showed that customers spend more time in environments in which they find pleasant or enjoyable (Donovan, Rossiter, Marcoolyn, & Nesdale, 1994). Furthermore, sensory marketing has been enhanced by neuroscience research (Yoon et al., 2012). The cognitive effect of atmospherics has also been considered, which is the association of customers and products with specific sensory cues (Spence et al., 2014). For example, French wine was found to have better sales than wine from other countries when the wine store was playing French music (North, Hargreaves, & McKendrick, 1997, 1999). Overall, this framework is worth adapting for the study of the effects of sensory cues in ethnic restaurants on customers’ dining experience.

**Authenticity**

Within academic research, the definition of authenticity is highly contested. Concerning the hospitality industry, three concepts were raised by researchers: objectivism, constructivism, and postmodernism. In objectivism, objective criteria can be applied to measure the authenticity of a culture or object (Appadurai, 1986). For example, ethnic food that has been prepared by natives in line with the traditional preparation methods of that cuisine, and without amendment to meet local preferences can be considered as objectively authentic (Ebster and Guist, 2004). In the constructivist approach, authenticity is changeable, and highly dependent on the context of the item in question (Cohen, 1988; Salamone, 1997). The approach emphasizes symbolic meaning obtained from social construction more than the originality of an object (Jang, Liu, & Namkung, 2011). Thus, in this approach, authenticity depends on the customer’s inference which is based on the customer’s existing image, knowledge and dining experience. For the postmodernist approach, the satisfaction of experience is far more important than the authenticity of the original source of experience (Cohen, 1995). Even if a localization and commercialization process transforms a product, customers will perceive that the product is authentic if they are pleased and enjoy using the product. In light of the above-mentioned concepts, the constructivist approach is applied in this research, because understanding the elements in ethnic restaurants which cause customers to infer authenticity is crucial. Ethnic dining consumers try to find special and unique cues that are not commonly found in local restaurants (Kim, Youn, & Rao, 2016). Other researchers also pointed out that unique and unfamiliar elements which convey cultural identity contribute to the enhancement of perceived authenticity (Jang et al., 2012). The cues will facilitate inference of the ethnic dining experience of customers. In line with these notions, hypotheses H7, H8 & H9 were developed.
Visual

Visual cues in ethnic restaurants can be defined as ethnic decor, uniforms, food and beverage presentation, staff appearance, names of dishes, name of the restaurant, advertisement & table setting (Beardsworth and Bryman, 1999; Liu and Jang, 2009; Jang, Liu, & Namkung, 2011; Spence et al., 2014). Bellizzi and Hite (1992) pointed out that customers prefer blue over red for ambient colouring because customers perceive blue was more relaxing. Other researcher’s findings reported that visual elements could be used to convey or enhance specific images or moods (Wakefield and Blodgett, 1966). In recent research, researchers found that visual cues often have a direct positive effect on customers (Spence et al., 2014). However, it is worth noting that some visual elements with meanings vary by region or culture (Schmitt, 1955). Whether the visual cues affect customers’ emotions positively or negatively depends highly on the context. This means that visual cues that elicit positive emotions in people hailing from the country of origin do not necessarily have the same effect on Hong Kong people. Therefore, hypotheses H1 & H2 were formulated to test the effect of visual cues in ethnic restaurants on customers’ emotional response in Hong Kong.

Taste

According to Kotler (1974), taste is considered not relevant with respect to store atmospherics. In recent research from Spence et al. (2014), the researchers pointed out that taste can elicit customers’ visceral reaction. A negative reaction to the foods consumed will result in long-lasting avoidance by the customers (Garcia, Kimeldorf, & Koelling, 1955). In contrast, a consumer can also recall some highly positive taste experiences (Spence et al., 2014). Consequently, taste does not only elicit constructive but also destructive influences on customers (Spence et al., 2014). Another researcher also mentioned that experiencing authentic ethnic food is a major driving force for customers to dine in ethnic restaurants (Sukalakamala & Boyce, 2007). Concerning the authenticity of ethnic food, taste is a highly related factor that influences customers’ emotions and perceived value (Jang et al., 2012). Therefore, this research posed H3 & H4 to test the effect of taste cues on customers’ emotions.

