

# The Integration Dimensions as part of Food Acculturation Process: Exploratory Factor Analysis (EFA) Approach

Journal of Tourism, Hospitality & Culinary Arts (JTHCA)  
2016, Vol. 8(1) pp 43-50  
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UiTM Press

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## Abstract

Acculturation is a process of adopting the cultural norms of the dominant group while maintaining their minority culture of origin and vice versa. As part acculturation process, integration or synthesis of the two cultures which is also termed as biculturalism occurs when individuals seek both to maintain their culture as well as daily participation in becoming part of the larger host society. This paper assessing the proposed determinants or dimensions of integration as part of food acculturation namely food knowledge, food media and food for social events using fifty-eight adapted and newly developed items. Through Principal component factor analysis with varimax rotation and factor loading of 0.50, the food knowledge dimension converged into three factors namely education, reading and language while food for social events and food media produced a single dimension. Thus, this integration constructs although require further confirmation could be used as predictors for the formation of commonly acceptable food and constructing the nation food identity.

## Keywords:

Acculturation, Integration, food knowledge, food media, food for social events

## 1 Introduction

Acculturation explains the process of cultural and psychological change or alteration that results from cross culturing between two or more cultures (Sam & Berry, 2010). The effects of acculturation can be seen at multiple levels in both interacting cultures. At the group level, acculturation often results in changes and

alteration to culture, customs, and social institutions (Gumerman, 1997; Kramer, 1997). It has been hypothesized that for acculturation to occur, some relative cultural equality has to exist between the giving and the receiving culture. Noticeable group level effects of acculturation often include changes and alteration in food, clothing, and language (Ward, 2008). At the individual level, differences in the way individuals acculturate have been shown to be associated not just with alteration in daily behavior, but with numerous measures of psychological and physical well-being (Gudykunst & Kim, 1995).

Although acculturation is usually in the direction of a minority group adopting habits and language patterns of the dominant group it can be a shared that is, the dominant group also adapts patterns typical of the minority group (Berry, 2003). Two distinct models have guided on acculturation: a linear model and a two-dimensional model (Berry, 1980). In general, linear model relates the acculturation and identity whereby this model is based on the assumption that a strong ethnic identity is not possible among those who become involved in the mainstream society and that acculturation is inevitably accompanied by a weakening of ethnic identity. While the two-dimensional model suggests that the relationship between traditional or ethnic culture and the new or dominant culture play important roles in the process of acculturation. Using the two-dimensional model, Berry (1980) states, there are four possible outcomes of the acculturation process: assimilation (movement toward the dominant culture), integration (synthesis of the two cultures), rejection (reaffirmation of the traditional culture), or marginalization (alienation from both cultures).

Integration or synthesis of the two cultures, which is also termed as biculturalism occur when individuals seek both to maintain their culture as well as daily participation in becoming part of the larger host society (Berry, 2005). In other words, it is the ability for individuals to navigate and identify two different cultures at the same time (Miller & Gibson, 2011). Based on Berry's model, integrated individuals seek to maintain their culture and identity and also to interact and adapt to the new and dominant culture environment. Integration can be conceived in a variety of ways, and more recent studies have attempted to understand better it dimensions. With this, this paper assessing the proposed determinants or dimensions of integration as part of food acculturation namely food knowledge, food media and food for the social event through the exploratory factor analysis approach (EFA).

## **2 Literature Review**

Acculturation conventionally been defined as an exchange of cultural features that results when groups of individuals with different cultures come into continuous contact, the original cultural patterns of either group may be altered, but the groups remain distinct (Sam & Berry, 2010). It has regarded as a multi-dimensional process in which individual and groups undergo stages of adjustment and changes in several domains such as language, socioeconomic and cultural values (Lopez-Class, Castro, & Ramirez, 2011). The various elements in ethnic cultures through acculturation are

increasing or lessening while participating in the larger identity (Jennings, Forbes, McDermott, & Hulse, 2006). Newman and Sahak (2012) refer acculturation to a learning process, practices and customs of a new culture, acquiring the capability to function within the central culture while preserving the original culture. It signifies an act in which part of a cultural adopt the beliefs and behaviours of another culture.

Berry (1980) argued that acculturation is dealing with time and involves several processes, and he states four possible outcomes of the acculturation processes; assimilation (movement toward the dominant culture), integration (synthesis of the two cultures), rejection (reaffirmation of the traditional culture), or marginalization (alienation from both cultures). As part of the acculturation processes, integration as previously mentioned occurs when individuals seek both to maintain their culture, identity and interact as well adapt the new aspects of the dominant culture environment. Gharaei, Rafieian, and Jalalkamali (2012) contend that interaction involved at least two cultures or more by which a person learns and accept the norms and values of different cultures.

