

Food Acculturation Pattern of International students in Halifax

By

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ABSTRACT

International students experience lots of food related challenges when they migrate from their home country to a new country. One such food related challenge international students in Halifax experience is dietary changes, due to the lack of availability of their cultural foods.

Consequently, the aim of this study is to assess international students' food acculturation patterns in Halifax, in order to explore whether (un)availability of international students' cultural foods influences whether they maintain their culture of origin, conform to the culture of their host, or integrate within their host and home country's culture. A quantitative methodology is employed in this study, in order to examine the relationship between (un)availability of international students' cultural foods **and** the food acculturation pattern of international students in Halifax.

The results of this study show that international students' food acculturation patterns are dependent on the (un)availability of their cultural foods in Halifax. However, the experiences of (un)availability of cultural foods by international students are influenced by: the medium through which international students' cultural foods are available to them: in Halifax grocery stores, ethnic stores or ethnic restaurants in Halifax and where international students live in Halifax (either off-campus or on-campus). Factors that might influence the acculturation patterns of international students, based on the availability and accessibility of their cultural foods are gender and origin.

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Signed:

Chukwu, Betty.

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INTRODUCTION

Assessing the Dietary Acculturation Patterns of International Students

In 2014, the Canadian government announced its international education strategy to double the number of international students to 450,000 in Canada by 2022 (CBC). This is in an effort to: promote cross cultural interactions within Canadian universities and local communities, promote diverse skills, improve labor shortages in Canada, and boost the Canadian revenue (CBC, 2014; RCI, 2015; CBIE, 2015). As a result of this international education strategy, over the past five years (2008-2014), the number of international students enrolled in Canadian universities has increased by 83% (CBIE, 2015).

Despite the importance of international students to Canada, the Canadian government and universities do little to support these international students' success, particularly considering the significant financial, cultural, social, immigration and employment-related challenges these international students experience while they reside in new countries (Williams, 2013, p. 2). Consequently, a considerable amount of social science research focuses on the psychological challenges (stress and coping) that come with international students' transition from their home culture to a new culture, and the adaptation processes that inevitably accompany this cross-cultural experience (Noyongoyo, 2012; Amos and Lordly, 2014, p. 59; Brown et al., 2010, p. 202; Stewin, 2013, p. 7; Cleveland et al., 2009, p. 197-198; Berry & Sam, 1997, p. 296-297).

Previous studies conducted on the cultural transition and experiences of international students in a new country have revealed that when international students move to a new country to study, they are exposed to new customs and culture of their hosts (Hartwell et al., 2011, p. 1393). This leads international students to acculturate within a continuum comprising of two poles: the degree to which they want to maintain their culture of origin and the degree to which

they want to integrate into the host country (Berry & Sam, 1997, p. 296-297; Cleveland et al., 2009, p. 197). Based on this acculturation theory suggested by Berry & Sam (1997), substantial research has been conducted on how international students experience dietary acculturation, which leads to changes in their dietary and food habits (p. 296-297; Amos & Lordly, 2014, p. 60; Edwards et al., 2010, p. 301; Cleveland et al., 2009, p. 197). Other studies on international students' experiences with food have also focused on the meanings of familiar and unfamiliar foods to international students (Perez-Cueto et al., 2009, p. 84; Brown et al., 2010, p. 202; Cleveland et al., 2009, p. 196), and inaccessibility and unavailability of cultural foods when international students move to new countries (Stewin, 2013, p. 11; Gallegos et al., 2013, p. 498; Perez-Cueto et al., 2009, p. 84). However, most studies on international students' food experiences have linked the reason for dietary changes to food insecurity. Food insecurity has been defined as one's inability to have physical, social, and economic access to sufficient, safe and nutritious foods to meet one's dietary needs and food preferences for an active and healthy life (Gallegos et al., 2013, p. 497; Perez-Cueto et al., 2009, p. 84; Amos & Lordly, 2014, p. 62; Stewin, 2013, p. 8-13).

Hence, this study mainly focuses on one aspect of food security: whether international students' cultural foods are (un)available to them within their host country. Using a quantitative method, I will employ Berry's (1997) acculturation strategies to better understand international students' dietary acculturation in Halifax (Berry & Sam, 1997, p. 296-297). By using this conceptual framework, this study investigates whether international students' cultural foods are available in Halifax, and how (un)availability of international students' cultural foods influences international students based on their demographic factors, medium through which they access their cultural foods, and what they eat (consumption pattern). Secondly, this study discusses how

international students' consumption behavior/acculturation pattern will differ based on their continent of origin and gender. Lastly, this study explores whether the consumption pattern/acculturation patterns of international students based on their continent of origin and gender are explained by the (un)availability of international students' cultural foods in Halifax.

Most existing studies on the dietary acculturation of international students have used the United States, United Kingdom and Spain as ethnographic field sites, rather than Canada (Tirelli et al., 2013; Edwards et al., 2010). However, studies conducted on the dietary acculturation of international students in Canada have mostly used Ontario and Montreal (Stewin, 2013; Cleveland et al., 2009) as their ethnographic site. Hence, this study exclusively uses Halifax as its ethnographic field site.

The purpose of this study is to uncover and create public awareness of the major food challenges faced by international students while they reside in their host country. Information from this study could enlighten the public, social groups and decision-makers on the existence of these food challenges experienced by international students, while trying to successfully attract and professionally integrate international students in Canada. This information could also help the government to meet their goals to retain international students, as members of Canadian society (Hartwell et al., 2011, p. 1402).

In this thesis, I will first provide a background literature review. Second, I will discuss the methodology used in this study. Third, I will report the results of this study. Finally, I will conclude with practical or policy implications of the findings and suggestions for further research.

LITERATURE REVIEW

Food in a Global Context

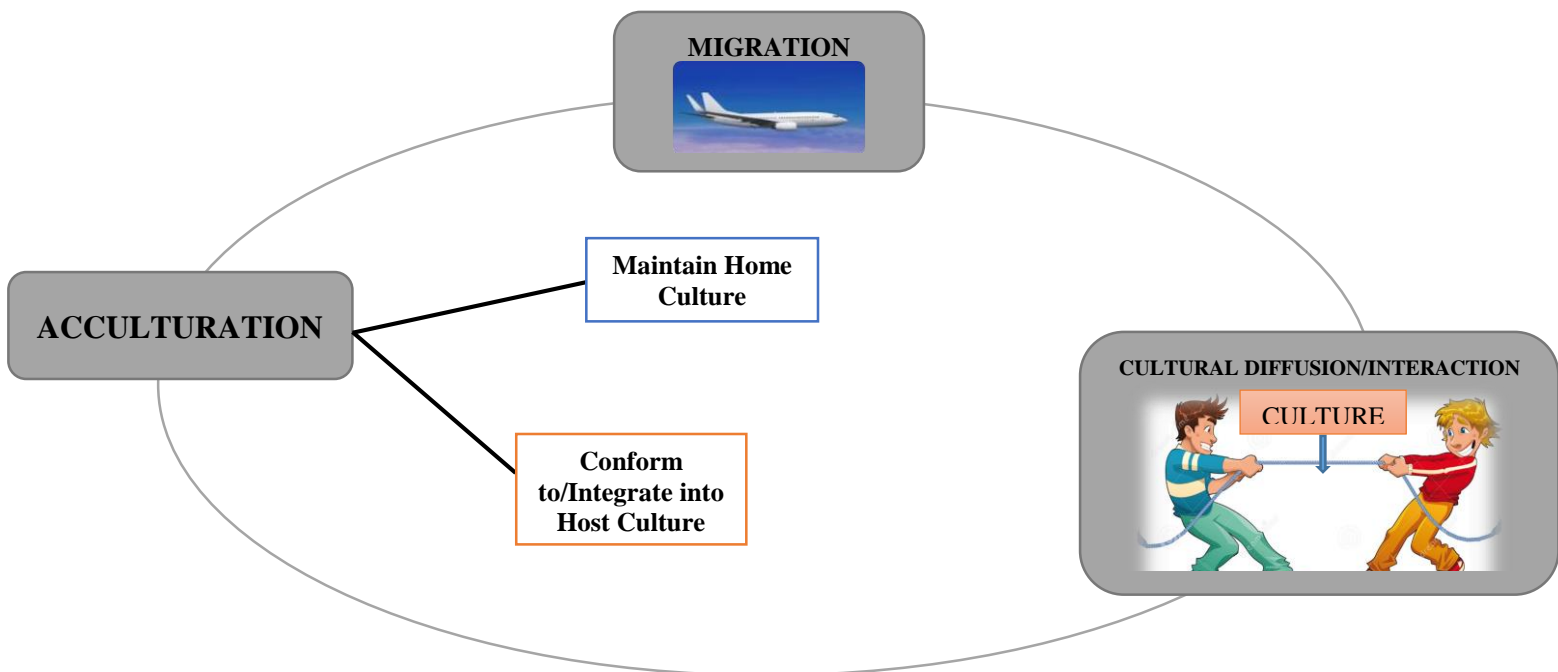
Food is an important sociological issue, because it represents both nature and culture, and it bridges many divides: it is both substantial, symbolic and functional; it is life-sustaining, as it is essential for human survival (Maslow, 1943). Different dietary patterns between countries exist (Trichopoulou et al., 2007, p. 420), as foods are consumed and used differently by different people. While most people consume foods mainly for their nutritional benefits, some people consume foods for their medicinal benefits, and some consume foods to express their culture, identity, beliefs and values (Etkin, 2006, p. 207-208; MacClancy et al., 2007, p. 1; Pieroni & Price, 2006, p. 78, 153). Our perception of foods as either nutritional, medicinal or cultural then shapes why, how and what we eat (Etkin, 2006; MacClancy et al., 2007; Pieroni & Price, 2006).

"We are What We Eat": The Symbolism of Foods and Cultural Foods

We consume food and make it part of ourselves both physically, socially and culturally (MacClancy et al., 2007, p. 3). Culturally speaking, the food that makes up a group's diet, the recipes used to prepare those foods, and the manners in which they are consumed, symbolically represent their ethnic group (Chapman & Beagan, 2013, p. 367; Etkin, 2006, p. 42). According to Levi-Strauss, foods are then of symbolic significance, as they express one's cultural and ethnic identity (Garnsey, 1999, p. 7). Eating is then a daily reaffirmation of a person's cultural [and ethnic] identity," (Almerico, 2014, p. 5; Devine, 2005, p. 124). Hence, foods consumed to express one's culture and cultural beliefs are called Traditional or Cultural or Ethnic Foods. Traditional or cultural foods are also "foods originating from a heritage and culture of an ethnic group" (Kwon, 2015, p. 1), while foods that are not specific to one's culture are non-ethnic foods.

Apart from cultural foods being vehicles of our culture and identity, studies have also shown that cultural foods possess health qualities, since tradition rarely honours foods which are not palatable and healthy (Trichopoulou et al., 2007, p. 420-422). Accordingly, studies have shown that in an effort to maintain the symbolic significance of cultural foods, migrants tend to maintain their eating and cooking habits and consume their cultural foods as a medium to communicate their "sense of self" (who they are) and prevent cultural insecurity (Brown et al., 2010, p. 206; Stewin, 2013, p. 1-2; Devine et al., 1999, p. 88-89). Cultural insecurity occurs when international students are unable to maintain their culture and identity due to scarcity of their cultural foods (Allan, 2013, p. 59-78; Amos & Lordly, 2014, p. 62; Stewin, 2013, p. 1-2).

