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Cross-Cultural Food Consumption Behavior of Consumers in Fiji

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Abstract

Though there is a consensus that global food consumption globally is regimenting, it remains undefined whether the cultural stimuli inducing consumers' choices, preferences, and consumption patterns adds to this occurrence. This study compares the Asian Indians with the ethnic Fijian consumers in Fiji. Consumer culture theory (CCT) and the Engel-Blackwell-Kollat model have been used as a preliminary point of exploration, and the quantitative approach was employed, involving a total of 225 respondents. The study has revealed that consumers in Fiji (indigenous Fijians versus Asian Indians) are inclined to consume their meals with the other cultural groups, and they engage the processes of acculturation to learn each other's foods. In reference to the socio-demographic variables, education was found to be the singular and significant predictor of food consumption preferences of these consumer groups. Therefore, health and nutrition educationalists ought to raise additional alertness on well-being and food consumption choices via educational programs in Fiji.

Key words: culture; consumption; consumer behavior; Asian Indians; Fijian consumers

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1. Introduction

Research on global food consumption patterns illustrates vivid shifts in consumption (Bansal, 2014; Frazao, 2008; Goyal, 2007). These vivid shifts are the result of the convergence and divergence of food consumption behavior. Research on food convergence provides voluminous literature in support of the universal food consumption patterns (Brady et al., 2010; Brunelle et al., 2014; Boughanmi et al., 2014; Hassan et al., 2013; Jamali and Neville, 2011; Fousekis, 2009; Konya and Ohashi, 2007). Opposing literature posits that cultural values and differentiation will mitigate convergence, causing greater divergence (Mooij 2011; Mark et al., 2012; Zolfagharian, 2010). The same trend has been visible in the Asia Pacific (Simon, 2013). Consumption patterns are descendants of consumer behavior processes, which are based on consumer preferences and choices and are subject to social interaction (Brittin et al., 2011; Geeraert, 2013). Enquiries show that culture influences consumers in their decision making process (Puoane et al., 2006). Researchers further elucidate that consumer choices and preferences are a plausible reflection of social, ethnic, and religious factors (Mintz, 2002; Xu, 2004; Ruzeviciute and Ruzevicius, 2011).

Food consumption patterns and trends of the South Pacific countries indicate mixed evidence as well. On the one hand, research stipulates that the dietary patterns of the Pacific have become diverse and nutritionally balanced (Rao, 2010), while contrasting literature submits that the Pacific people are relying on imported food products (Moy, 2010; Wate, 2013). Motives for choosing imported food products could be attributed to aggressive marketing and advertisements aired in television and other media, which has created a highly competitive market in the country. Furthermore, urbanization has boosted the food industry, with a growing consumer base interested in trying out newer food types from other parts of the world. In addition, with evolving tastes and preferences owing to the intermingling of populations and increased travel to foreign lands, food choices are changing. The younger generation has much influence on the consumption of food products, and they seem to be disposed towards prepared convenience meals or frozen food.

The study focuses on the Fiji Islands, which consist of 330 islands and lie at the heart of the Pacific Ocean. Fiji is a multi-cultural society comprising diverse ethnic groups. Fiji has two central ethnic groups—the original Melanesian/Polynesian populaces of the islands (indigenous Fijian), and the progenies of the Indian labourers who were introduced in the late 19th century (Asian Indians). Culturally, the two groups have distinct religious and language identities. The Fijian customs reveal paramount politeness and dignity towards visitors, and there are rituals for every occasion, which may involve the exhibition of tabua (whale's teeth), food or other gifts, or more frequently the drinking of yaqona (kava), the national beverage. Fijian law, however, prescribes that non-Fijians (Asian Indians) cannot live in Fijian villages. This law creates segregation between the Fijians and Asian Indians. Asian Indians have created their own communities and/or moved to the coastline towns. There are also cited differences in language where the indigenous Fijians mostly

speak "Fijian" and Asian Indians speak "Hindi," though these differences are diminishing as the two groups familiarize and learn each other's languages.

Scholars (Krause, 2011; Mavoa, 2006) have noted that historical events, such as the colonization of Fiji in the 1800s, impacted food production, preparation, and consumption. The traditional food of indigenous Fijians include cassava, dalo (taro), rice, breadfruit, sugar, lolo (coconut cream), rourou (taro leaves), and bele (green leafy vegetable), and sea food. Indo-Fijians (Asian Indians), who have origins in India, brought Indian spices and flavors. In the present day, dietary patterns of the ethnic groups in Fiji contain a mixture of Fijian and Asian Indian dishes. Mavoa (2006) pinpoints that the socio-cultural factors, such as social structure, rank, status, values, and role expectations affect the eating patterns of both groups with respect to their consumption behavior.