Aroma

The olfactory cues in ethnic restaurants can be derived from food authenticity elements such as the aroma from specific cooking methods (e.g. stir-frying), ingredients, sauces, seasoning, and spices (Martin, 1984; Zibart et al., 1995; Cohen and Avieli, 2004). One of the studies of olfactory stimuli in the food and beverage industry revealed that using the aroma from bakeries could have a positive effect on customers (Hirsch, 1991). The technique has been widely applied by bakeries to build up a favourable olfactory scene for target customers. In addition, Spence et al. (2014) reported that olfactory cues most likely change customers’ hedonic response in either a positive or a negative way. It also plays an important role in our enjoyment of food and drink. In line with the notion, hypotheses H5 & H6 were posed to test the olfactory cues in relation to customers’ emotions.
Effect of emotions on cognitive response

The French physician Pierre Paul Broca introduced the concept of Broca’s Area, which is responsible for language functions. Thus, the theory of functional localization was formed (Dronkers et al., 2007). This classic view states that the brain has functional specializations and different regions that can be conceptually categorized as affective or cognitive. However, Pessoa (2008) pointed out that central cognitive-emotional interactions are highly connected in the brain. It is the region of the psyche that regulates the flow and integration of information. In other words, applying the concept to this research, the emotional response of customers in ethnic restaurants influences the cognitive response of customers. Customers’ emotional response influences how they infer the authenticity of their dining experience in ethnic restaurants. H10 was formulated in line with this notion.

Modified multisensory framework

The Multisensory Shopping Behaviour Framework (MSBF) was adapted for this research, this time examining the effect of taste, visual, and olfactory cues in ethnic restaurants on customers’ emotional response and perceived authenticity. The affective factor of the original multisensory framework measures the feelings of customers (Mehrabian and Russel, 1974). The modified model achieves this by measuring consumers’ emotional response using a unipolar approach. The unipolar approach means measuring customers’ positive or negative emotional response separately (e.g. positive emotions: pleasant, affectionate, satisfied; negative emotions: bored, worried, regretful). The unipolar approach gives a clearer view of respondents’ emotions than the bipolar approach (e.g. bored and relaxed) (Richins, 1977). Regarding the cognitive factor, the modified framework measures customers’ perceived authenticity that is the association between a restaurant’s sensory cues and authenticity. Thus, the study framework (Fig.2.1) is proposed.

Methodology

Participants

A quantitative research design to test the hypotheses was executed by utilizing a survey. The target respondents were limited to those born from 1980–2000 with dining experience in Southeast Asia-themed ethnic restaurants (Thai, Vietnamese, etc.) in Hong Kong in the past 6 months.
Convenience sampling was used to collect the data in THEi campus, different universities, as well as locations nearby themed ethnic restaurants. People without such dining experience or not within the group of Generation Y were not eligible to complete the questionnaire. Also, screening questions were used at the beginning to achieve such purpose. The respondents filled in an online version of the questionnaire with the right to stop answering any of the questions. Around 200 samples were collected which met the requirements for factor analysis, i.e. 5-10 respondents per variable (Comrey and Lee, 1992).

**Measures**

A questionnaire was developed to measure the target population’s ethnic dining experiences. The questionnaire included four sections and a multi-item scale. The scale was used to measure the construct in sections 2 to 4: respondents’ visual, taste, olfactory experience, emotional response (positive and negative); perceived authenticity. In addition, all variables from sections 2 to 4 were measured on a 5-point Likert scale, which included 1 (Strongly agree), 2 (Agree), 3 (Neither agree nor disagree), 4 (Disagree), and 5 (Strongly disagree). The first section comprised of screening questions, which were used to measure if the respondents had a Southeast Asian dining experience recently and if they belong to Generation Y in order to generate eligible responses. The dining frequency of respondents was also included in the first section to understand the frequency of their ethnic dining. For the second section, 10 questions were used to measure the respondents’ dining experiences from a sensory perspective (visual, taste, and olfactory). The instruments were newly developed according to the elements mentioned in the literature. These elements are considered an effective way to deliver the ethnicity and authenticity of restaurants such as ethnic decor, uniform, food and beverage presentation, menu design, cooking methods, ingredients used, and sauces (Martin, 1984; Zibart et al., 1995; Cohen and Avieli, 2004; Beardsworth and Bryman, 1999; Liu and Jang, 2009; Jang, Liu, & Namkung, 2011; Spence et al., 2014). One of the questions regarding visuals asked what the respondent thought of ‘The interior design reflected the authenticity of the restaurant’ according to their dining experience. The third section asked about the emotional response of respondents to their ethnic dining experience. There were six emotional descriptors (positive emotions: pleasant, affectionate, and satisfied; negative emotions: bored, worried, and regretful) selected from those most frequently used in previous literature for respondents to rate according to their dining experience (Izard, 1992; Jang and Namkung, 2009). The final section asked for respondents’ perceived authenticity of ethnic restaurants. Four of the questions were adopted from Robinson and Clifford (2011) with minor adjustments to suit the research:

- I felt that I learned about the culture of the ethnic restaurant
- I felt that I experienced the culture of the ethnic restaurant
- I felt that this is an authentic ethnic restaurant
- I felt like I had travelled to that ethnic country and tried its ethnic food

These four questions were used to find out whether the respondents thought that they were dining in authentic ethnic restaurants.
Research Design

The independent variables of the research were taste cues, visual cues, and olfactory cues in Southeast Asian ethnic restaurants. The dependent variables were customers’ emotions, and perceived authenticity. Finally, regarding the relationship between emotional response and perceived authenticity, the emotional response was the independent variable and perceived authenticity was the dependent variable. The extraneous variables were not considered in this research. There are some possible variables, which could compete with the independent variables in explaining the dependent variable, e.g. the familiarity of respondents with Southeast Asian ethnic culture. Ignoring these variables would affect the internal validity of the research result to a certain extent.

Procedure

The questionnaire was piloted, pre-tested and amended in order to improve its validity. Then, it was converted to an online format using Google Forms with both an English and Chinese version. The hard copy of the questionnaire was also available for respondents to fill in according to their preference. In addition, a quick response code was also available with visual aids for efficiency of the data collection. Participants could scan the code and fill in the questionnaire through their own mobile devices. Pre-notification to respondents with a built-in consent form was available at the beginning of the questionnaire to inform respondents of the objectives of the study as well as their right to withdraw from the research. All the collected data was documented in Google Spreadsheets, and further analyzed through IBM SPSS 25 package for Windows.

Data Analysis

Exploratory factor analysis and multiple regression analysis were carried out for data analysis. For the exploratory factor analysis and principal component analysis, direct Oblimin rotation was used. Then, correlations matrix, KMO & Bartlett’s test of sphericity was checked as well. A KMO equal to or greater than 0.60 (Kaiser, 1974) and a Bartlett’s test value of less than 0.05 meant that exploratory factor analysis was appropriate for the dataset. In addition, for the factor extraction, factors with an Eigenvalues value larger than 1 could be extracted from the dataset (Kaiser, 1974). A scree plot of factor analysis further confirmed the number of factors to be extracted. Subsequently, multiple regression analysis was conducted to check the relationship between sensory cues and emotional response as well as perceived authenticity. To ensure the acceptability of the result, a linearity test was performed, where a p value < 0.05 was evidence of linearity. Afterward, R² and the Pearson correlation matrix were used for analysis with the purpose to interpret the percentage of the dependent variable accounted for by the independent variables as well as the relationship between the factors. Consequently, the research identified factors that highly influence consumers’ emotions and perceived authenticity.