ACCULTURATION: Cultural Interaction and Cultural Diffusion¹



¹ Citations for the pictures used above:

<http://www.care2.com/greenliving/10-ways-to-increase-your-odds-of-surviving-a-plane-crash.html>

<http://www.dreamstime.com/royalty-free-stock-image-tug-war-image12558046>

Figure 1: Diagram representing “Cultural Transition of International Students from Their Home to a New/Host Country”

As seen in **Figure 1**, studies have shown that as people migrate from one country to another, either permanently or temporarily, they are exposed to new customs and culture of the new or host country (Hartwell et al., 2011, p. 1393). This exposure of one culture (migrants' home culture) to another (migrant's host culture) is what Cleveland et al., (2009) call "**Cultural Diffusion**" (p. 197), while Berry calls it "**Cultural Interaction**" (1997, p. 9). Cultural diffusion or interaction leads to "**acculturation**" (Cleveland et al., 2009, p. 197).

According to Berry & Sam (1997), **cultural diffusion** or **interaction** between the international students' home and host culture lead international students to acculturate to their host country within a continuum comprising of two poles: the degree to which they want to maintain their culture of origin and the degree to which they want to conform to/integrate into the host country (p. 296-297; Cleveland et al., 2009, p. 197). Berry & Sam (1997) also adds that these two poles yield four distinguishable acculturation strategies, which migrants adopt when: a) they decide to preserve and maintain their original cultural identity, while adopting the host culture (integration); b) they cherish their original culture and reject the host culture (separatism); c) they abandon their original culture, in favor of the host culture (assimilation); or d) they do not maintain their original culture nor adopt the host culture (marginalization) (p. 296-297; Cleveland et al., 2009, p. 197-198).

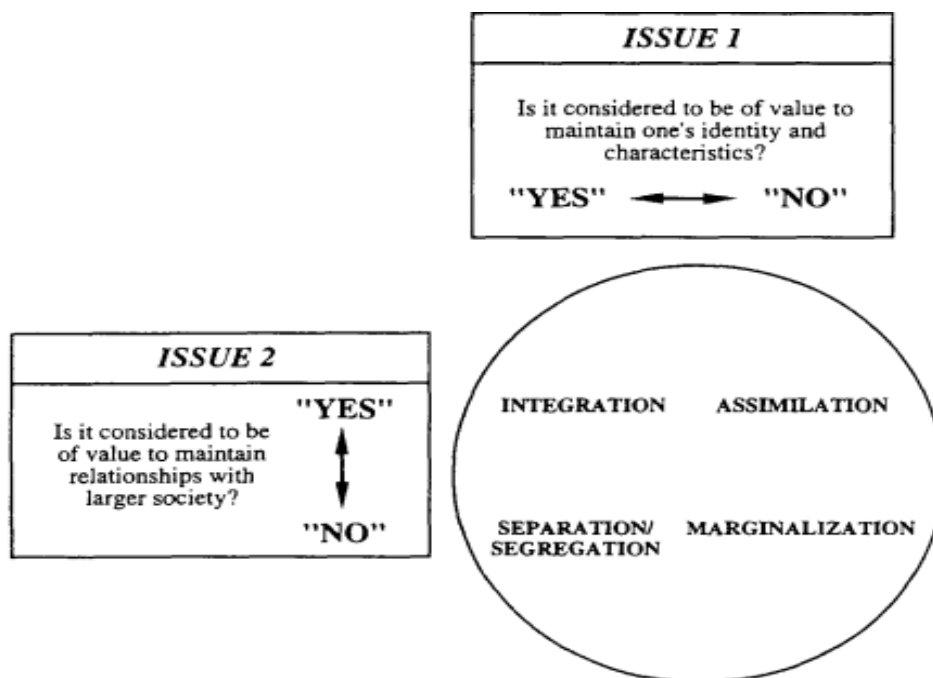


Figure 2: Diagram representing “Acculturation Strategies” of migrants (Berry, 1997, p. 10).

DIETARY ACCULTURATION: Cultural Interaction and Cultural Diffusion

Cultural interaction between two cultures and the exposure of international students to a new environment (Cultural Diffusion) results in dietary acculturation, which is almost always associated with migrants’ incorporation of new foods and the loss of their traditional or ethnic foods (Hartwell et al., 2011, p. 1393; Tirelli et al., 2013, p. 104; Nicolaou et al., 2009, p. 239). This is because members of the migrating group sometimes adopt the eating patterns and food choices of their new environment or host country (Tirelli et al., 2013, p. 104; Satia et al., 2003). However, which foods (ethnic or non-ethnic foods) are incorporated or lost during dietary acculturation depends on the situation of each migrant (Frewer et al., 2001, p. 336; Meng, 2008, p. 18), because access to certain foods may be limited by the physical, political, economic and sociocultural realities of migrants and the migrants' new environment (Weller & Turkon, 2014,

p. 58). For instance, previous studies have shown that the phenomenon of dietary acculturation occurs across several categories. For example, choosing Western or English foods, while rejecting traditional foods occurs either because one does not cook, or due to living in residence. Previous studies have pointed out that living in residence is one reason why many international students are unable to consume their cultural foods, as their cultural foods are not available in the school residences (Frewer et al., 2001, p. 336; Meng, 2008, p. 18; Stewin, 2013, p. 11).

Unequal Distribution of Cultural Foods and Dietary Acculturation by International

James (2004) points out that there is an unequal access to cultural foods, due to whether or not the communities in which international students choose to reside in the host country are supportive, such that these communities provide ethnic foods for international students in food banks, stores or restaurants (p. 357). For example, in certain parts of Canada such as Toronto, Vancouver and Winnipeg there is a widening popularity of certain ethnic stores or restaurants, such as: Asians (Chinese), Italian, French, Lebanese and Indian, whereas African restaurants or stores are less widely popular (Cleveland et al., 2009, p. 199; Edwards et al., 2010, p. 308; Devine, 2005, p. 124). This leads to some international students having better access to their cultural foods than their counterparts from other countries (James, 2004, p. 357). Studies have also shown that those international students who cannot access their cultural foods or who have lived longer in the host country devise strategies to resolve the issue of unavailability of cultural foods. As Tirelli et al. (2015) point out, some international students purchase available alternatives to their cultural foods, if their acceptable cultural foods are unavailable (p. 11), while some international students borrow or get cultural foods from their friends (Noyongoyo, 2012, p. 29; Stewin, 2013, p. 56).

Gender Differences, Gender Expectations and Dietary Acculturation

Previous studies have shown that gender also provides clues to social rules about food choices and influences the extent to which people promote their ethnic expression through foods (Blake et al., 2009, p. 2). Hence, findings of previous studies are that women exhibit greater ethnocentric tendencies than men (e.g., Sharma et al., 1995). For example, previous research reveal that women are more likely than men to be good targets for cultural foods because women are primarily responsible for food shopping and preparation (James, 2004, p. 355). This is because women are perceived to have special relationships with and responsibilities for food and nutrition in many cultures, especially for food within the family (Devine, 2005, p. 90, 124). Based on these studies, previous research has concluded that women are less accommodating, more conservative and more patriotic in maintaining their home culture and food values than men (Sharma et al., 1995, p. 29).

LITERATURE CONCLUSION

The Conceptual Model, Research Questions and Hypotheses

Based on the reviewed literature, while there is an extensive literature that examines various factors that may influence the acculturation patterns of international students in the host or new country, detailed research has not been done on the exploration of Berry's theory of acculturation in relation to the (un)availability of international students' cultural foods. This study assesses how international students acculturation patterns differ based on the (un)availability of their cultural foods within Halifax. Based on Berry's acculturation theory, this study mainly focuses on three acculturation strategies which International Students adopt when:

1) They decide to maintain their culture of origin, by mainly consuming more of their cultural foods and little or none of the host's country's foods. This acculturation strategy I refer to as *Separatism*.

2) They conform to the culture of their host country, by mainly consuming more of the host country's food and little or none of their Cultural foods. This acculturation strategy I refer to as *Assimilation*.

3) They decide to preserve and maintain their original cultural identity, while consuming equal quantity of their cultural and host country's foods. This acculturation strategy I refer to as *integration*.

As the above review indicates, dietary acculturation of international students is based on the physical, political, economic and sociocultural realities of migrants and their new environment (Weller & Turkon, 2014, p. 58). In that context, several key variables can be identified as predictors of dietary acculturation. This study explores the dietary acculturation of international students when they move from their home country to a new country.

HYPOTHESES

As discussed above, my research questions focus on: (1) whether international students' cultural foods are available in Halifax and how the (un)availability of their cultural foods influences them based on their demographic factors, and (2) whether the dietary acculturation pattern of international students is dependent on the (un)availability of their cultural foods in Halifax. Hence, I propose three hypotheses:

Hypothesis 1 (**H1**): I expect that international students' experiences of their cultural food (un)availability is a function of their demographic factors (continent of origin, gender, whether they live on-campus/off-campus), how they access their cultural foods, and what they eat (consumption pattern)

Hypothesis 2 (**H2**): I expect that international students' consumption behavior/acculturation pattern will differ based on their continent of origin and gender.

Hypothesis 3 (**H3**): I also predict that the consumption pattern/acculturation patterns of international students based on their continent of origin and gender will be explained by international students' cultural foods (un)availability in Halifax.

METHODOLOGY

Due to the nature of my research question, the diverse group of international students intended to be covered in this study, and the goal of my research, quantitative methods were more appropriate, because they demonstrate the association, significance and changes between my variables of interest (Adler & Clark, 2011, p. 413). Thus, an online survey administered using Opinio Software was used in obtaining data from diverse sample of international students in January and February 2016. After collecting data using the survey instrument, I carried out a statistical analysis in order to see the relationships and causal effect between different variables that I expected would influence the dietary acculturation patterns of international students. From this analysis, I compared the acculturation patterns of international students, which differed based on the international students' experiences of their cultural foods' (un)availability in Halifax.

Recruitment Apparatus

The nature of the sampling frame for this research posed some difficulties, since it screened out international students without a study permit. Due to the limited time constraints of the Honours Thesis, multiple strategies of participant recruitment were used in an attempt to reach the intended sample size. Thus, recruitment involved circulating emails (as shown in **Appendix1**) to professors and faculties at Dalhousie University, who served as gatekeepers. As gatekeepers, they were required to forward the second portion of the email (in **Appendix2**) to their course websites or to their e-mailing lists. This second portion of the email outlined the purpose of the experiment, the desire to recruit participants, and a link to the survey. A friend at the international students' centre and Black Student Advising Centre (BSAC) also generously

agreed to distribute my recruitment emails to the Dalhousie international students' e-mailing lists. Thus, I depended on these gatekeepers (professors, faculties and my friends, who are international students) to assist in recruitment.

The Population

The sample for this study is International Students at Dalhousie University who are 18 years or older. I studied this target population because they have more control over their lives and food choices than international students below 18 years, who are most likely supervised by their parents. The total number of participants in my study was 108 but only 81 respondents completed the survey. This is approximately 4% of the international students' population at Dalhousie University. Of the international students who answered the survey for this study, approximately 54% were women and 46% were men. Also, 42% of these participants are Asians, 34% were Africans, approximately 16% were Americans and approximately 8% were Europeans. The majority of respondents lived off-campus (83%), while approximately 17% lived on-campus, in a residence.

Survey Development

Ethical Statement

Participation in this study was strictly contingent on participants reading the consent form of the study, which provided the requirements and objectives of the survey (as shown in **Appendix 3**). However, groupings with less than 10 responses were discarded, in order to yield a more statistically significant data analysis and result. Confidentiality was not an issue in this study

because no identifying information was gathered from participants. So participants remained anonymous. However, all information provided by participants was kept confidential.

The Survey

The survey consisted of **33 questions** about international students' consumption habits, adaptation methods to foods in Halifax and ability to access their cultural foods in Halifax.

Appendix 3 provides the opening page of the survey, which consisted of the consent form. At the end of the consent form, the participants were asked whether or not they understood and consented to participate in the study. Once participants had consented, they were led to the screening questions page, which asked if participants are: 1.) International students and 2.) International students with a study permit. If the participant selected yes to both of these screening questions, they went through to the survey, and if no was selected, they were brought to the end of the survey.