Review of the preceding research in Fiji (Krause, 2011; Mavoa, 2006; Schultz, 2009; Sharma, 2006) pinpoints towards food evolution and factors such as rapid urbanization and industrialization, modernization and western lifestyles, education and employment, and globalization have created substantial impact on the consumer culture in Fiji (Syed, 2001). Thus, it becomes important to identify the cultural variables that are responsible for explaining food consumption of the Asian Indians contrasted with the indigenous Fijian consumers. The next section presents the background and review of literature.

2. Literature Review

Culture has been pervasive in determining food patterns in developing countries (Grauel, 2014; Domaneschi, 2012; Kopalle et al., 2010), and transformations in food choices have transpired due to cultural, social, economic, and political factors (Carlson et al., 2013; Kopalle et al., 2010).

Assessment of cultural variances aids in identifying how exogenous stimuli affect the buying decisions of consumers. For example, research studies (Arthur, 2006; Chang, 2005; Rafferty, 2011) argue that cultural influences are symbolic in determining the consumption preferences. Consequently, food consumption patterns and consumption decisions vary according to the cultural background of consumers (Grier et al., 2006). Food consumption not only concerns demographics, value, or history but is also a matter of attitude (Hamlett et al., 2008; Pecoraro et al., 2014). Schroeter (2007) states that it is the attitude that produces the rituals and customs associated with the consumption of food items.

Literature specifies a number of cultural variables related to consumer behavior. Kuurala et al. (2008) contend that food choice and food consumption are impacted by family, social, and religious values, while other evidence points towards religious values as having direct/indirect influences on food choices (Ilmonen, 2004; Krishna, 2012; Onuorah et al., 2003). Literature also designates customs as one of the chief determinants of food choices (Hanser, 2010). Customary behavior is derived from two aspects: traditions and heritage. Studies reveal that traditions and heritage have utmost significance in preparation, consumption, and presentation of food (Dwyer,

2009; Trentmann, 2009; Sassatelli et al., 2010; Somogyi et al., 2011; Johnston et al., 2011; Sahakian et al., 2014). Research also highlights symbols as playing a predominant role (Sneitrup et al., 2011; Pecoraro et al., 2014).

Past studies (Jones, 2010; Rush et al., 2001; Schultz, 2009) have discussed the food consumption patterns in Fiji; nonetheless, these theses have not addressed the cultural stimuli inducing food consumption patterns, and few have investigated the cross-cultural dynamics of the indigenous Fijian and the Asian Indian subpopulations. Instead, these studies delved into investigating the evolution of Fiji's food system, food composition, preparation, and intake; food consumption patterns in urban and rural areas; gender and food consumption; and nutritional levels. Thus, methodical and continuing research to analyze the demographic, socio-cultural, and economic precursors with reference to food consumption behavior in Fiji is warranted.

The contributions of this research include the following.

a) There are limited studies on the subject matter in small developing Pacific states such as Fiji. This empirical contribution hastens future conjectural knowledge on the subject.

b) This is the only study on Fiji that surveyed the views pertaining to the cultural and socio-demographic aspects impacting consumers via cross-comparison of the two main subpopulations (indigenous Fijians and Asian Indians).

c) This study also tests theoretical models to inform future studies designed to ascertain factors impacting consumption behavior.

Based on the results of this study, some concrete implications can be consequentially drawn for consumers in Fiji.

This paper is structured as follows. In the next section, we identify the theory employed in the study. Section 4 describes the design and methodology of our study, which is followed by our findings, a general discussion, and our conclusions.

3. Theoretical Framework and Conceptual Model

This study draws its conjectural fundamentals from the Engel-Blackwell-Miniard (EBM) model and Consumer Culture Theory (CCT). The EBM model (Engel et al., 1995) is tested in the study as it is the most judicious and discrete model which can be realistically applied with fewer anomalies to diverse decision circumstances and product classifications. The model specifies that there are two sets of dynamics that persuade consumers, namely the environment and person-related or individual dynamics. The environmental factors compromise marketing stimuli, economic variables, socio-cultural influences, and situational influences. Examples of environmental influences are culture, social class, personal influences, and family. In contrast, the person-related factors include demographic variables, psychological factors, and biological factors. Examples of person-related factors are

age, ethnicity, marital status, occupation, income, knowledge, attitude, personality, and lifestyle. These influencing factors affect the information processing of consumers that are driven by the ethnic beliefs, rituals, norms, mores, intentions, and attitudes of consumers, thus the end result occurs when consumers make decisions on their purchasing behavior based on their perceptions. Zukin et al. (2004) and Ustuner et al. (2010) note that this model incorporates culture and ethnic identity to better understand the actions of diverse cultural groups.