Results

Validity and Reliability

By convenience sampling, most of the respondents were from THEi campus as well as other
universities. This group may not be generalizable to the whole generation Y population in Hong Kong. External validity was affected to a certain extent. For the variable reliability, Cronbach’s $\alpha$ was assessed which is a common criterion to measure reliability. A Cronbach’s $\alpha$ value equal to or higher than 0.7 is considered reliable (Slater, 1995). The Cronbach’s $\alpha$ coefficients of each factor ranged from 0.670 – 0.878 (Table 4.1). There were two factors with a $\alpha$ value below 0.7: visual and positive emotions ($\alpha=0.668$ and 0.670). Another researcher suggested that the minimum value of Cronbach’s $\alpha$ of 0.6 indicates acceptable reliability (Peterson, 1994). As a result, the variables that represent the factors are reliable.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Number of variables</th>
<th>Cronbach’s $\alpha$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual</td>
<td>4</td>
<td>0.668</td>
</tr>
<tr>
<td>Taste</td>
<td>4</td>
<td>0.800</td>
</tr>
<tr>
<td>Olfactory</td>
<td>2</td>
<td>0.847</td>
</tr>
<tr>
<td>Positive emotions</td>
<td>3</td>
<td>0.670</td>
</tr>
<tr>
<td>Negative emotions</td>
<td>3</td>
<td>0.878</td>
</tr>
<tr>
<td>Perceived authenticity</td>
<td>4</td>
<td>0.804</td>
</tr>
</tbody>
</table>

Respondents

There were 251 responses collected, of which 193 were valid. The response rate was 76.9%. Among 193 valid respondents, 124 (64.2%) had dining experiences in Thai restaurants and 69 (35.8%) respondents had dining experience in Vietnamese restaurants in the past 6 months. For the dining frequencies, 93 (48.2%) of the respondents went to the chosen ethnic restaurant less than once per month, 57 (29.5%) went once per month, 25 (13%) went twice per month, and 18 (9.3%) went less than once per month. All 193 respondents were born between 1980 and the 2000s who were eligible to complete the questionnaire.

Factor Analysis

With a view to test the hypotheses, it was essential to have meaningful measures of the factors. Exploratory factor analysis was used to determine the number of factors that could be extracted from the dataset. In addition, the Principle components method with Direct Oblimin rotation were employed for analysis. The Kaiser-Meyer-Olkin (KMO) was 0.800 with Bartlett’s Test of Sphericity ($p<0.500$). The dataset reached the significant level for the analysis. There were five factors retained which met the minimum requirement of an eigenvalue greater than 1 and accounted for 5% of the variance (Kaiser, 1958; Churchill, 1991). These five factors were taste, visuals, positive emotional response, negative emotional response, and perceived authenticity. The aroma factor with an eigenvalue of 0.863 explained 4.313% of the variance which fell outside the extraction.
Table 2: Factor analysis result

<table>
<thead>
<tr>
<th>Factors</th>
<th>Number of items</th>
<th>Eigenvalue</th>
<th>Percentage of variance explained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual</td>
<td>4</td>
<td>1.378</td>
<td>7.653</td>
</tr>
<tr>
<td>Taste</td>
<td>4</td>
<td>1.728</td>
<td>9.597</td>
</tr>
<tr>
<td>Aroma</td>
<td>2</td>
<td>0.863</td>
<td>4.313</td>
</tr>
<tr>
<td>Positive emotional</td>
<td>3</td>
<td>1.001</td>
<td>5.563</td>
</tr>
<tr>
<td>response</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative emotional</td>
<td>3</td>
<td>2.902</td>
<td>16.12</td>
</tr>
<tr>
<td>response</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived authenticity</td>
<td>4</td>
<td>4.869</td>
<td>27.051</td>
</tr>
</tbody>
</table>

Correlation Analysis

Pearson correlation analysis was then applied to discover the relationship between the factors in the model. In the results shown in Table 4.3, visual cues were positively related with positive emotional response and perceived authenticity with a correlation coefficient value of 0.407 and 0.383 (p= 0.01); taste cues were positively related to positive emotional response and perceived authenticity with values of 0.412 and 0.256 (p= 0.001); positive emotional response was positively related to perceived authenticity with a value of 0.449 (p= 0.01). While the visual and taste cues were negatively related to negative emotional response with values of -0.037 and -0.202 (p= 0.609, and 0.001), the relationship between negative emotional response and perceived authenticity was not strong. However, a positive relationship exists between the two factors with a value of 0.052 (p= 0.235). Tentative evidence was found in support of H1, H3, H7, H8, and H10 with a linear relationship, while H2 and H4 were not supported. H5, H6, H9, and H11 were not considered in the analysis due to the olfactory factor being removed in the exploratory factor analysis. To further ascertain the linear relationship between the factors, multiple regression analysis was carried out.
Table 3: Correlation analysis result