The survey required that international students provide a definition of their cultural foods and Canadian foods by giving three examples. Based on their definition/examples, these international students were asked questions about their consumption behavior and availability of their cultural foods in Halifax (**Appendix 4**).

Limitations of Methodological Approach

However, the methodology of this study poses some limitations. First, because this study utilizes a survey for data collection, there was a low response and completion rate. Hence, amongst 108 participants who took this survey, only 81 participants completed the survey. This very low sample size (n=81) compared to what was desired (n=150) was mostly as a result of

screening out international students who did not have a study permit. This low sample led to many statistically insignificant results.

Another issue of this study was that majority of the participants were Asian, while very few were Americans and Europeans. This means that information on Americans and Europeans international students is less likely to be a good representation of the European and American international students' population.

This research is limited in scope, as the results of this study cannot be generalized to other international students in Canada, because there are possibilities that the experiences of international students in Halifax is different from their counterparts in other parts of Canada (James, 2004, p. 357). This issue of generalizability brings up the issue of reliability and validity of this study's data.

DATA ANALYSIS

Analysis Procedure

In order to analyze the data collected through the online survey, Opinio survey software generated a raw SPSS data file. Responses were then imported into a compatible STATA file. I then used STATA and Microsoft Excel to analyze and present data generated from the survey.

Treatment of the Data: First, I treated the data for missing values. For all Likert scale variables (Availability and Medium of Accessibility of Cultural foods in Halifax, Consumption Behavior in Canada) which ranged on a scale of 0 to 10, with 0 being "strongly disagree" and 10 being "strongly agree," I took scale 5 as the midpoint, in order to be symmetrical. Hence, I coded categories 0 to 5 as "strongly disagree," and categories 6 to 10 as "strongly agree". Then I

converted this ordinal categories into dichotomous categorical variables: No (replacing strongly disagree) or Yes (replacing strongly agree).

Data analysis was then predominantly focused on analyzing the distributions of variables (**Appendix 5**) using univariate analysis, and then the relationships between variables were analyzed through a bivariate and multivariate regression by logistic regression model. In the interpretation of the logistic regression tables, the odds of an event occurring is defined as "the ratio of the probability that an event will occur to the probability that it will not" (Pyke & Sheridan, 1993, p. 52). Hence, factors with values greater than one (**OR** > 1) indicate that the odds are increased; and those with values less than one (**OR** < 1) indicate that the odds are decreased (Pyke & Sheridan, 1993, p. 52).

In conducting the bivariate and multivariate regression of the variables in **Tables 1-3** (**Appendix 6-8**), I have used Asian international students as the reference category for origin, in order to compare how Asian international students' experiences of (un)availability of their cultural foods in Halifax might differ from their other counterparts from other countries (Africa, America and Europe) (**Appendix 6, 8**). This is because reviewed literature have shown that in most parts of Canada, there is a widening popularity of Asian ethnic stores or restaurants (Cleveland et al., 2009, p. 199; Stewin, 2013). Then, I randomly chose other reference categories: male participants as the reference category for gender (GEND) (as shown in **Appendix 6, 8**); those who are unable to find their cultural foods in Halifax (AOCF 1) is the reference category for availability of cultural foods (AOCF) (as in **Appendix 8**); those who are unable to find their cultural foods in Halifax's grocery store (EFGS 1) is the reference category for finding cultural foods in Halifax's grocery store (EFGS), while those who are unable to find their cultural foods in Halifax's restaurants (EFREST 1) were used as reference categories for

those who find their cultural foods in Halifax's restaurants (EFREST) (as in **Appendix 6, 8**). Those who are unable to get their cultural foods from friends (EFFRDS 1) have also been used as the reference categories for getting cultural foods from friends (EFFRDS) (as in **Appendix 6, 8**). Also, I have used those who are unable to consume Canadian foods (CCF 1) as the reference category for those who consume Canadian foods (CCF) (as in **Appendix 7**).

Variables:

As shown in **Appendix 5: Demographic Variables** for this study are: gender (female or male), location of residency (on-campus and off-campus) and continent of origin (Africa, America, Asia and Europe). The Asia category comprises international students from: Jordan, China, India, Iran, Kuwait and Pakistan, while the Africa category comprises international students from: Nigeria, Ghana, Sudan, Cameroon, Egypt and Zambia. Meanwhile, the America category comprises international students from: Brazil, The Caribbean, Bermuda, Bahamas and two participants from the United States, and the Europe category comprises international students from Turkey, Moldova, Norway, Italy and Czech Republic.

Operationalizing and Measuring Food Acculturation Patterns

Acculturation is a very subjective concept requiring multiple measures. In this paper, I have used international students' consumption behavior in Halifax as a proxy for international students' acculturation pattern while in the host country.

When analyzing Hypothesis 1 (**H1**), the dependent variable is (un)availability of international students' cultural foods referred to as AOCF in the variable list and logistic regression model, while the demographic factors (continent of origin (referred to as COO in the

variable list and logistic regression model), gender (GEND), whether one lives on campus or off-campus (LIVE)), and how they access their cultural foods (EFGS, EFREST, EFFRDS) are the independent variables.

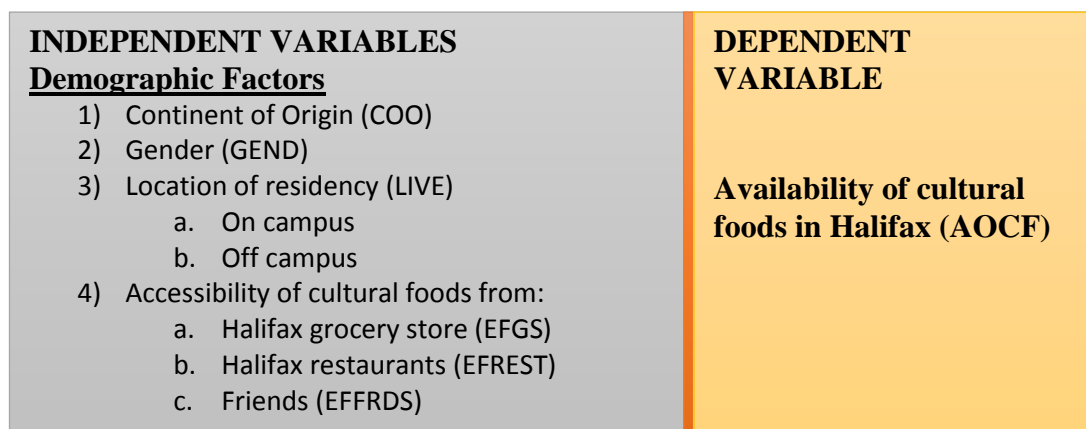


Figure 3: Diagram illustrating Hypothesis 1: “The Impact of Availability of Cultural foods on Socioeconomic and Accessibility Factors.”

Meanwhile, when analyzing **H2**, the dependent variable is consumption behavior of international students in Halifax, which is referred to as CEF (consumption of cultural foods) and CCF (consumption of Canadian foods) in the variable list and logistic regression model, while the continent of origin (COO) is the independent variable and gender is the control variable.

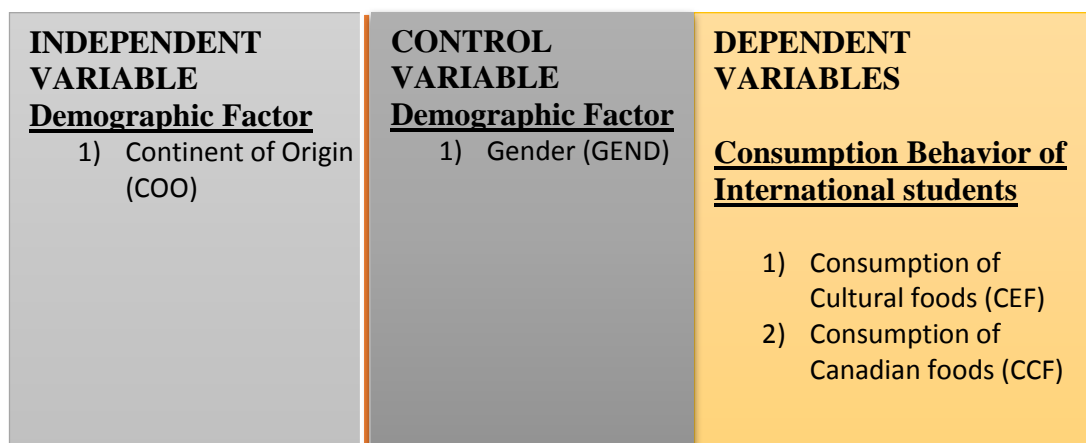


Figure 4: Diagram illustrating Hypothesis 2: “The Acculturation Pattern of International Students Based on Their Gender and Origin”

Also, when analyzing **H3**, the dependent variable is consumption behavior of international students (CEF (consumption of cultural foods) and CCF (consumption of Canadian foods)), while the continent of origin (COO) and gender are the independent variable and (un)availability of international students' cultural foods (AOCF) is the control variable.

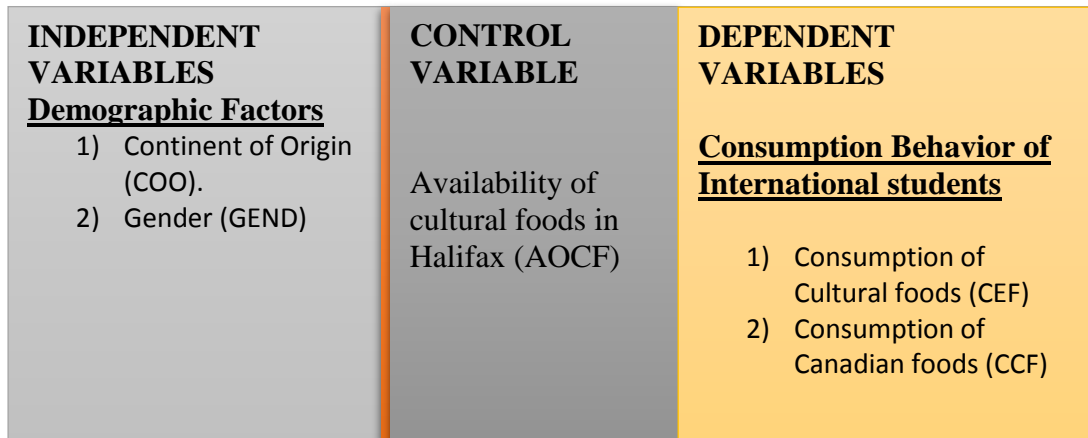


Figure 5: Diagram illustrating Hypothesis 3: “The Effect of Availability of Cultural Foods on the Acculturation Pattern of International Students”

RESULTS

Section 1: HYPOTHESIS 1- AVAILABILITY OF CULTURAL FOODS IN HALIFAX

Of those participants who answered the question whether their cultural foods are available to them in Halifax, 66% reported that their cultural foods were unavailable, while only 34% reported that their cultural foods were available (in **Appendix 12**). Of those participants who reported that their cultural foods were unavailable, majority of the participants reported that they do not find their cultural foods in Halifax's grocery store (60%). However, 40% reported that they find their cultural foods in Halifax's grocery stores. Also, more than half (73%) of the participants reported that they do not find their ethnic foods in Halifax restaurants, while only 27% reported that they find their ethnic foods in Halifax's restaurants. Almost half (48%) reported that they get their cultural foods from their friends, while 52% of the participants reported that they do not get their cultural foods from their friends (**Appendix 13**). Based on **Appendix 13**, one can conclude that the issue of unavailability of international students' cultural foods affects mostly those who are less likely to find their cultural foods in Halifax's grocery store/restaurants or get their cultural foods from friends. Looking at the differences in the odds ratio of the different means through which international students access their cultural foods as shown in **Table 1: Model 3**, international students reported a higher odds ratio in finding their cultural foods in Halifax's grocery stores than in Halifax's restaurants or from friends (**Appendix 14**). This means that majority of international students are most likely to find their cultural foods in Halifax's grocery stores than in Halifax's restaurants or from friends (**Appendix 14**). However, only results for those international students who find their ethnic foods in Halifax's grocery stores ($p \leq .01$) and restaurant ($p \leq .02$) are statistically significant (**Appendix 14: Model 3**).