CCT specifies that culture is a social arrangement that permits consumers in conveying symbolic implications (Arnould, 2006; Arnould and Thompson, 2005). This theory dissects how consumers dynamically adapt and acclimatize symbolic meanings encoded in advertisements, brands, retail settings, or material goods to discernibly echo their precise personal and social surroundings and supplement their identity and lifestyle goals (Domaneschi, 2012; Hanser, 2010). The conventional conjecture of CCT states that consumption is allied to the magnitudes of culture and society, encompassing identity construction, community life, environmental problems, and politics (Ö zsomer and Selin, 2008).

Thus, the cultural variables that have been engaged in this study are family values, religion, traditions, heritage, community values, and symbols as previous studies endorse that culture and food preferences are interweaved and that family, society, and religious values are of paramount influence (Pecoraro, 2014). Research supports that religion (Lamont and Molnar, 2001), customs (Schiffman et al., 2011), and traditions and heritage (Somogyi et al., 2011) control consumption either directly or parenthetically and impact food preferences. Investigators (Granot and Russell, 2014; Jenkins and Molesworth, 2011) have argued that there close connections between culture, consumption, and consumer behavior. These researchers contend that the manifestation of culture influences consumers' choices and preferences which ultimately influence the consumption pattern behavior.

Socio-economic variables that have been used in the research are education (Mullie et al., 2009; Nyugen et al., 2013; Wyndels et al., 2011), income (Jappelli et al., 2010; Puoane et al., 2006; Puoane et al., 2006), family size (Koszewski et al., 2011; Saaka et al., 2013), and geographical location (Harrison et al., 2010) that correspondingly impact food consumption and preferences.

Furthermore, the noticeable demographic variables selected in the study that induce food consumption preferences are age (Lazzeri et al., 2013; Pederson et al., 2012), gender (Guyomard et al., 2012; Prattala et al., 2007; Vlassoff, 2007), ethnicity (Nyugen et al., 2013; Parker et al., 2007; Sharma et al., 2013), and marital status (Mishra et al., 2005; Smith et al., 2013).

3.1 Formulation of Hypotheses

3.1.1 Culture and Food Choices

Research studies (Brady et al., 2010; Kacen et al., 2002; Pecoraro et al., 2014) summarize that consumer behavior is profoundly subjected to cultural factors (buyer culture, sub-culture, nationality, racial groups, and social class) and regulate food

consumption patterns. Yoon (2009) and Cohen et al. (2013) further complement that culture becomes a criterion of evaluation in consumer decision making. Kopetza et al. (2012) pronounces consumer behavior as being goal driven, basing it on the cultural and environmental context of consumers, whereas Hansen (2005) summarizes that consumers tend to use cognitive attitude while making consumption decisions.

Culture influences behavior through manifestation of values, heroes, rituals, and symbols (Luna and Gupta, 2001) and these variables augment close interaction with choices and preferences of diverse cultural groups. Lai et al. (2010) reveals that ethnic groups who are different in religious and cultural backgrounds may demonstrate differences in decision making using Hofstede's cultural dimensions. The end result implies consumers are accustomed to their cultural traits, and these influence the consumption choices. Granot et al. (2014) and Jenkins et al. (2011) in their research have highlighted that there is strong relationship between culture, consumption, and consumer behavior. They argued that the presence of culture impacts individual choices and preferences, which ultimately influence the consumption pattern behavior. Hence, Hypothesis 1 (H1) is as follows.

H1: Social determinant (Culture) influences food choices made by the Asian Indians vs Fijian consumers.

3.1.2 Culture and Food Consumption Patterns

According to Sassatelli et al. (2010) and Pecoraro et al. (2014), food consumption patterns are subject to perceptible effects from religion, traditions, beliefs, and family preferences. Community and family values also tend to have deep association with food consumption of diverse cultural groups. Community and family values help in conserving traditional food styles; thus, they act as a tool to unite, bond, and keep traditions alive. Stillerman (2004) states that social, structural, and family status factors are determinants of food behavior. In response to religion and its values and beliefs, it was noted in the studies by Hamlett et al. (2008) that religion has the greatest influence of food consumption pattern as it tied with values and beliefs. Religious beliefs are similar to ethnic identity and have considerable influence on individual food preferences. Traditions also play a significant role as it relates to food and taste preferences of consumers on what to consume, the preparation and presentation skills, so forth (Wright et al., 2001). Consequently, Hypothesis 2 (H2) is as follows.

H2: Food Consumption pattern (Fruits and Vegetables, Root crops, Dairy products, Meat products, and General products) is influenced by the cultural variables (Family values, Religion, Traditions, Heritage, Community values, and Symbols)

3.1.3 Demographic and Socio-economic Factors and Food Consumption Patterns

The common demographic variables that impact food consumption patterns are age, gender, ethnicity, and marital status. Research studies support that age (Lazzeri et al., 2013; Pederson et al., 2012), gender (Guyomard et al., 2012; Vlassoff, 2007; Prattala et al., 2007), ethnicity (Nyugen et al., 2013; Block et al., 2004; Parker et al., 2007; Sharma et al., 2013), and marital status (Mishra et al., 2005; Smith et al., 2013) determine food consumption patterns.