<table>
<thead>
<tr>
<th></th>
<th>Visual cues</th>
<th>Taste cues</th>
<th>Positive emotional response</th>
<th>Negative emotional response</th>
<th>Perceived authenticity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Visual cues</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Taste cues</strong></td>
<td>.322**</td>
<td></td>
<td>.407**</td>
<td>.412**</td>
<td></td>
</tr>
<tr>
<td><strong>Positive emotional response</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Negative emotional response</strong></td>
<td></td>
<td></td>
<td></td>
<td>-.037 (p=0.305)</td>
<td>-.202**</td>
</tr>
<tr>
<td><strong>Perceived authenticity</strong></td>
<td>.383**</td>
<td>.256**</td>
<td>.449**</td>
<td>.052*** (p=0.235)</td>
<td></td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (1-tailed)
*** Correlation is significant at the 0.235 level (1-tailed)

Bold values are the variables with a positive relation

Multiple regression analysis

Multiple regression analysis was conducted to check the linear effects of the sensory cues (visual and taste) on customers’ emotions, perceived authenticity, as well as the effect of emotional response on customers’ perceived authenticity of their ethnic dining experience. Testing for linearity was first carried out to ensure the acceptability of the regression results. The results in Table 4.4 show linearity between independent variables and dependent variables. The relation is linear if the p value < 0.05. The results were as follows: visual cues to positive emotional response (p=0.000), taste cues to positive emotional response (p=0.609), taste cues to negative emotional response (p=0.006), visual cues to perceived authenticity (p=0.000), taste cues to perceived authenticity (p=0.000), positive emotional response to perceived authenticity (p=0.000), and positive emotional response to perceived authenticity (p=0.462). The results indicate that there are linear relations between the tested variables except visual cues to negative emotional response and negative emotional response to perceived authenticity. The factors with nonlinear relationships were not eligible for further multiple regression analysis.
Table 4: Test for linearity

<table>
<thead>
<tr>
<th>Relationship</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual cues * Positive emotional response</td>
<td>0.000</td>
</tr>
<tr>
<td>Taste cues * Positive emotional response</td>
<td>0.000</td>
</tr>
<tr>
<td>Visual cues * Negative emotional response</td>
<td>0.609</td>
</tr>
<tr>
<td>Taste cues * Negative emotional response</td>
<td>0.006</td>
</tr>
<tr>
<td>Visual cues * Perceived authenticity</td>
<td>0.000</td>
</tr>
<tr>
<td>Taste cues * Perceived authenticity</td>
<td>0.000</td>
</tr>
<tr>
<td>Positive emotional response * Perceived authenticity</td>
<td>0.000</td>
</tr>
<tr>
<td>Negative emotional response * Perceived authenticity</td>
<td>0.462</td>
</tr>
</tbody>
</table>

According to Table 4.5, the visual cues and taste cues were significant for positive emotional response with $\beta=0.407$, $0.412$, $p=0.000$, $0.000$. The visual cues and taste cues were significant for perceived authenticity with $\beta=0.383$, $0.256$, $p=0.000$, $0.000$. The positive emotional responses were significant for perceived authenticity with $\beta=0.449$, $p=0.000$. Thus, the effect of visual cues, and taste cues on positive emotional response, perceived authenticity, and the effect of positive emotional response on the perceived authenticity were significant. Finally, the taste cues were negatively significant for the negative emotional response $\beta=-0.202$, $p=0.005$.

The results also show some significant values for adjusted $R^2$ which is a reliable indicator of the percentage explanation of independent variables on the dependent variable for the population. Regarding the relationship between visual cues and positive emotional response (adjusted $R^2=0.162$, $p= <0.000$), visual cues explained 16.2% of the positive emotional response in the relationship. Regarding the relationship between taste cues and positive emotional response (adjusted $R^2=0.165$, $p= <0.000$), taste cues explained 16.5% of the positive emotional response in the relationship. Regarding the visual cues on the perceived authenticity (adjusted $R^2=0.143$, $p= <0.000$), the visual cues explained 14.3% of the perceived authenticity in the relationship. Regarding the taste cues on the perceived authenticity (adjusted $R^2=0.061$, $p= <0.000$), the visual cues explained 6.1% of the perceived authenticity in the relationship. Regarding the positive emotional response to the perceived authenticity (adjusted $R^2=0.198$, $p= <0.000$), emotional response explained 19.8% of the perceived authenticity in the relationship.
Table 5: Summary of multiple regression analysis results