Section 2: HYPOTHESIS 1B - AVAILABILITY OF CULTURAL FOODS IN HALIFAX: The Effect of Availability of International Students' Cultural Foods on Participants' Demographic factors.

In *Table 1, Model 1* shows that African, American and European international students are less likely than Asian international students to report having their ethnic foods available to them (**OR** <1). However, only results for African and American international students are statistically significant ($p \leq .04$). Based on this model and the predicted outcome of this model (**Model 1**, as seen in **Appendix 15**), one can deduce that Asian international students are more likely than other international students (African, American and European) to have their cultural foods available to them in Halifax (**Appendix 15**). However, European international students with an odds ratio (.61) greater than African (**OR** = .27) and American (**OR** = .103) international students are also more likely to report having their cultural foods available in Halifax than African, American and European international students. However, African international students report having their cultural foods available to them more than do American international students (as seen in **Model 1** and **Appendix 15**).

Regardless of the origin of participants, **Model 2** shows that the effect of unavailability of cultural foods (AOCF) on gender is higher for female international students (**OR** = .49) than male international students. Therefore, female international students are less likely than male international students to have their ethnic foods available to them ($p \leq .22$). Hence, from this model and the predicted values of this model (**Appendix 16**), one can deduce that male international students (62% in **Appendix 16**) are more likely than female international students to report having their cultural foods available to them in Halifax (*Table 1, Model 2* and **Appendix 16**).

Regardless of the origin and gender of participants, **Model 4** shows that the effect of unavailability of international students' cultural foods (AOCF) on the place of residency of international students is greater for those international students who stay on-campus. In other words, those international students who report that they live on-campus are less (**OR** < 1) likely than those who live off-campus to report having their cultural foods available to them (**Appendix 17**). This result is statistically significant at ($p \leq .05$).

[Table 1: About here]

Section 3: HYPOTHESIS 2- CONSUMPTION PATTERNS OF INTERNATIONAL STUDENTS IN HALIFAX

Using bivariate regression to analyze the consumption pattern of international students in Halifax, **Table 2, Model 5** shows that international students who reported that they consume Canadian foods in Halifax (**OR** <1), were less likely to consume their cultural foods than those who reported that they do not consume Canadian foods. Hence, from this model, those who reported that they consumed more of their cultural foods consumed less of Canadian foods ($p \leq .12$). Regarding the relationship between consumption of cultural/Canadian foods, I examined the scatterplot of these variables in **Appendix 19**, which visually displays a negative association between both consumption variables (**CEF** and **CCF**). Hence, an increase in the consumption of Canadian/Cultural foods will lead to a decrease in the consumption of Cultural/Canadian foods.

[Table 2: About here]

Differences in International Students' Consumption Pattern Based on their Origin

Based on the consumption pattern of international students in Halifax discussed above, I further explored whether international students' consumption behavior/acculturation pattern in Halifax differ based on their continent of origin and gender (in accordance with **H2**).

Looking at *Table 3 Model 6*, the odds that African, American and European international students will consume their cultural foods in Halifax is less than 1. This means that African, American and European international students are less likely than Asian international students to consume their cultural/ethnic foods in Halifax. However, African international students with an odds ratio (.475) greater than American and European (**OR** = .171) international students explains that African international students are more likely to report consuming more of their cultural foods than American and European international students (seen in predicted outcome, **Appendix 18**). Meanwhile, American and European international students have an equal level of consumption of their cultural foods (**OR** = .171). However, in this model, only results for American international students are statistically significant ($p \leq .04$).

A comparison of **Model 6 and 7** shows that there is an increase in the consumption of Canadian foods by African, American and European international students (**OR** > 1). It also shows that African, American and European international students are more likely than Asian international students to consume Canadian foods (**Appendix 18**). Based on the differences in the odds ratio and the predicted value of this model, African international students have an odds ratio (1.97) greater than that of American and European international students (**OR** = 1.90), and African international students report that they are most likely to consume more of Canadian foods than Asian, American and European international students (**Appendix 18**). Meanwhile,

American and European international students have an equal level of consumption of Canadian foods (**Appendix 18**). But, none of the results in this model (**Model 7**) were statistically significant as the p-values were greater than .05.

From this consumption pattern of international students based on their country of origin (as shown in **Appendix 18**), one can notice that there is a higher consumption of cultural foods and lower consumption of Canadian foods by Asian international students, compared to other international students (**Appendix 18, Model 6 and 7**). However, Africans, who reported that they consumed some of their cultural foods more than American and European international students did (**Model 6**), still reported more of an increase in their consumption of Canadian foods than Asian, American and European international students (**Model 7**). This makes it clear that African international students are less likely to maintain their cultural diet than American and European international students. Based on the predicted values in **Appendix 18**, one can notice an equal level of consumption of cultural and Canadian foods by Africans. This means that Africans are largely integrating into their host's diet. However, since American and European international students report consuming less of their cultural foods in Halifax (**Model 6**) and more likely to consume Canadian foods than Asian international students (**Model 7**), it is clear that American and European international students are assimilating into the host culture (**Appendix 18**).

Differences in International Students' Consumption Pattern Based on their Origin, while controlling for gender

Based on the consumption pattern of international students in Halifax (discussed in **Table 2 Model 5**), in **Table 3 Models 8 and 9**, I controlled for gender. Controlling for gender in **Model 8**, the association between international students' consumption of cultural foods and origin

increased only for African international students (compared to **Model 6**), who now displayed an odds ratio of .488 higher than .475 in **Model 6**. That is if gender is held constant, there will be a slight increase in the consumption of cultural foods by African international students. On the other hand, there was a decrease in the odds ratio for American and European international students: Americans now displayed an odds of .081 compared to .171 in **Model 6**, and Europeans displayed an odds of .145 compared to .171. This means that when accounting for international students' gender, there will be a slight decrease in the consumption of cultural foods by American and European international students.

Despite the differences between **Models 6** and **8**, in accounting for gender in **Model 8**, African, American and European international students (odds ratio < 1) were still less likely than Asian international students to consume their cultural/ethnic foods (**Appendix 20**). This result is the same as **Model 6**. **Model 8** also shows that African international students (as also in **Model 6**) were still more likely than American and European international students to consume their cultural foods in Halifax (**Appendix 20**). Meanwhile in **Model 8** (and in **Appendix 20**), European international students (as opposed to **Model 6**) reported a higher consumption of their cultural foods than did American international students (**Appendix 20**). In correspondence with **Model 6** and **Model 8** also shows that only the results for American international students was statistically significant ($p \leq .02$).

In addition to this result, when controlling for origin, female international students (OR < 1) were less likely than males to consume their cultural foods (**Appendix 20**). However, this is not statistically significant ($p \leq .28$).

In order to explore whether participants' consumption pattern is a function of gender in **Table 3 Model 9**, I accounted for participants' gender. When gender is held constant in **Table 3**

Model 9, participants reported that they consumed less of Canadian foods in Halifax than when reporting their consumption pattern based on their origin alone (in **Table 3 Model 7**).

Accordingly, African international students now displayed an odds ratio of 1.09 lower than 1.97 in **Model 7**. But Americans displayed an odds of .87 compared to 1.90 in **Model 7** and Europeans displayed an odds of 1.52 compared to 1.90. These differences between **Models 7** and **9** explain that when accounting for international students' gender, the consumption of Canadian foods decreases amongst African, American and European international students. Despite these decreases (**Model 9** and **Appendix 20**), African, American and European international students (odds ratio >1) were still more likely than Asian international students to consume Canadian foods (as seen in **Model 7**). Again, African international students (with a greater odds ratio) were more likely than Asian, American and European international students to consume Canadian foods in Halifax. Repetitively (as in **Model 7**), European international students reported a higher consumption of Canadian foods than did American international students (**Model 9** and **Appendix 20**). However, none of the results for international students' country of origin was statistically significant, as the p-values were greater than .05. Additionally, when controlling for origin in this model (**Model 9**), female international students (odds ratio > 1) were more likely than males to consume Canadian foods. And, this is statistically significant ($p \leq .03$)

From these consumption variables, Consumption of Cultural foods (CEF) and Canadian foods (CCF), while accounting for gender, Asian international students still reported consuming more of their cultural foods and less of Canadian foods (**Models 6 and 7; Models 8 and 9; Appendix 20**). This means that despite their gender, they (Asian international students) were still likely to maintain their cultural diet (separation). Meanwhile, African international students reported that they consumed more of their cultural foods (CEF) and decreased their consumption

of Canadian foods (CCF). **Appendix 20** shows that when controlling for gender, African international students consumed more of their cultural foods and less Canadian foods. This means that they are more likely to maintain their cultural diet than assimilate into the culture of their host (integration). On the other hand (**Appendix 20**), American and European international students reported that they consumed less of their cultural foods and more Canadian foods. This means that they were assimilating into the culture of their host. In addition to this, male international students reported that when controlling for origin, they are more likely than female international students to consume their cultural foods and less Canadian foods (**Appendix 21**). This means that they are more likely to maintain their cultural diet than female international students.

Section 4: HYPOTHESIS 3 - THE EFFECT OF (UN)AVAILABILITY ON THE DIETARY PATTERN OF INTERNATIONAL STUDENTS BASED ON ORIGIN AND GENDER

Having analyzed the relationships between gender, origin and consumption of cultural foods (CEF) and Canadian foods (CEF), I added AOCF (availability of cultural foods) to the control variable, gender, in order to explore whether the dietary pattern of international students is affected by (un)availability of international students' cultural foods in Halifax.

The results from the multiple regression (*Table 3, Model 10*) show that when accounting for availability of cultural foods, the association between consumption of cultural foods, origin and gender in **Model 8** increased in **Model 10** for only African, American and female international students, and decreased for only European international students. Thus, we see that African international students displayed an odds ratio of .92 higher than .48 (in **Model 8**), American international students displayed an odds of .13 compared to .08 (in **Model 8**) female

international students displayed an odds of .52 compared to .62 (in **Model 8**), and European international students displayed an odds of .14 compared to .10 (in **Model 8**). This increase in the odds ratio of African and American and female international students means that when accounting for availability of cultural foods, there will be an increase in the consumption of cultural foods by African, American and female international students, while there will be a decrease in the consumption of cultural foods by European international students. Hence, availability of cultural foods will promote an increase in consumption of cultural foods by African and American international students. This would promote maintenance of their culture and prevent these international students from abandoning those cultures for the host culture.

Despite this increase/decrease in the consumption of cultural foods by international students, when controlling for gender and availability in **Model 10**, African, American and European international students were less likely than Asian international students to consume their cultural foods (**Appendix 22**). None of the results for origin in this model were significant, as the p-values were greater than .05. On the other hand, when controlling for origin and availability, female international students still reported that they were less likely than male international students to consume their cultural foods in Halifax (**Appendix 23**). However, this result was not statistically significant ($p \leq .48$). Additionally, those international students who reported having their cultural foods ($OR > 1$) were more likely than those whose cultural foods were unavailable to consume their cultural foods. This result is statistically significant ($p \leq .005$). Therefore this means that availability of cultural foods determines the extent to which one consumes their cultural foods, and the extent to which one acculturates in Halifax.