Socio-economic variables such as education (Nyugen et al., 2013; Mullie et al., 2009; Ganasegeran et al., 2012; Wyndels et al., 2011), income (Jappelli et al., 2010; Drewnowski et al., 2005; Puoane et al., 2006; Cirera et al., 2010; Smith et al., 2013), family size (Koszewski et al., 2011; Saaka et al., 2013), geographical location (Shetty and Schmidhuber, 2011; Hossain, 2011), occupation (Worsley, 2002) also determine food consumption patterns.

Hence, Hypotheses 3a (H3a) and 3b (H3b) are as follows.

H3a: Consumer food preference is correlated with the demographic (age, gender, ethnicity, marital status) and socio-economic factors (education, income, family size, geographical location, occupation) of the Asian Indians and Fijian consumers.

H3b: Consumer food preference is influenced by the demographic (age, gender, ethnicity, marital status) and socio-economic factors (education, income, family size, geographical location, occupation) of the Asian Indians and Fijian consumers.

4. Research Methodology

4.1 The Sample and Subjects

This research was conducted in Fiji Islands and data were obtained from surveys completed by 255 Fijian consumers using convenience sampling technique. The survey was carried out in 2013. Estimating the appropriate number of subjects for this study design was a challenge. Too big a sample would have been strenuous and expensive. Thus, based on judgmental sampling, an initial sample size of 400 was anticipated, but could not be achieved due to budget constraints. Thus, only 255 respondents were successfully surveyed. Pilot tests were conducted prior to the original study, on a sample of 50 respondents to test the validity and usefulness of the research schedule.

4.2 Instrumentation

A structured, self-administered questionnaire was developed as a mode of data collection. The questionnaire comprised five sections: Demographic Profile; Consumption Patterns; Consumer Behavior; Culture and Consumption; and Food

Choices. The Cronbach alpha values of the variables tested in the study were 0.50 (age), 0.73 (gender), 0.50 (ethnicity), 0.66 (marital status), 0.50 (occupation), 0.50 (geographic location), 0.50 (education level), 0.50 (income level), 0.97 (family values), 0.57 (community values), 0.88 (religion), 0.75 (customs), 0.62 (traditions), 0.88 (heritage), 0.98 (symbols), and 0.56 (culture), 0.80 (consumption), 0.58 (food choices), 0.8 (food preferences) respectively, indicating acceptable internal consistencies.

4.3 Procedures

The questionnaires were distributed to the consumers. To minimise errors pertaining to internal validity and to control non-response errors, hard copies were self-administered.

4.4 Data Analysis and Tests

Data were analyzed with the help of SPSS. To test the hypotheses, a descriptive analysis was performed using frequencies and mean and standard deviations were calculated. In addition, one-sample t-tests, Chi-square tests, correlation analysis, and regression analysis were performed.

5. Findings and Discussion

5.1 Demographic Profile of the Asian Indian and Fijian Consumers in the Study

From among the respondents, 14.2 % are in the age group 15–20, 34.2% in 20–30, 25.8% in 30–40, and 25.8% were 40 and over. Around 48.9% of participants were male and 51.1% were female. In terms of ethnicity, 60% were Fijian ethnicity and 40% were Indo-Fijian ethnicity. With reference to marital status, 34.2% were single, 56.9% were married, and 4.4% were separated and divorced, while 4.4% were widowed. In terms of occupation, 22.7% were self-employed, 32.4% had white-collar jobs, 16.0% had blue-collar jobs, and 28.9% were unemployed.

Furthermore, 24.4% were urban dwellers, 32.9% of participants were semi-urban, 27.6% were from semi-rural areas, and 14.7% of participants were rural dwellers out of the stated geographical location. Looking at education level, 6.2% of participants had no formal education, 8.0% of participants had primary-level qualification, 39.6% of participants had secondary-level education, and 46.2% of participants had tertiary-level education qualification. Finally, in terms of income level, 47.6% of participants had an income level less than $10,000 per year, 27.1% of participants earned $10,000 to $20,000 per year, 16.4% earned $20,000 to $30,000 per year, and 8.9% earned more than $30,000 per year.

5.2 Consumer Behavior

In analyzing the characteristics of the household, it was found that the majority of the consumers were Fijians in nuclear families (35.1%) compared to the Asian Indians (24.4 %). Extended families comprised 20.8% of Fijians while only a small minority of Asian Indians (11.1%) lived in extended families. In this sample, only 8% lived alone. Only 0.4% did not respond.

Turning to average monthly income, 16.9% earned less than $250, 32.9% earned $250–750, 30.7% earned $750–1500, and 19.6% earned more than $1500 per month. At most, 50.2% of respondents spent less than $400 on food consumption, 34.2% spent $400–700, 10.2% spent $700–1000, and 4.9% spent more than $1000 per month.