Regarding food, it is postulated that integration as part of food acculturation process occurs when different culture groups of individuals come into continuous contact then the original cultural patterns of both groups may alter. In this sense, different foods are often consumed by individuals with distinct statuses roles are important in maintaining their social positions. Thus, some major ethnic foods in multiracial countries are believed to be adapted and adjusted for each ethnic group. Kim (2006) noted that knowledge, language, media and social events contribute to food cultural acculturation and adaptation among different ethnic groups. Lyons (2007) states that food knowledge and food media influence the preparation and consumption or known as foodways in routine activities, form, shape personal and food cultural identity. The two or more ethnic groups share the preparation and consumption or foodways together, and they will become closer and longitudinally form a commonly acceptable food (Suhaimi and Zahari, 2014). The sharing of foodways through preparation and consumption, in fact, has long been involved within the individual group and between the ethnic groups and these progressions is obviously in multi-racial countries (Smith, 2006 ). Cleveland, Laroche, Pons, and Kastoun (2009) on the other hand, posited that acculturation through food knowledge (reading, language, education), food media (television, newspaper columns, magazines) and social interaction (social gatherings, events, parties) contribute to food cultural adaptation and gradually creates commonly acceptable food and a food identity despite did not label those attributes as integration dimensions.

### **3 Methodology**

The proposed integration dimensions as part of acculturation processes such as food knowledge, food media and food for the social event was based on Cleveland (2009). A total of fifty-eight adapted and newly developed items were used in the questionnaire to assess the three underlying integration dimensions. Specifically, 31

items were used for food knowledge, 19 items for food media and ten items for food for social events. Similar to previous researchers, a seven type Likert scale ranging from 1 with “strongly disagree” to 7 “strongly agree were used in measuring respondents level of agreement.

In identifying food knowledge, food media, and food for social events as integration dimensions the individuals especially those experienced in preparing and consuming the three major Malaysian ethnic foods, Malay, Chinese and Indian were chosen as the sample. In this sense, restaurant chefs and cooks are the best individuals to provide reliable information for this study as they are also believed to have knowledge of other ethnics’ food, understanding other ethnics’ food recipes through food media and preparing other ethnics food for social events. With that, three major ethnics, Malay, Chinese and Indian chefs and cooks in selected Malaysia restaurants in Klang Valley especially Kuala Lumpur, Shah Alam, Petaling Jaya and Klang were conveniently surveyed. With a positive response, a total number of 392 questionnaires were successfully collected.

#### **4 Data Analysis**

To establish the underlying structure in the data matrix, identify the most parsimonious set of variables, establish the goodness of measure and mean for item reduction an exploratory factor analysis (EFA) through principal component with varimax rotation was employed. Two statistical criteria as suggested by Hair et al. (1998) were used to determine the number of factors to be extracted: (1) the absolute magnitude of the eigenvalues of factors (eigenvalue greater than one criterion), and (2) the relative magnitude of the eigenvalues (scree test plot). The eigenvalue of a factor represents the amount of total variance accounted by the factor. In this study, the total amount of variance explained by the factor(s) is set at 50.0 % and above. Also, the scree test plot was also inspected to find a point at which the shape of the curve changed direction and became horizontal. All factors above the elbow, or a break in the plot, were retained as these factors contributed the most to the variance in the data set.

In interpreting the factors, only a loading at .50 and greater was considered. Communality values above .50 were observed in a case when only one factor emerged from the factor analysis (Hair et al., 1998; 2010). The ultimate objective is to minimize the number of significant loadings and to make sure that each variable is associated with only one factor. Factors that have been cleaned were then interpreted or named by examining the largest values linking the elements to the items in the rotated factor matrix.

##### **4.1 Results of factor analysis on food knowledge dimension**

As can be seen in Table 1, the KMO measure of sampling adequacy value for the items was .91 which explaining 71.1 % of the variance in the data and indicating that the items were interrelated, and they shared common factors. Bartlett’s Test of

Sphericity was also found to be significant (Approx. Chi-Square = 12163.78,  $p < .001$ ) indicating the significance of the correlation matrix.