The results from the multiple regression (**Table 3, Model 11**) show that when accounting for availability of cultural foods, the association between international students' consumption of

Canadian foods, origin and gender diminishes. We see this as African international students displayed an odds ratio of .90 lower than 1.09 (in **Model 9**), American international students displayed an odds of .71 compared to .87 (in **Model 9**) and European international students displayed an odds of 1.44 compared to 1.52 (in **Model 9**), while female international students displayed an odds of 4.05 compared to 4.30 (in **Model 9**). Based on this, there will be a decrease in the consumption of Canadian foods by international students, when international students' cultural foods are available. Despite this decrease in the consumption of Canadian foods by international students, when controlling for gender and availability (**Model 11**), African, American and European international students reported that they consumed less Canadian foods than Asian international students. None of the results for origin in this model were statistically significant. However, when controlling for origin and availability of cultural foods, female international students report that they consumed more Canadian foods than male international students (**Appendix 23**). This result is statistically significant ($p \leq .03$). Additionally, those international students who reported having their cultural foods ($OR > 1$) were more likely than those whose cultural foods were unavailable to consume their cultural foods. This result is not statistically significant ($p \leq .40$).

From this section, one can conclude that indeed, availability of international students' cultural foods will mostly decrease their consumption of Canadian foods and increase their consumption of their cultural foods (**Model 10** and **Model 11**). Therefore, availability of international students' cultural foods determines what international students eat and how they acculturate in Halifax. Consequently, availability of cultural foods helps international students to maintain their cultural diets, rather than assimilate into the host country's diet. From this, I

certify that my hypothesis that acculturation patterns of international students is based on (un)availability of international students' cultural foods is, in fact, true.

Given the influence of availability on the dietary acculturation pattern of international students in Halifax, **Appendix 22** shows that when international students' cultural foods are available and one considers their gender, then Asian and African international students are likely to maintain their cultural diet, as they consume more of the cultural foods and less of Canadian foods. Meanwhile, Americans and Europeans consume less of their cultural foods and more of Canadian foods, even when their cultural foods are available. This means that they are assimilating into their host country's culture, rather than maintaining their dietary culture of origin. On the other hand, when cultural foods are available, female international students still consumed less of their cultural foods and more of Canadian foods. This means that they are assimilating faster into their host culture than their male counterparts.

DISCUSSION

Based on my research questions and the results of the data, this study shows that international students' cultural foods are readily available in Halifax's grocery stores (e. g Sobeys, Superstore), and in Halifax's restaurants (**Appendix 12, 14**). However, majority of the international students in this study reported that are most likely to look for their ethnic foods from Halifax's grocery stores than through other media (Halifax's restaurants or from their friends). In order to deal with the unavailability of their cultural foods in Halifax, many (48% as shown in **Appendix 13**) international students in Halifax either borrow or get their ethnic foods from their friends. Hence, increased availability of international students' cultural foods in Halifax's grocery stores could promote availability of their cultural foods within Halifax.

This study also shows that international students experience the problems of unavailability of cultural foods as a function of demographic factors: origin, gender and location of residency (whether one lives on campus or off-campus). For instance, African, American and European international students, female international students, and international students who live on-campus are most likely to not have their cultural foods available in Halifax (**Appendix 9-18**).

Furthermore, this thesis also shows that what international students consume within their host country depends on the (un)availability of their cultural foods. Therefore, an increase in the availability of international students' cultural foods will lead to an increase in the consumption of their cultural foods and a decrease in their consumption of Canadian foods, while a decrease in the availability of international students' cultural foods will lead to an increase in their consumption of Canadian foods. Thus, availability of international students' cultural foods determines whether these students maintain their dietary culture of origin or conform to the

dietary culture of their host. For instance, when international students' cultural foods are available in Halifax, Africans and Asians reported a separatist diet: they were consuming less of their host country's foods and more of their cultural foods. Meanwhile, European and American international students maintained an assimilated diet, as they were consuming less of their cultural foods and more of their host country's foods. However, regardless of availability of their cultural food Asians still maintained a separatist diet, while African, European and American international students maintained an assimilated diet.

CONCLUSION

This thesis has looked into the determinable patterns of the consumption of cultural foods by international students in Halifax. The major variable around which the process of assimilation into Canadian dietary culture by these students was assessed is the availability of the appropriate cultural foods, from which the findings broadly disclose that the more available international students' cultural foods are, the more African and Asian students choose them over Canadian food. On the contrary, the findings disclose that irrespective of availability of cultural foods, American and European international students tend to eat more Canadian food than foods from their countries of origin.

An important demographic variable in the study is the degree of consumption of these foods between male and female international students and international students of different origin. Overall, more African, Asian and female international students eat more Canadian foods compared to their cultural foods than do their male counterparts. The same goes for American and European females as against their male counterparts. The general outcome for acculturation is that in Halifax, international students from Africa and Asia assimilate into Canadian dietary culture, much more slowly than their American and European counterparts. In both groups however, acculturation is greater amongst females than males.

Based on the findings of this study, one can conclude that many international students who reside in Halifax experience unavailability of their cultural foods (**Appendix 12**). This is because most of them do not find their cultural foods in Halifax's grocery stores or restaurants, yet, many international students are less likely to borrow or get their cultural foods from their friends (**Appendix 13**). Based on the experiences of these students, one can deduce that Halifax, as a community, is less supportive of most groups of international students (African, American

and European international students), than it is of Asian international students (James, 2004, p. 357). This is evidenced as some international students (Asian international students) have better access to their cultural foods than their counterparts from other countries (African, Europe and America). In fact, there is a wide popularity of and access to Asian international students' cultural foods in Halifax.

Correspondingly, this unequal distribution and access to cultural foods among international students in Halifax greatly affects the dietary acculturation patterns among international students. Most of these students then consume less of their cultural foods, because those foods are unavailable in Halifax. This means that most international students residing in Halifax, like those from Africa, America and Europe lack the opportunity to express their sense of self, cultural identity and beliefs through the consumption of their cultural foods (Allan, 2013, p. 59-78; Amos & Lordly, 2014, p. 62; Stewin, 2013, p. 1-2). Overall, African, American and European international students than Asian international students are likely to experience cultural insecurity while residing in Halifax (Amos & Lordly, 2014, p. 62; Stewin, 2013, p. 1-2).

To ameliorate the deprivation imposed by unavailability of cultural foods, as an aspect of surviving in a new/host culture, in Halifax, some international students (52%, **Appendix13**) borrow their cultural foods from their friends (Noyongoyo, 2012, p. 29; Stewin, 2013, p. 56). Even so, most international students (African, American and European), who experience unavailability of their cultural foods in Halifax resort to consuming mostly Canadian foods, these being more convenient, easily available and accessible (Tirelli et al., 2015, p. 11; Satia-Abouta, 2003, p. 75).

The findings of this study, therefore highlights the need to note that unavailability of cultural foods to international students in Halifax affects international students' dietary patterns

and their opportunity to maintain their sense of self, cultural identity and beliefs through the consumption of their cultural foods (Allan, 2013, p. 59-78; Amos & Lordly, 2014, p. 62; Stewin, 2013, p. 1-2). For instance, the unavailability of international students' cultural foods in Halifax significantly influences females than male international students in Halifax (**Appendix 21 and 24**). This influences female international students to become less culturally conservative and patriotic as they begin to consume less of their cultural foods and more of Canadian foods. In this way, they assimilate into Halifax rather than maintain their cultural dietary roots and traditions. Another set of international students who find their cultural foods unavailable are those who live on-campus. These students lack access to their cultural foods mainly because such foods are not available to them in their school residences (Frewer et al., 2001, p. 336; Meng, 2008, p. 18; Stewin, 2013, p. 11).

From this study, one can confidently conclude that African, American and European international students assimilate into Halifax (the host culture), as they abandon or weaken in their desire to maintain and express their culture in relation to diet, as their cultural foods are unavailable in Halifax. Evidence for this shift among African, American and European international students appears in their consumption of mostly Canadian foods, as opposed to their cultural foods.

To reverse this observable culture loss, it would help if the Canadian government, Canadian universities, and various cultural communities in Canada do their best to broaden the scope and numbers of cultural food items in the mainstream stores, groceries, restaurants, corner stores and others, within Halifax. This effort would promote the maintenance of international students' cultures. To these students, their traditional or cultural foods are of great importance to them for communicating who they are while they reside in Halifax.

LIMITATIONS AND RECOMMENDATIONS

Despite the significance of this study, this study has failed to explore the effect of many important variables (example: family structure: marital status; household income, age, length of residency in Halifax) that may have had a significant impact on the consumption pattern of international students.

In order to accommodate for these limitations, further studies should look more carefully at other aspects of international students, such as: the effect of family structure: marital status; household income, age, length of residency on the acculturation pattern of international students in Halifax. Further studies can also be done specifically on the impact of availability of cultural foods on international students' academic success. For such, studies could survey a large number of international students, in order to account for differences amongst the international students' population.

REFERENCES

- Adler, E. S., & Clark, R. (2011). Chapter 15: Quantitative and Qualitative Data Analysis. In *An invitation to social research: How it's done* (4th ed., pp. 411-465). Belmont, CA: Wadsworth.
- Allan, K. (2013). "Imaging The Self - Goffman, Erving". In *Contemporary Social and Sociological Theory* (3rd ed., pp. 59-78). Los Angeles: Sage Publications, Inc.
- Almerico, G. M. (2014). Food and identity: Food studies, cultural, and personal identity. *Journal of International Business and Cultural Studies*, 8, 1-7. Retrieved from <http://www.aabri.com/manuscripts/141797.pdf>
- Amos, S., & Lordly, D. (2014). Picture This: A Photovoice Study Of International Students' Food Experience in Canada. *Canadian Journal of Dietetic Practice and Research*, 75(2), 59-63. Retrieved from <http://search.proquest.com.ezproxy.library.dal.ca/docview/1622369369/fulltextPDF?accountid=10406>
- Berry, J. W. (1997). Lead Article - Immigration, Acculturation, and Adaptation. *Applied Psychology: An International Review*, 46(1), 5-34. doi:10.1080/026999497378467
- Berry, J. W., & Sam, D. L. (1997). Chapter 8: Acculturation and Adaptation. In *Handbook of Cross-Cultural Psychology: Volume 3, Social Behavior and Applications* [Digital] (2nd ed., pp. 291-319). Retrieved from https://books.google.ca/books?hl=en&lr=&id=Z0L7dwJKel8C&oi=fnd&pg=PA291&dq=food+acculturation+to+international+students&ots=hDlSK5pq9J&sig=kBqvUf3EQ_n6TDjSqmrHRx5TsMQ#v=snippet&q=cook&f=false

- Blake, C. E., Devine, C. M., Wethington, E., Jastran, M., Farrell, T. J., & Bisogni, C. A. (2009). Employed parents' satisfaction with food-choice coping strategies. Influence of gender and structure. *Appetite*, 52(3), 711-719. doi:10.1016/j.appet.2009.03.011
- Brown, L., Edwards, J., & Hartwell, H. (2010). A taste of the unfamiliar. Understanding the meanings attached to food by international postgraduate students in England. *Appetite*, 54(1), 202-207. Retrieved from <http://www.sciencedirect.com.ezproxy.library.dal.ca/science/article/pii/S019566630900645X>
- CBC. (2014, January). Canada wants to double its international student body - British Columbia - CBC News. Retrieved from <http://www.cbc.ca/news/canada/british-columbia/canada-wants-to-double-its-international-student-body-1.2497819>
- CBIE. (2015). *The Canadian Bureau for International Education | » Facts and Figures*. Retrieved from <http://www.cbie.ca/about-ie/facts-and-figures/>
- Chapman, G. E., & Beagan, B. (2013). Food Practices and Transnational Identities: Case Studies Of Two Punjabi-Canadian Families. *British Food Journal*, 16(3), 367-386. doi:10.1108/00070700810849916
- Cleveland, M., Laroche, M., Pons, F., & Kastoun, R. (2009). Acculturation and consumption: Textures of cultural adaptation. *International Journal of Intercultural Relations*, 33, 196-212. doi:10.1016/j.ijintrel.2008.12.008
- Devine, C. M. (2005). A Life Course Perspective: Understanding Food Choices in Time, Social Location, and History. *Journal of Nutrition Education and Behavior*, 37(3), 121-128. doi:10.1016/S1499-4046(06)60266-2