In exploring daily food preferences, 26.2% of Fijian vs 13.8% of Asian Indians preferred inherited/traditional foods. 7.6% of Fijian vs 4.9% of Asian Indians preferred homegrown/subsistence. 6.2% of Fijian vs 3.1% Asian Indians preferred western/fast foods. 5.3% of Fijian vs 1.8% of Asian Indians preferred pre-packaged foods. In contrast, 14.7% of Fijians vs 16.4% of Asian Indians preferred healthy promoted/balanced diet foods.

With reference to the arrangements and preparation of their own cultural dishes "always," few differences were noted between Fijian consumers (24.9%) vs Asian Indians (20%). Fijian consumers (18.7%) prepared it "more than 3 times a week" in contrast to Asian Indians (15.1%); a relatively a small percentage of Fijian consumers (12.9%) "prepared once or twice in a month" vs Asian Indians (4.4%). 3.6% of Fijians vs 0.4% of Asian Indians "never" prepared dishes.

In terms of preparing food dishes belonging to another culture, nominal differences were seen as 27.6% of the Fijian consumers opted for this "once or twice in a month" compared with 20.9% of the Asian Indians. Some 21.3% of Fijians prepared it "more than three times a week" compared with 11.6% of Asian Indians. 8% of Fijians vs 5.8% of Asian Indians answered "never," although 3.1% of Fijians vs 1.8% of Asian Indians answered "always" to this question.

The other aspect of the study was to apprehend "sharing food meals with each other," and we found that 21.3% of Fijian consumers and 12% of Asian Indians agreed that they share their food meals with each other "1 or 2 times a month." Minor differences were observed for those reporting on "more than 3 times per week" (16% of Fijians vs 12% of Asian Indians) or "do not consume their meals with each other at all" (11.1% of Fijians vs 11.6% of Asian Indians). Significant variances were revealed for "sharing food meals always" (11.6% of Fijians vs 4% of Asian Indians).

Large percentages of Fijian consumers (40.9%) and Asian Indians (27.1%) confirmed that they were aware of and have knowledge of cooking some cultural foods. Slight dissimilarities were found on "not interested in cooking" (4% of Fijians vs 5.8% of Asian Indians) and "know how to cook all of the food dishes of each other's ethnic group" (5.3% of Fijians vs 4% of Asian Indians). A higher variance was noted for "they cook each other's food dishes" (8% of Fijians vs 3.1% of Asian Indians). This implies that, in Fiji, people have a common understanding of

and respect for the food dishes of other ethnic groups/cultures, and they utilize their cooking skills to consume other ethnic group's cultural foods. These statistics further reveal that people in Fiji (Fijians vs Asian Indians) tend to share and eat their meals with other ethnic groups, and they use the processes of acculturation to learn each other's cultural foods. Thus, this study supports the notion that reciprocal exchanges amid immigrants and their host culture has created acculturation and this is unquestionably in existence.

5.3 Hypothesis Testing

H1: Social determinant (Culture) influences food choices made by the Asian Indians vs Fijian consumers.

Hypothesis 1 was generated to obtain adequate information regarding the association between the social determinant (culture) and the food choices related to food consumption patterns for Fijian and Asian Indian consumers in the study. Correlation analysis was conducted to test this hypothesis. The variables used were the social determinant (cultural variables: Family values, Community values, Religion Values and Beliefs, Heritage, Traditions, and Symbols) and Attitude that represents the Choices. The overall Cronbach reliability for this test was 0.663, which is reliable.

Table 1. Correlation Analysis of Social Determinant-Cultural Variables and Food Choice (H1)

		1	**2 Family Value**	**3 Religion**	**4 Community Values**	**5 Traditions**	**6 Heritage**	**7 Symbols**
1 Attitudes (Food Choice)	*r*	1	−0.342	−0.093	−0.098	−0.341	−0.109	−0.077
	p		<0.0005	0.166	0.146	<0.0005	0.104	0.255

Notes: r is the Pearson correlation coefficient and *p* is the corresponding two-sided *p*-value. 1 indicates Food Choice and 2–7 indicate social determinant-cultural variables.

The results indicate that Food Choice and two social determinant-cultural variables (Family Values and Traditions) are negatively correlated and highly statistically significant. The other social determinant-cultural variables are also negatively correlated with Food Choice but not significant. Normally it is seen that consumption patterns differ based on the cultural groupings, and this is mirrored in consumer choices and preferences. In this study, culture has not profoundly impacted consumption and seems to be negatively intertwined with consumer's food choice. Thus, it can be confidently said that Hypothesis 1 is rejected.

The originality of the finding could be attributed to a number of factors. First, is it the acculturation process? Upon analysis of the acculturation influences on consumer behavior, the study points towards the indigenous Fijians integrating the immigrant culture's dietary patterns into their original culture. This arises as a result

of socialization and participation in social/cultural activities as Fiji is a multi-ethnic country.