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>Positive emotional response</th>
<th>Negative emotional response</th>
<th>Perceived authenticity</th>
<th>Perceived authenticity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent variables</td>
<td>β coefficients</td>
<td>p value</td>
<td>β coefficients</td>
<td>p value</td>
</tr>
<tr>
<td>Visual cues</td>
<td>0.407 (H1)</td>
<td>0.000</td>
<td>0.383 (H7)</td>
<td>0.000</td>
</tr>
<tr>
<td>Taste cues</td>
<td>0.412 (H3)</td>
<td>0.000</td>
<td>-0.202 (H4)</td>
<td>0.005</td>
</tr>
<tr>
<td>Positive emotional response</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative emotional response</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

H1 H3 H4 H7 H8 H10

| Adjusted- R² | 0.162 | 0.165 | 0.036 | 0.143 | 0.061 | 0.198 |
| F-value (p) | 37.983 | 39.018 | 32.913 | 13.376 | 48.294 | 0.000 |

Based on the multiple regression analysis result, hypotheses testing is shown in Table 4.6. Further support was found for H1, H3, H7, H8, and H10. H4 lacks support, and did not have support in the correlation analysis.
Table 6: Hypotheses paths testing

<table>
<thead>
<tr>
<th>Hypothesized paths</th>
<th>Independent variables</th>
<th>β coefficients</th>
<th>p-value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H1</strong></td>
<td>Visual cues</td>
<td>Positive emotional response</td>
<td>0.306</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>H2</strong></td>
<td>Visual cues</td>
<td>Negative emotional response</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>H3</strong></td>
<td>Taste cues</td>
<td>Positive emotional response</td>
<td>0.313</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>H4</strong></td>
<td>Taste cues</td>
<td>Negative emotional response</td>
<td>-0.213</td>
<td>0.005</td>
</tr>
<tr>
<td><strong>H5</strong></td>
<td>Olfactory cues</td>
<td>Positive emotional response</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>H6</strong></td>
<td>Olfactory cues</td>
<td>Negative emotional response</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>H7</strong></td>
<td>Visual cues</td>
<td>Perceived authenticity</td>
<td>0.336</td>
<td>0</td>
</tr>
<tr>
<td><strong>H8</strong></td>
<td>Taste cues</td>
<td>Perceived authenticity</td>
<td>0.148</td>
<td>0.036</td>
</tr>
<tr>
<td><strong>H9</strong></td>
<td>Olfactory cues</td>
<td>Perceived authenticity</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>H10</strong></td>
<td>Positive emotional response</td>
<td>Perceived authenticity</td>
<td>0.488</td>
<td>0</td>
</tr>
<tr>
<td><strong>H11</strong></td>
<td>Negative emotional response</td>
<td>Perceived authenticity</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*** The factor was taken out in EFA
**** Non-linearity relationship

Discussion and Conclusion

This study explored the influences of sensory cues (visual, taste, and aroma) on customers’ emotional response and perceived authenticity. The studied population was generation Y in Hong Kong. Previous research studied the food-related attribute on customers’ perceived authenticity and emotional response in a Western Australian context (Kim, Youn, & Rao, 2016). Besides, some researchers acknowledged the effect of ethnic atmospherics on diners’ emotional response in the USA (Jang, Liu, & Namkung, 2011). There is scarce research using the multi-sensory framework to study patrons’ affective and cognitive response in ethnic restaurants, especially in the context of Hong Kong. In fact, the authentic ethnic dining experience is delivered and constructed through multiple dimensions (visual, taste, aroma, tactile, and auditory), rather than specific elements (e.g. name of the dish, ethnic decor). This was what (i.e. study through multisensory dimensions: visual, taste, and aroma) the current study did to fill the research gap. Besides, generation Y was also a key element of the study, knowing that generation Y is an essential target market group for ethnic restaurants to attract considering their purchasing power. Consequently, the study also gave insight
into the types of sensory elements in ethnic restaurants that can be linked with generation Y’s emotional response and perceived authenticity.