- Edwards, J. S., Hartwell, H. L., & Brown, L. (2010). Changes in food neophobia and dietary habits of international students: Food neophobia and international students. *Journal of Human Nutrition and Dietetics*, 23, 301-311. doi:10.1111/j.1365-277X.2010.01066.x
- Etkin, N. L. (2006). *Edible medicines: An ethnopharmacology of food*. Tucson: University of Arizona Press.
- Frewer, L. J., Risvik, E., & Schifferstein, H. (2001). *Food, People and Society: A European Perspective of Consumers' Food Choices*. Retrieved from https://books.google.ca/books?id=waPyCAAQBAJ&pg=PA50&lpg=PA50&dq=perceptions+of+foods+amongst+people+who+cook+and+people+who+do+not+cook&source=bl&ots=XLRaYIMnMr&sig=yUT1qYPrCWbdN5-v7J3OGg-2NS4&hl=en&sa=X&ved=0CEsQ6AEwCGoVChMIqtLpis31yAIVBnc-Ch2wPwr_#v=snippet&q=cook&f=false
- Gallegos, D., Ramsey, R., & Ong, K. W. (2013). Food insecurity: is it an issue among tertiary students? doi:10.1007/s10734-013-9656-2
- Garnsey, P. (1999). Introduction: Food, substance and symbol. *Food and Society in Classical Antiquity*, 1-11. doi:10.1017/cbo9780511612534.002
- Hartwell, H. J., Edwards, J. S., & Brown, L. (2011). Acculturation and food habits: lessons to be learned. *British Food Journal*, 113(11), 1393 - 1405. doi:10.1108/00070701111180003
- Hippocrates Quotes (Author of Hippocratic Writings). (n.d.). Retrieved from <https://www.goodreads.com/author/quotes/248774.Hippocrates>
- James, D. (2004). Factors influencing food choices, dietary intake, and nutrition-related attitudes among African Americans: Application of a culturally sensitive model. *Ethnicity & Health*, 9(4), 349-367. doi:10.1080/1355785042000285375

- Kwon, D. Y. (2015). What is ethnic food? *Journal of Ethnic Foods*, 2(1). Retrieved from [http://www.journalofethnicfoods.net/article/S2352-6181\(15\)00002-5/pdf](http://www.journalofethnicfoods.net/article/S2352-6181(15)00002-5/pdf)
- MacClancy, J., Henry, C. J., & Macbeth, H. M. (2007). *Consuming the inedible: Neglected dimensions of food choice*. New York: Berghahn Books.
- Maslow, A. H. (1943). Maslow's Hierarchy of Needs | Research History. Retrieved from <http://www.researchhistory.org/2012/06/16/maslows-hierarchy-of-needs/>
- Meng, X. (2008). *Contextual factors influencing dietary practices of Chinese Canadian seniors: Elderly Chinese Canadians' perspectives* (AAIMR38127) (Master's thesis). Retrieved from ProQuest Dissertations and Theses database. (AAIMR38127)
- Nicolaou, M., Doak, C. M., Dam, R. M., Brug, J., Stronks, K., & Seidell, J. C. (2009). Cultural and Social Influences on Food Consumption in Dutch Residents of Turkish and Moroccan Origin: A Qualitative Study. *Journal of Nutrition Education and Behavior*, 41(4), 232-241. doi:10.1016/j.jneb.2008.05.011
- Noyongoyo, B. (2012). *International students in US colleges and universities: Eating habits, cultural identity, and dietary acculturation* (Unpublished master's thesis). East Carolina University, Greenville, NC.
- Perez-Cueto, F., Verbeke, W., Lachat, C., & Winter, A. M. (2009). Changes in dietary habits following temporal migration. The case of international students in Belgium. *Appetite*, 52, 83-88. doi:10.1016/j.appet.2008.08.005
- Pieroni, A., & Price, L. L. (2006). *Eating and healing: Traditional food as medicine*. New York: Food Products Press.
- Pyke, S. W., & Sheridan, P. M. (1993). Logistic Regression Analysis of Graduate Student Retention. *The Canadian Journal of Higher Education*, 13(2), 44-64.

doi:10.1007/springerreference_83370<http://journals.sfu.ca/cjhe/index.php/cjhe/article/view/183161>

RCI. (2015, August 6). International students increasing in Canada. Retrieved from

<http://www.rcinet.ca/en/2015/08/06/international-students-increasing-in-canada/>

Satia-Abouta, J. A. (2003). Dietary Acculturation: Definition, Process, Assessment, and Implications. *International Journal of Human Ecology*, 4(1), 71-86. Retrieved from <http://www.khea.or.kr/InternationalJournal/2003/4-1/7.PDF>

Sharma, S., Shimp, T. A., & Shin, J. (1995). Consumer Ethnocentrism: A Test of Antecedents and Moderators. *Journal of The Academy of Marketing Science*, 23(1), 26-37.

doi:10.1177/0092070395231004

Stewin, E. (2013). *An Exploration of Food Security and Identity Among International Students Studying in Guelph and Windsor, Ontario, Canada* (Unpublished doctoral dissertation). The University of Guelph, Ontario.

Tirelli, C., Martínez-Ruiz, M. P., & Gómez-Ladrón-De-Guevara, R. (2013). Major influences on buying decision processes by international university students. Differences by continent of origin. *Appetite*, 71, 104–112. Retrieved from http://ac.els-cdn.com/ezproxy.library.dal.ca/S0195666313003450/1-s2.0-S0195666313003450-main.pdf?_tid=01174046-66c8-11e5-80f6-00000aab0f02&acdnat=1443544670_10095d14497135e1d87a50805b520500

Tirelli, C., Martínez-Ruiz, M. P., & Gómez-Ladrón-De-Guevara, R. (2015). Assessing the Impact of Ethnocentrism in the Food Buying Decisions of International University Students. *Journal of Food Products Marketing*, 0(0), 1-29. Retrieved from

<http://www.tandfonline.com.ezproxy.library.dal.ca/doi/pdf/10.1080/10454446.2014.940>

115

Trichopoulou, A., Soukara, S., & Vasilopoulou, E. (2007). Traditional foods: a science and society perspective. *Trends in Food Science & Technology*, 18(8), 420-427.

doi:10.1016/j.tifs.2007.03.007

Weller, D. L., & Turkon, D. (2014). Contextualizing the Immigrant Experience: The Role of Food and Foodways in Identity Maintenance and Formation for First- and Second generation Latinos in Ithaca, New York. *Ecology of Food and Nutrition*, 54(1), 57-73.

Retrieved from

<http://www.tandfonline.com.ezproxy.library.dal.ca/doi/pdf/10.1080/03670244.2014.922>

071

Williams, J. (2013). International Students and the Future of Nova Scotia's

Universities. *Students Nova Scotia*, 1-88. Retrieved from <http://studentsns.ca/wp-content/uploads/2013/06/SNS-Int-Stud-Report.pdf>

APPENDICES

APPENDIX 1: RECRUITMENT EMAIL

(Email to gatekeepers: course professors, instructors, friends who are international students at Dalhousie University)

Dear,

I am writing to request your assistance in collecting data for my honours thesis project. I am an honours Sociology student at Dalhousie University. My thesis is on the eating habits, expression of cultural Identity through foods, and dietary acculturation patterns of international students. Dietary acculturation is associated with migrants' incorporation of new food ways (non-ethnic foods) and the loss of their traditional or ethnic foods (foods originating from a heritage and culture of an ethnic group). The study invites international students to fill out a survey and; it is in this regard that I am emailing you. I am trying to get as many international students at Dalhousie University as I can, to take the online survey. **It would be greatly appreciated if you could forward the information about my study below to any international students you may know at Dalhousie University.** The survey can be taken any time and is estimated to take about 15 minutes to complete. Students can access the survey at (LINK TO OPINIO SURVEY). I really appreciate and thank you in advance for your help.

Please do not hesitate to contact me if you have any further questions concerning the study. Students can contact me directly at 902-322-4418 or bt946925@dal.ca, or my honours supervisor, Dr. Emma Whelan at 902-494-6752 or by email: emma.whelan@dal.ca if they have any questions about the survey and/or the study.

Thank you kindly,
Betty Chukwu.

APPENDIX 2: RECRUITMENT EMAIL

(The following e-mail can be copied and pasted or forwarded to any international student at Dalhousie University)

Hello,

This is an invitation to participate in an online survey conducted through Dalhousie University. This research investigates the following questions: **How availability and unavailability of cultural foods influences the acculturation patterns of international students in Halifax.** If you are an international student at Dalhousie University, you are qualified to participate. The survey should take about 15 minutes to complete. Please, follow the link below to access the survey. (LINK TO OPINIO SURVEY).

My goal is to get as many international students at Dalhousie University as I can, to take the online survey. **It would be greatly appreciated if you could forward the information about my study to any international student you may know at Dalhousie University. I really appreciate and thank you in advance for your help.**

Please do not hesitate to contact me if you have any further questions concerning the study. Students can contact me directly at 902-322-4418 or bt946925@dal.ca, or my honours

supervisor, Dr. Emma Whelan at 902-494-6752 or by email: emma.whelan@dal.ca if they have any questions about the survey and/or the study.

Thank you kindly,
Betty Chukwu.

APPENDIX 3



*Faculty of Arts and
Social Sciences*

CONSENT FORM

ASSESSING HOW THE AVAILABILITY AND UNAVAILABILITY OF CULTURAL FOODS INFLUENCE THE ACCULTURATION PATTERNS OF INTERNATIONAL STUDENTS

You are invited to take part in a research conducted by me, Betty Chukwu, an undergraduate student in sociology, as part of my honours degree at Dalhousie University.

As a participant in the research you will be asked to complete 27 questions about your eating habits, adaptation methods to foods in Halifax and, if you are able to access your cultural foods in Halifax. This is in order to examine the influences of the availability or unavailability of cultural foods on the patterns of acculturation of international students. **Please know that your name or other contact information is not required in this survey.** The survey will take about 15 minutes or less. Your information in this survey is vital to my final report and presentation of this honour's thesis.

Your participation in this research is entirely voluntary. You are welcome to stop the survey at any time if you no longer want to participate. The information that you provide in this survey is anonymous, which means you will not be asked for any identifying details. The survey does not ask for your name.

The risks associated with this study are no greater than those you encounter in your everyday life. However, if you feel uncomfortable answering specific questions, you can either choose the **"prefer not to answer" option** if it is available to that question or you could withdraw from participating. However, no grouping with less than 10 responses will be reported. If you would like to know how your information is been used, please feel free to contact me and I will send you a copy of my honours thesis after April 30, 2016.

Only the honours class supervisor and I will have access to the unprocessed information you offer. I will describe and share general findings in a presentation to the Sociology and Social Anthropology Department and in my honours thesis report. Nothing that could identify you will be included in the presentation or the thesis. I will keep anonymized information so that I can learn more from it as I continue with my studies.

If you have questions or concerns about the research please feel free to contact me or the honours class supervisor. My contact information is 902-322-4418 or by email: bt946925@dal.ca . You can contact the honours class supervisor, Dr. Emma Whelan, at the Department of Sociology and Social Anthropology, Dalhousie University on (902) 494-6752, or by email: emma.whelan@dal.ca .