Also, the influence of the media and advertising has hugely impacted consumer choices. It is not entirely culture that impinges on consumption and food choices but what is told and telecasted through advertising mediums as well. Previously, markets were narrow, and thus consumers had limited food choices, but now with globalization and internationalization, the market has a greater variety of product choices. And these food choice decisions are made by consumers that are now more exposed and more educated than before. So overall, these factors mediate the impact of culture on food choices.

H2: *Food Consumption pattern (Fruits and Vegetables, Root crops, Dairy products, Meat products, and General products) is influenced by the cultural variables (Family values, Religion, Traditions, Heritage, Community values and Symbols).*

Hypothesis 2 was generated to obtain adequate information to understand the relationship between culture and food consumption patterns of the Fijian consumers. The Chi-square results are as follows.

a) There is no association with overall culture (p=1.000).

b) There is strong evidence of an association with fruits and vegetables (p<0.0005).

c) There is strong evidence of an association with root crops (p<0.0005).

d) There is no association with dairy products (p=0.388).

e) There is no association with meat products (p=0.955).

f) There is no association with general products (p=1.000).

To summarize, there is strong evidence that culture is associated with consumption of fruits and vegetables and root crops. Under normal circumstances, culture, advertising, and social factors contribute towards explaining consumer behavior, but in the case of Fijian and Asian Indian consumers, culture is associated with consumption patterns of fruits and vegetables and root crops only.

The strong statistical support for association with fruits and vegetables and root crops can be attributed to the high percentage of the Fijian vs Asian Indian consumers (26.2% vs 13.8%) that indicated preference for inherited food items. Inherited food items typically consist of subsistence crops (vegetables/root crops). Alternatively, fruits and vegetables are reliant on cultural variables since dietary restriction laws are inapplicable.

Supplementary to this, 14.7% of Fijian consumers vs 16.4% of Asian Indians indicated preference for healthy promoted meals/diets, which is consistent with the chi-square result of meat, dairy, and general products not being associated with

culture. This shows that consumers in the Pacific are becoming more cognizant of health issues and the impact of food dietary patterns on health of individual. The respondents revealed that they consume fruits and vegetables based on their taste, smell, texture, availability, familiarity, and monetary costs, which have also come across in the Pollard et al. (2002) study.

In terms of consumption of root crops, there is a trend of convergence shown among the Fijians. As root crops or staples, especially cassava, dalo, and sweet yams are major traditional components of the Fijian diet, the consumption frequency of this category of food is relatively high in comparison to the Asian Indian population. With Asian Indians, there is presence of high frequency of rice consumption as per their traditional diets. This is consistent with results of Kulkarni (2004), Radhika et al. (2009), and Myint et al. (2012). The major reason identified from this study for high consumption of root crop was convenience; that is, root crops in Fiji are grown at subsistence level due to availability of land. However, a few of the urban population who do not have access to subsistence farming do procure root crops as it is part of their traditional food patterns (Haden, 2009). Fijian households are observed to engage in more production and consumption of root crops and green vegetables while Asian Indians prefer to grow rice and pulses (Martyn, 2011).

H3a: Consumer food preference is correlated with the demographic (age, gender, ethnicity, marital status) and socio-economic factors (education, income, family size, geographical location, occupation) of the Asian Indians and Fijian consumers.

H3b: Consumer food preference is influenced by the demographic (age, gender, ethnicity, marital status) and socio-economic factors (education, income, family size, geographical location, occupation) of the Asian Indians and Fijian consumers.

Hypotheses 3a and 3b were developed to discover which variables contribute towards food consumption patterns of Fijian and Asian Indian consumers. To test these hypotheses, we applied two tests. For Hypothesis 3a, we used a correlation analysis; for Hypothesis 3b, we used multiple regression. Table 2 reports results of the correlation analysis.

Analysis of results in Table 2 showed that gender (r=0.091; p=0.173), occupation (r=0.022; p=0.740), education level (r=0.271; p<0.0005), and income level (r=0.601) had positive associations, but only education level was statistically significant.

The analysis also indicated that age, ethnicity, marital status, and geographic location were negatively associated with consumer food preferences, but none of these factors were statistically significant and traditional thresholds. Therefore, we conclude that Hypothesis 3a was not confirmed because only education level was associated with consumer food preferences.