**Conceptual Implication**

Based on the multi-sensory framework, this study found linear relationships between sensory cues and the emotional response to perceived authenticity. The study found that visual cues significantly influence the positive emotional response ($\beta=0.407$, $p=0.000$; $R^2=16.2\%$). The findings are related to the works of Wakefield and Blodgett (1966) and Spence et al. (2014) that identified that visual elements can convey or enhance a specific mood and have a direct effect on customers. The visual cues in ethnic restaurants accounted for 16.2% of the positive emotional response in the linear relationship. Regarding the taste cues and positive emotional response, the study found that they also had a linear relationship ($\beta=0.412$, $p=0.000$; $R^2=16.5\%$). The result related to the previous study results that taste can elicit a positive or negative reaction in customers (Spence et al., 2014). The taste cues in ethnic restaurants accounted for 16.5% of the positive emotional response in the linear relationship. Overall, the findings indicate that both visual cues and taste cues have a significant effect to make diners have a positive emotional response (i.e. pleasant, affectionate, and satisfied).

Regarding the relationship between sensory cues and perceived authenticity, the result of the study found that visual cues in ethnic restaurants are related to customers’ perceived authenticity ($\beta=0.383$, $p=0.000$; $R^2=14.3\%$). This corresponded to the findings of Beardsworth and Bryman (1999), Liu and Jang (2009), Jang, Liu, & Namkung (2011) and Spence et al. (2014) that visual cues in ethnic restaurants can influence diners from other cultural backgrounds. Similarly, the taste cues in ethnic restaurants had a linear relationship with customers’ perceived authenticity ($\beta=0.256$, $p=0.000$; $R^2=6.1\%$) which corresponded to the previous work which identified that the taste of ethnic food related to customers’ perceived value (Jang et al., 2012). Consequently, visual and taste cues account for 14.3%, and 6.1% of the perceived authenticity separately in the linear relationship.

Regarding the relationship between positive emotional response and perceived authenticity, the findings show that they have a linear relationship ($\beta=0.449$, $p=0.000$; $R^2=19.8\%$) and 19.8% of perceived authenticity was explained by the emotional response of customers. It corresponded to the previous view that central to cognitive-emotional interactions are highly connected in the brain (Pessoa, 2008). The conceptual result is also worth a mention. In the hospitality field, there has been little research to study the relationship between customers’ emotional response and cognitive response. The findings give a new insight into the way to boost customers’ perceived authenticity in ethnic restaurants.

Regarding the relationship between sensory cues (visual, taste, and olfactory) to negative emotional response, surprisingly, the result differed from the prediction. Spence et al. (2014) mentioned that olfactory cues might change customers’ emotional response in both positive and negative ways. In addition, other researchers pointed out that unfamiliar ethnic stimuli faced by diners can result in negative emotions due to the negative subjective meaning (e.g. fear, uncertainty, and risk) (Tasci and Knutson, 2004). The possible reason for the lack of a linear relationship between
sensory cues and negative emotional response is that the respondents might be familiar with the sensory cues in the Southeast Asian ethnic restaurants in Hong Kong. As we know, the Southeast Asian ethnic restaurant market is quite mature in Hong Kong. For instance, two out of six types of mainstream restaurants are Southeast Asian (i.e. Vietnamese and Thai restaurants) (Hong Kong Census and Statistics Department, 2009). Hong Kong citizens can experience such ethnic dining conveniently, which makes them more familiar with the sensory cues. The experience mitigates the negative effect on their emotions ascribed to unfamiliar ethnic stimuli when they are dining in similar ethnic restaurants. Consequently, the relationships between sensory cues and negative emotional response show insufficient evidence to support their linear relationships.