If you have any ethical concerns about your participation in this research, you may contact Catherine Connors, Director, Research Ethics, and Dalhousie University at (902) 494-1462, or email ethics@dal.ca .

Participant's consent:

I have read the above information and I agree to participate in this study.

Signature _____ Date: _____

Researcher's signature _____ Date: _____

FOR ONLINE SURVEYS: (by clicking on the start button of the survey, you consent to participating in the survey).

APPENDIX 4: SURVEY**AVAILABILITY OF INTERNATIONAL STUDENTS' ETHNIC/CULTURAL FOODS IN
HALIFAX****A. PLEASE CAN YOU PROVIDE SOME BACKGROUND INFORMATION ABOUT
YOURSELF?****1. Are you an international student?**

- Yes
- No (please exit, and thank you for your participation)

2. Are you in Canada with a study permit?

- Yes
- No (please exit, and thank you for your participation)

3. Where do you live?

- On campus
- Off campus (move to question 5)
- Other (please specify)_____

4. Do you have a meal plan?

- Yes
- No

5. In your opinion, how different is what people eat in Canada different from what you eat at your home country?

- Not different
- A little different
- Fairly different
- Very different

6. Do you miss foods from home?

- Never
- Rarely
- Sometimes
- Very often
- Always

B. PLEASE PROVIDE INFORMATION ON YOUR CONSUMPTION AND FOOD-PURCHASING BEHAVIOR IN HALIFAX**7. Please specify three of your ethnic foods that you eat (foods that are specific to your own ethnic group)**

8. Thinking about those ethnic foods you mentioned above, on a scale of 0 to 10 with 0 = “never” and 10 = “always,” how often do you buy those ethnic foods? (please circle option below)

0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10

9. Thinking about those ethnic foods you mentioned above, on a scale of 0 to 10 with 0 = “never” and 10 = “always,” how often do you eat those ethnic foods? (please circle option below)

0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10

10. Please specify three Canadian foods you know

- 11. Thinking about those Canadian foods you mentioned above, on a scale of 0 to 10 with 0 = “never” and 10 = “always,” how often do you buy those Canadian foods? (please circle option below)**

0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10

- 12. Thinking about those Canadian foods you mentioned above, on a scale of 0 to 10 with 0 = “never” and 10 = “always,” how often do you eat those Canadian foods? (please circle option below)**

0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10

- 13. Please specify three ethnic foods of other countries other than your own ethnic or Canadian foods**
-

- 14. Thinking about those ethnic foods of other countries you mentioned above, on a scale of 0 to 10 with 0 = “never” and 10 = “always,” how often do you buy those ethnic foods? (please circle option below)**

0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10

- 15. Thinking about those ethnic foods of other countries you mentioned above, on a scale of 0 to 10 with 0 = “never” and 10 = “always,” how often do you eat those ethnic foods? (please circle option below)**

0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10

C. PLEASE TRY TO RECALL YOUR CONSUMPTION PATTERN BEFORE YOU MOVED TO CANADA

- 16. Thinking about those ethnic foods, Canadian foods and the ethnic foods of other countries that you mentioned above: On a scale of 0 to 10 with 0 = “never” and 10 = “always,” how often did you eat the following foods before you moved to Canada?**

your ethnic foods: foods specific to your own ethnic group	0	1	2	3	4	5	6	7	8	9	10
Western or Canadian foods	0	1	2	3	4	5	6	7	8	9	10
Foods from other countries different from your own ethnic foods and Western or Canadian foods	0	1	2	3	4	5	6	7	8	9	10

D. PLEASE PROVIDE INFORMATION ON YOUR CONSUMPTION AND FOOD-PURCHASING PATTERN IN HALIFAX: THIS SECTION IS ABOUT HOW YOU ADAPT IN CANADA

- 17. Thinking about your ethnic foods you mentioned above, on a scale of 0-10, with 0 = “never” and 10= “always”, to what degree do you find your ethnic foods from the following food vendors in Halifax?**

Grocery stores (e.g. Sobeys, Superstore)	0	1	2	3	4	5	6	7	8	9	10	not applicable (N/A)
Foodbanks	0	1	2	3	4	5	6	7	8	9	10	N/A
Restaurants (this also includes fast-food restaurants)	0	1	2	3	4	5	6	7	8	9	10	N/A
Dining hall	0	1	2	3	4	5	6	7	8	9	10	N/A
Get your ethnic foods from your Friends	0	1	2	3	4	5	6	7	8	9	10	N/A

- 18. Thinking about the list of foods you provided in questions 8-10 (your ethnic foods, Canadian foods and ethnic foods of other countries): On a scale of 0-10 with 0 = “strongly disagree” and 10 = “strongly agree”, to what degree do you get or eat your ethnic foods from the following food providers?**

	strongly disagree 0	1	2	3	4	5	6	7	8	9	strongly agree 10
specialized ethnic store that caters to your ethnic group	0	1	2	3	4	5	6	7	8	9	10
specialized ethnic store that caters to the ethnic group of other countries	0	1	2	3	4	5	6	7	8	9	10
specialized ethnic restaurants that caters to your ethnic group	0	1	2	3	4	5	6	7	8	9	10
specialized ethnic restaurants that caters to the ethnic group other countries	0	1	2	3	4	5	6	7	8	9	10

E. PLEASE PROVIDE INFORMATION ON YOUR PERCEPTION OF FOODS

- 19. Thinking about the list of foods you provided in questions 8-10 (your ethnic foods, Canadian foods and ethnic foods of other countries): On a scale of 0-10 with 0 = “strongly disagree” and 10 = “strongly agree”, to what degree do you agree with the following statements?**

	strongly disagree 0	1	2	3	4	5	6	7	8	9	strongly agree 10	N/A
My ethnic foods are available in Halifax	0	1	2	3	4	5	6	7	8	9	10	N/A
If my ethnic foods are available in Halifax and expensive, I will still buy them	0	1	2	3	4	5	6	7	8	9	10	N/A
If my ethnic foods are available in Halifax and expensive, I will buy them somewhere else	0	1	2	3	4	5	6	7	8	9	10	N/A
If my ethnic foods are unavailable in Halifax, I will order them from somewhere else	0	1	2	3	4	5	6	7	8	9	10	N/A
Even if my ethnic foods are available in Halifax, I will still order them from somewhere else	0	1	2	3	4	5	6	7	8	9	10	N/A

20. Thinking about the list of foods you provided in questions 8-10 (your ethnic foods, Canadian foods and ethnic foods of other countries): On a scale of 0-10 with 0 = “strongly disagree” and 10 = “strongly agree,” to what degree do the following qualities describe how you perceive your ethnic foods?

	strongly disagree 0	1	2	3	4	5	6	7	8	9	strongly agree 10
Nutritious	0	1	2	3	4	5	6	7	8	9	10
Having medicinal benefits	0	1	2	3	4	5	6	7	8	9	10
Having Religious and spiritual significance	0	1	2	3	4	5	6	7	8	9	10

21. Do you cook?

- Yes
 No – (please move to question 17)

22. If you cook, how often do you cook per week? _____ times per week.

Thank you. We are almost done.

- F. **THIS SECTION REQUIRES A BIT OF INFORMATION ABOUT YOURSELF.**
PLEASE DO NOT PROVIDE YOUR NAME: Please answer the following questions accurately. Your data will be kept confidential and any identifying information will not be used. Your information will be kept secure and will not be given to anyone

23. Marital status

- Married
 Divorced
 Living together not married
 Single
 Separated
 Widowed
 Other (please specify)_____

24. Do you have a child/children?

- Yes
 No

25. Continent of origin

- Africa
 Asia
 Australia
 Europe
 North America or South America

26. What is your country of birth? _____

27. Other than your home country, did you live elsewhere before moving to Halifax?

- Yes
 No (move to question 23)

28. Where and how long have you lived in each place? Please list the last three places you lived in, other than your home country

Place(s)	No. of months	No. of years

29. How long have you lived in Canada? _____year(s), _____month(s)

30. How long have you lived in Halifax? _____year(s), _____month(s)

31. What category best describes your annual household income?

- Less than \$24,999
- \$25,000 to \$49,999
- \$50,000 to \$99,999
- \$100,000 or more
- Prefer not to answer

32. Please select your age

- 18-24 years
- 25-34 years
- 35-44 years
- 45-54 years
- 55 and above years
- Prefer not to answer

33. Sex

- Female
- Male
- Prefer not to answer

Thank you for your participation

APPENDIX 5: LIST OF VARIABLES

LIST OF VARIABLES	ABBREVIATED VARIABLE NAME	VARIABLE MEASURES	COMMENTS
Country of Origin	ORIGIN	1. AFRICA	
		2. AMERICA	
		3. ASIA	
		4. EUROPE	
Gender	GEND	1. MALE	
		2. FEMALE	
Location of Residency	LIVE	1. ON-CAMPUS	
		2. OF-CAMPUS	
MEDIUM OF ACCESSIBILITY OF CULTURAL FOODS			
Find Cultural Foods in Halifax Grocery Store	EFGS	1. NO (UNAVAILABLE)	used as EFGS 1:NO (UNAVAILABLE)
		2. YES (AVAILABLE)	used as EFGS 2: YES (AVAILABLE)
Find Cultural Foods in Halifax Grocery Store	EFREST	1. NO (UNAVAILABLE)	used as EFREST 1:NO (UNAVAILABLE)
		2. YES (AVAILABLE)	used as EFREST 2: YES (AVAILABLE)
Find Cultural Foods in Halifax Grocery Store	EFFRDS	1. NO (UNAVAILABLE)	used as EFFRDS 1:NO (UNAVAILABLE)
		2. YES (AVAILABLE)	used as EFFRDS 2: YES (AVAILABLE)
Availability of Cultural Foods	AOCF	1. NO (UNAVAILABLE)	used as AOCF 1:NO (UNAVAILABLE)
		2. YES (AVAILABLE)	used as AOCF 2: YES (AVAILABLE)
PURCHASING AND CONSUMPTION BEHAVIOR			
Consume Ethnic/Cultural Foods	CEF	1. NO (UNAVAILABLE)	asked participants to define Cultural and Canadian foods by providing examples. Using their definition/examples, I asked some questions on availability and consumption of those foods
		2. YES (AVAILABLE)	
Consume Canadian Foods	CCF	1. NO (UNAVAILABLE)	
		2. YES (AVAILABLE)	