Table 2. Correlation Analysis (H3a)

Variables		1	2	3	4	5	6	7	8	9	10
1.Age	P C	1	-.128	-.023	.622**	-.284**	.132*	-.234**	.181**	-.020	-.148*
	Sig.		.056	.737	.000	.000	.048	.000	.006	.763	.026
2.Gender	P C	-.128	1	.010	.037	.041	-.068	.066	-.069	-.131*	.091
	Sig.	.056		.877	.578	.540	.308	.322	.303	.050	.173
3.Ethnicity	P C	-.023	.010	1	.087	.118	-.047	-.055	.079	.038	-.081
	Sig.	.737	.877		.195	.076	.486	.413	.238	.573	.226
4. Marital Status	P C	.622**	.037	.087	1	-.092	.244**	-.281**	.017	.030	-.109
	Sig.	.000	.578	.195		.167	.000	.000	.800	.658	.103
5. Occupation	P C	-.284**	.041	.118	-.092	1	-.128	-.155*	-.304**	.025	.022
	Sig.	.000	.540	.076	.167		.054	.020	.000	.705	.740
6. Geographic Location	P C	.132*	-.068	-.047	.244**	-.128	1	-.159*	-.004	-.005	-.034
	Sig.	.048	.308	.486	.000	.054		.017	.949	.939	.615
7. Education Level	P C	-.234**	.066	-.055	-.281**	-.155*	-.159*	1	.326**	-.052	.271**
	Sig.	.000	.322	.413	.000	.020	.017		.000	.435	.000
8. Income Level	P C	.181**	-.069	.079	.017	-.304**	-.004	.326**	1	-.049	.035
	Sig.	.006	.303	.238	.800	.000	.949	.000		.465	.601
9. Family size	P C	-.020	-.131*	.038	.030	.025	-.005	-.052	-.049	1	-.115
	Sig.	.763	.050	.573	.658	.705	.939	.435	.465		.086
10. Food preference	P C	-.148*	.091	-.081	-.109	.022	-.034	.271**	.035	-.115	1
	Sig.	.026	.173	.226	.103	.740	.615	.000	.601	.086	

Note: i) P C refer to Pearson Correlation ii) Sig refers to Significant (2-Tailed)

Table 3. Multiple Regression Analysis of Food Preference (H3b)

	Unstandardized Coefficients		Standardized Coefficients		
	Beta	Std. Error	Beta	t	*p*-value
(Constant)	1.622	1.022		1.587	0.114
Age	−0.149	0.156	−0.087	−0.953	0.342
Gender	0.168	0.234	0.048	0.716	0.475
Ethnicity	−0.164	0.153	−0.071	−1.071	0.286
Marital Status	0.062	0.213	0.026	0.292	0.770
Occupation	0.072	0.111	0.047	0.648	0.518
Geographic Location	0.029	0.106	0.018	0.270	0.787
Education Level	0.535	0.153	0.261	3.505	0.001
Income Level	−0.029	0.130	−0.016	−0.221	0.825
Family size	−0.254	0.173	−0.096	−1.470	0.143

Notes: Adjusted R^2 for consumer food preference was 0.064.

To further examine the explanatory power for the consumer food preferences, a regression model comprising the predictor variables (age, gender, ethnicity, marital

status, occupation, geographic location, education, income, and family size) were analyzed. From Table 3, the fitted regression equation is:

Consumer food preference = 1.622 − 0.149 (*Age*) + 0.168 (*Gender*) − 0.164 (*Ethnicity*) + 0.062 (*Marital Status*) + 0.072 (*Occupation*) + 0.029 (*Geographical Location*) + 0.535 (*Education Level*) − 0.029 (*Income level*) − 0.254 (*Family size*).

The results show that 6.4% of the variance (R^2 = 0.064) in the food preference score, and the overall model comprising the predictor variables, was significant. This means that the other 93.6% of the variance in food preferences is attributable to other factors (chance or random error) and unexplained in the model.

Education level was the only predictor significantly contributing and explaining variance in Consumer Food Preferences. All other predictors were marginally insignificant (Table 3). Thus, hypothesis 3b was not confirmed.

Note that a Durbin-Watson test statistic of 1.782 suggests no evidence of an auto-correlation problem. Tolerance and variance inflation factors were also in the acceptable range, indicating there was no evidence of multi-collinearity.

Comparative examination of research in this area highlights the importance of education, which has substantial influence and is positively related to consumer food choices (Nyugen et al., 2013; Mullie et al., 2009; Ganasegeran et al., 2012; Wyndels et al., 2011). Schultz (2009) finds that greater access to western education has led to a vivid shift and transition of the Pacific people's food system. In this study, it was notable that the majority of participants had secondary and tertiary education training; thus, it was revealed that their education has been a key instigator contributing towards high consumption levels in fruits and vegetables and more balanced diets, and this was also consistent with the Pomerleau et al. (2005) study.

Sandlin (2008) and Kearneary (2010) also find that education changes the mindset of individuals. Education changes the values of people, creating greater engagement by women in paid employment and preferences to stay single, even influencing individuals to change their family cycle stages, potentially with substantial effects on food choices of consumers. This finding is unique for the study as it has added to existing literature that educated consumers have a high tendency to make better, more intelligent, and more informed choices than uneducated consumers precisely in the Fijian context.