Table 1: Factor analysis output on food knowledge dimension

Factor analysis result	Value
Eigenvalues	11.221
Percentage of Variance explained	71.17
Total Variance Explained	71.17
KMO	.907
Bartlett's Test of Sphericity	12163.775

The thirty-one items in knowledge dimension converged into three factors namely education, reading and language. Factor 1 which represented by nine items was named as education and the factor loading is ranged from .716 to .878. This first factor has mainly concerned the influence of education through curriculum toward the understanding of the ingredients, preparation, and consumption of other ethnic foods. However, out of ten, one item was deleted due to its factor loadings below 0.5. Subsequently, all nine remaining items were re-numbered accordingly.

The second factor or Factor 2 is represented by ten items with the factor loading ranged from .764 to .869 respectively. Attributes in this factor include the influence of national language toward the understanding of how some of other modern major ethnic food being prepared, consumed, served and including recipes and the ingredients. All ten items fit together in one group, and this factor was labeled as education.

Factor 3 includes seven items that accounted the factor loading ranging from .575 to .888 respectively. This factor was named as reading with the attributes include reading through newspaper/ magazine/ books create the understanding and familiar of how some of other popular major ethnic food being prepared, consumed, served and including recipes and the ingredients. All seven items were clustered together and formed one group.

#### 4.2 Results of factor analysis on food for social event dimension

Similar analysis was undertaken on ten items used to measure food for the social event. The factor solution produced the eigenvalue of 7.0 which explaining 64.3 % of the variance in the data. The KMO measures of sampling adequacy value for the items were .89 which indicating that the items were interrelated and create a common factor. Bartlett's Test of Sphericity was also found to be significant (Approx. Chi-Square = 3057.52,  $p < .001$ ) indicating the significance of the correlation matrix.

Table 2: Factor analysis output on social event dimension

Factor analysis result	Value
Eigenvalues	7.018
Percentage of Variance explained	64.310
Total Variance Explained	64.310
KMO	.887
Bartlett's Test of Sphericity	3057.523***

The analysis converged into one factor with loading ranged from .750 to .864. This factor is concerned with social events such parties, open house, birthday or any similar events when the various type of foods present. It included attributes dealing with social events built interest, influence, and understanding toward other popular major ethnic food being prepared, consumed and served including recipes and the ingredients. However, one item was deleted due to factor loadings below 0.5.

#### 4.3 Results of factor analysis on food media dimension

The last factor analysis was undertaken is looking whether the underlying relationships and the grouping of nineteen items used to measure food for the social event were consistent with the way the questionnaire was developed. The factor solution produced the eigenvalue of 15.6 which explaining 50.3 % of the variance in the data. The KMO measure of sampling adequacy value for the dimension was .90 with Bartlett's Test of Sphericity was also found to be significant (Approx. Chi-Square = 6647.42,  $p < .001$ ) indicating the significance of the correlation matrix.

Table 3: Factor analysis output on food media dimension

Factor analysis result	Value
Eigenvalues	15.60
Percentage of Variance explained	50.31
Total Variance Explained	77.64
KMO	.905
Bartlett's Test of Sphericity	6647.425***

The analysis converged into one factor with loading ranged from .620 to .811. This factor is concerned with food media dimension. It included attributes that food media including the internet, newspapers and television built interest, influence, and understanding toward other popular major ethnic food being prepared, consumed, served and including recipes and the ingredients. However, three items were deleted due to factor loadings below 0.5. The reliability test was then undertaken for all the factors. Results showed that the instrument and items used were reliable with a coefficient alpha value at 0.844 for education, 0.74 for reading and 0.80 for language, 0.83 for food for social events, 0.86 for food media.

## 5 Conclusion

This study makes significant contributions to knowledge in relation to integration as part of food acculturation processes. Food knowledge (education, language and reading), food media which represent television, internet, and newspapers) and food for social events (food events, parties) are being the dimension for integration construct as part of food acculturation processes. From this finding, it is assumed that the integration constructs through it dimensions could play a significant role in food acculturation processes among the ethnic groups particularly in a multiracial country like Malaysia. Those determinants could also influence the preparation and consumption other ethnics' food. In fact, integration determinants not only influence ethnics' food preparation and consumption but can be used as a predictor for the formation of commonly acceptable food and construct the nation food identity. This in line with Appadurai (1988); Spurrier, 2010) and Suhaimi & Zahari (2014) which stated that the precursor that take place in the process of constructing the nation food identity within ethnic groups in the multicultural/ethnic countries is reflecting all the way through sharing a common acceptable food/ cuisine. Despite this, as exploratory factor analysis just able to explore the possible underlying factor structure of a set of observed variables without imposing a preconceived structure on the outcome, the confirmatory factor analysis (CFA) should be further undertaken to access the measurement properties of the survey instrument and test the adequacy of the measurement model.

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