The aroma factor was not extracted in the factor analysis with a non-significant Eigenvalue of 0.863 and 4.313% of the variance explained. The factor was not eligible to be further analyzed by multiple regression analysis. There was no result obtained from multiple regression analysis related to the aroma factor. This does not imply that the aroma factor has no influence on diners’ emotional response or perceived authenticity in ethnic restaurants. The result was in contradiction to the previous research evidence that olfactory cues are highly linked to the hedonic response of customers (Spence et al., 2014). The possible cause was the limited content validity of scale items which were used to represent the aroma factor (i.e. the aroma of the sauces and aroma of the ingredients). These two scale items might not be sufficient to represent the aroma factor. If more scale items with higher content validity had been used to represent the aroma factor, the result possibly would have had a higher chance of aligning with the literature (i.e. the linear relationship between olfactory cues and effective, cognitive response).

Managerial Implication

The findings give new insights about the relationship of sensory elements (visual and taste) with customers’ emotional response as well as perceived authenticity in Southeast Asian-themed ethnic restaurants. The result was obtained from the responses of the emerging target population generation Y in Hong Kong. In order to provide an authentic ethnic dining experience to this group of customers and elicit their positive emotional response, the visual cues and taste cues should be carefully crafted in ethnic restaurants. For example, the restaurants are suggested to embed design elements (e.g. ethnic decor, menu design, food presentation and uniform) which can effectively convey ethnicity to customers. In addition, the operators can design food items with cooking methods and ingredients that facilitate the delivery of an ethnic dining experience to the target consumers. As ethnic restaurants operate in Hong Kong which is a highly competitive city along with high operational costs, it is important to consider the mentioned elements to delight and provide an authentic ethnic dining experience to an emerging group with considerable purchasing power. With the findings of the current study, Southeast Asian ethnic restaurants have some guiding factors to provide an authentic service, which can go beyond consumers’ expectations and differentiate them from market competitors. Finally, even though there is no evidence to support the effect of olfactory cues on emotional response, the ethnic restaurant operators should carefully consider these elements during the design of their multisensory ethnic dining space, and avoid using unfavourable ethnic olfactory cues that can possibly make customers feel uncomfortable.
Limitation and Future Study

The limitations of the study should be considered when interpreting the results. Firstly, the current study focused on Southeast Asian ethnic restaurants only. The results might not be generalizable to other mainstream ethnic restaurants in Hong Kong, such as Korean, Chinese, French, and Italian restaurants. In addition, convenience sampling was carried out to collect the responses in the study, so the sample population might not fully represent the majority of generation Y in Hong Kong. As a result, generalization of the findings to generation Y in Hong Kong or to other populations is limited. Future studies should select a population by random sampling in order to obtain more inferable results.

Secondly, the study only discovered linear relationships between the factors in the conceptual framework. The extraneous factors that may affect the relationships between factors were not taken into consideration, for example, the familiarity of the ethnic culture and dining frequency of the consumers. Research has pointed out that unfamiliar cues and new things have a high possibility of arousing individuals’ curiosity (Loewenstein, 1994). The current study omitted these influencing factors. Thus, it is not known whether consumers value a multisensory ethnic dining experience as they become more familiar with the ethnic culture. Such factors might compete with sensory cues in explaining the dependent variable (i.e. emotional response, perceived authenticity). Further studies should consider the extraneous factors’ effect to better estimate the influence of sensory cues on consumers’ emotional response and perceived authenticity.

In addition, the relationships between factors were studied in a linear relationship instead of as a structure. The accuracy of the prediction of the independent factors (e.g. sensory cues) to dependent factors (e.g. emotional response, perceived authenticity) is limited. The influence of sensory cues on customers’ emotional response and perceived authenticity is not an individual effect but structural. There are interactions between factors in the whole structure. Future studies should explore the relationships structurally (i.e. the total effect of sensory cues on emotional response and perceived authenticity) in order to obtain more accurate results for prediction. With such consideration, ethnic restaurant operators will have better insights to utilize different sensory cues to provide authentic dining experiences for diners.

Finally, prediction of customers’ behaviour should be included in future research. In the MSBF, customer behaviour is one of the factors under study which is influenced by the affective and cognitive response. The behavioural response can be either consumption behaviour or post-consumption behaviour. For example, customers may stay longer, consume more, or have positive word of mouth, and repeat purchase action in a favourable shopping environment (Spence et al., 2014). In future research, the prediction of diners’ behaviour is suggested to be included in the study to further explore the effect of emotional response and perceived authenticity on customers’ behavioural intention.
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