5.4 Discussion

The dominant finding of this research study of Fiji consumers highlights that culture is associated with consumption of fruits and vegetables and root crops; however, the role of education is instrumental and signals that consumer behavior and preferences are fundamentally predisposed by education. The results identified that culture and choices were negatively connected; nevertheless an astonishing finding was that homegrown food preferences was remarkably preferred relative to western and pre-packaged items.

This study supports the conception that mutual interactions among immigrants and their host culture have shaped acculturation, and this is incontestable in reality. The foremost studies of education indicate that it is a probable indicator of significant disparities in consumer behavior. This paper realizes that the educational setting is positively associated with consumer behavior, seemingly attenuating cultural effects and reflecting that consumers in Fiji are media literate.

6. Conclusions and Directions for Future Research

In this study it has been noted that culture and choices were negatively related. It could be argued that, within certain religious affiliations, there are various levels of acculturation, which results in diversity. So, for instance, some Fijians and Asian Indians may be piously religious and would strictly adhere to the cultural values, while others may not be as religious—implying that cultural values may be followed selectively. Choice of food is deeply related to the lifestyle of individuals and their family values. Biological determinants (hunger, taste), economic determinants (cost, income, availability), and physical determinants (education and cooking skills) also influence food choices. The personal factors, such as who prepares the food for whom (e.g., whether for an extended family or nuclear family), also impacts food choices.

When speaking of food choices and dietary patterns, it may be important to engage nutrition educationalists to enlighten Fijian consumers on nutrition and dietary content and deliver appropriate programs to raise awareness of issues.

Significant differences in food consumption patterns were also noted for urban and rural dwellers. Urban dwellers had strong preferences for healthy promoted diets that comprised balanced diet meals from all food groups, while rural dwellers have strong preferences for inherited and traditional meals over balanced diet meals.

This finding has implications for agricultural food products, given the changing climate conditions and natural disasters in Fiji. If it is economically feasible and sustainable given pro-climatic conditions, domestic production will be able to cater to the demands of the growing population. If not, this would imply an increase in imported products, creating a greater trade deficit.

This issue could be resolved if contracts between local farmers and outlets are created. Large firms could negotiate with farmers the provision of local products.

Another interesting finding was that western, pre-packaged and homegrown food preferences were distributed evenly in urban areas while rural areas had even distribution for pre-packaged and western food; however, preference for homegrown food was ranked more highly than western and pre-packaged items. These results could be some of the explanatory reasons for saying that food choices in this study were not greatly influenced by cultural variables. The results of the study have implications for Fiji, which is a small developing island state. The rapid divergence (and Westernization) of the metropolitan diet cannot be met by the traditional food supply chain. With trade liberalization and the growth of supermarkets,

processed/packaged food are becoming readily available as well. There may be a pressing need to re-examine the vertical integration of the food supply chain.

The food and nutrition industry and media advertising have key influence on how messages pertaining to food choices are disseminated; thus, it becomes important for nutrition educationalists to be aware of this.

This study had started at the onset with the proposition that Fijian consumers will exhibit inclinations and behaviors that would be reflective of the Fijian traditional value systems; in contrast, consumers in this study were found to be practical and perceptive.

This study is limited in several ways. First, the sample size is small due to time and resource constraints. Second, the convenience sampling limits the generalization of results. Finally this study did not cover all cohorts of consumers in Fiji.

The study identified a number of diagnoses to further scrutinize the cultural and socio-demographic variables to address consumer behavior issues. However, factor analysis and structural modelling could not be conducted. Future research could possibly investigate causal relationships of the variables, which could aid in identifying the real issues behind weak connections. A further research agenda may also comprise other cultural subpopulations to better comprehend differences in the cultural milieu and identify elements influencing consumer behavior and preferences. This research could also be extended to other countries where Asian Indians have settled to inform the subject matter. Food security issues may also need to be investigated and given due consideration to warrant equity for consumer groups and avail them access to opportunities for food choice decisions.

7. Managerial Implications

Since consumption of fruits and vegetables and root crops have been highly necessitated and consumed by the two subpopulations in this study, this is an affirmative indication for agroindustry in the country. The food and agroindustry has articulated the requisite for studies to elucidate consumption behavior, whether and how consumers will respond to supply of improved fruit and vegetable and root crops, and implications for dietary concerns and increasing health related stigmas. Henceforth, this study creates a central pathway towards comprehending the fundamental mandates that drive consumption. This evidence will aid in the determination of proficient management verdicts. Additionally, the readiness of this evidence may aid the marketing decisions pertaining to consumption-related enterprises, including expansion and enhancement of production with reference to these categories of food items.

The current results have numerous consequences for intercontinental marketing executives in food enterprises. The results indicate that, owing to the amalgamation of food with consumer culture, marketing executives are paying close attention to differences in food culture via their marketing and sales strategies; however, the host and the immigrant culture are converging, already posing small differences.

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