APPENDIX 6: REGRESSION MODEL

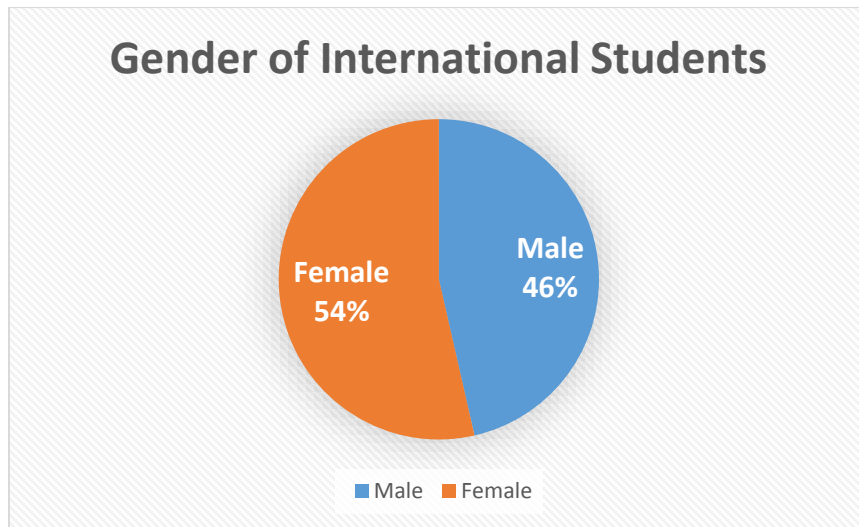
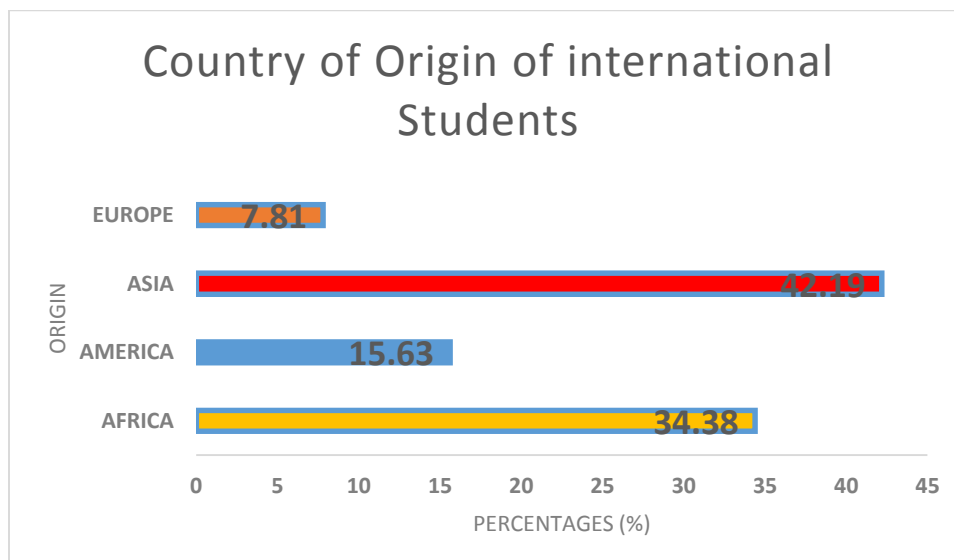
TABLE 1: LOGISTIC REGRESSION: "Availability of Cultural Foods (AOCF)" on Origin, Gender, Accessibility, location of residency (LIVE)												
VARIABLES	MODEL 1			MODEL 2			MODEL 3			MODEL 4		
	Odds Ratio (OR)	Std. Err.	P-value	Odds Ratio (OR)	Std. Err.	P-value	Odds Ratio (OR)	Std. Err.	P-value	Odds Ratio (OR)	Std. Err.	P-value
ORIGIN												
Africa	0.27	0.17	0.04									
America	0.1	0.11	0.04									
Asia	REF											
Europe	0.61	0.61	0.6									
GENDER												
Male							REF					
Female				0.49	0.28	0.221						
ACCESSIBILITY OF CULTURAL FOODS												
Grocery Store (EFGS)												
EFGS 1							REF					
EFGS 2							4.6	2.92	0.01			
Restaurant (EFREST)												
EFREST 1							REF					
EFREST 2							4.6	3.21	0.02			
Friends												
EFFRDS 1							REF					
EFFRDS 2							1.5	0.98	0.48			
LIVE												
Off-Campus							REF					
On-Campus										0.123	0.132	0.05
Constant	1.07	0.41	0.84	0.73	0.29	0.43	0.13	0.07	0.000	0.67	0.19	0.16
Adjusted R2	0.09			0.02			0.22			0.07		
n=	64			56			65			65		
p-value is significant at .005. Odds Ratio (OR) < 1: a negative effect. Odds Ratio > 1: a positive effect												

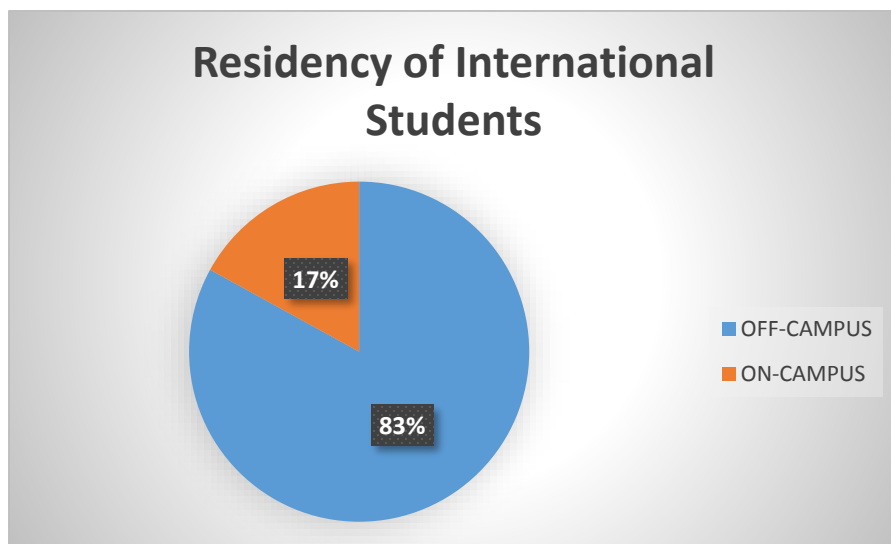
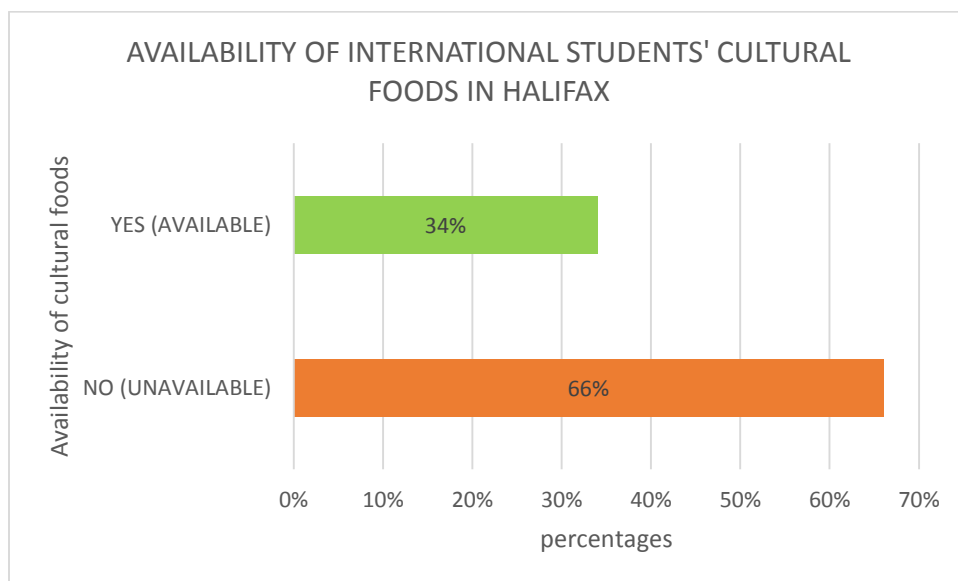
APPENDIX 7: REGRESSION MODEL

TABLE 2: LOGISTIC REGRESSION: "Consumption of Cultural Foods of International Students (CEF)" on Consumption of Canadian foods (CCF)			
CEF MODEL 5			
VARIABLES	Odds Ratio (OR)	Std. Err.	P-value
CCF			
CCF 1		REF	
CCF 2	0.43	0.23	0.12
Constant	0.77	0.24	0.42
Adjusted R2	0.02		
n=	67		
<p>P-value is significant at .005. Odds Ratio (OR) < 1: a negative effect. Odds Ratio > 1: a positive effect</p>			

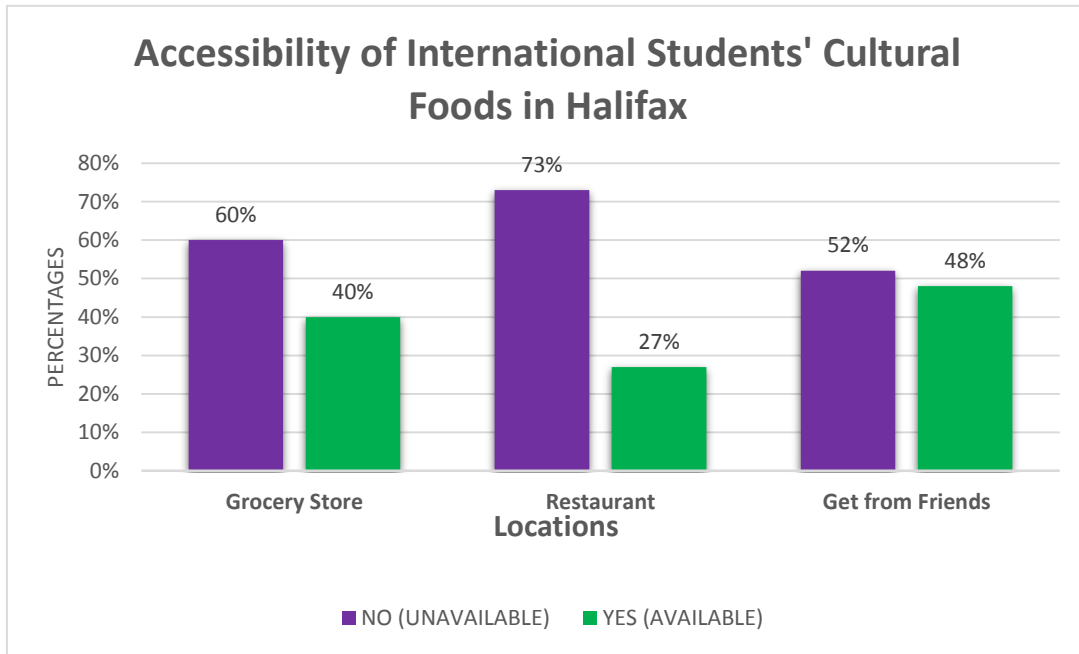
APPENDIX 8: REGRESSION MODEL

TABLE 3: LOGISTIC REGRESSION: "Consumption Pattern of International Students" on Origin, Gender (GEND) and Availability of Cultural Foods (AOCF)																		
VARIABLES	CEF			CCF			CEF			CCF			CEF			CCF		
	MODEL 6			MODEL 7			MODEL 8			MODEL 9			MODEL 10			MODEL 11		
	Odds Ratio (OR)	Std. Err.	P-value	Odds Ratio (OR)	Std. Err.	P-value	Odds Ratio (OR)	Std. Err.	P-value	Odds Ratio (OR)	Std. Err.	P-value	Odds Ratio (OR)	Std. Err.	P-value	Odds Ratio (OR)	Std. Err.	P-value
ORIGIN																		
Africa	0.47	0.278	0.204	1.9	1.22	0.26	0.48	0.31	0.26	1.09	0.8	0.9	0.92	0.68	0.91	0.9	0.69	0.89
America	0.17	0.151	0.046	1.9	1.48	0.4	0.08	0.09	0.02	0.87	0.76	0.87	0.13	0.16	0.1	0.71	0.65	0.71
Asia	REF																	
Europe	0.17	0.203	0.137	1.9	1.92	0.52	0.14	0.17	0.1	1.52	1.63	0.69	0.1	0.14	0.1	1.44	1.56	0.73
GEND																		
MALE	REF																	
FEMALE							0.52	0.31	0.005	4.3	2.89	0.03	0.62	0.41	0.48	4.05	2.74	0.03
AOCF																		
AOCF 1	REF																	
AOCF 2													8.9	7.08	0.005	0.54	0.39	0.4
Constant	1.45	0.56	0.33	0.35	0.15	0.01	4.65	4.66	0.12	0.039	0.04	0.007	0.15	0.23	0.23	0.1	0.17	0.17
Adjusted R2	0.07			0.01			0.14			0.08			0.26			0.09		
n=	64			64			56			56			56			56		
p-value is significant at .005. Odds Ratio (OR) < 1: a negative effect. Odds Ratio > 1: a positive effect																		

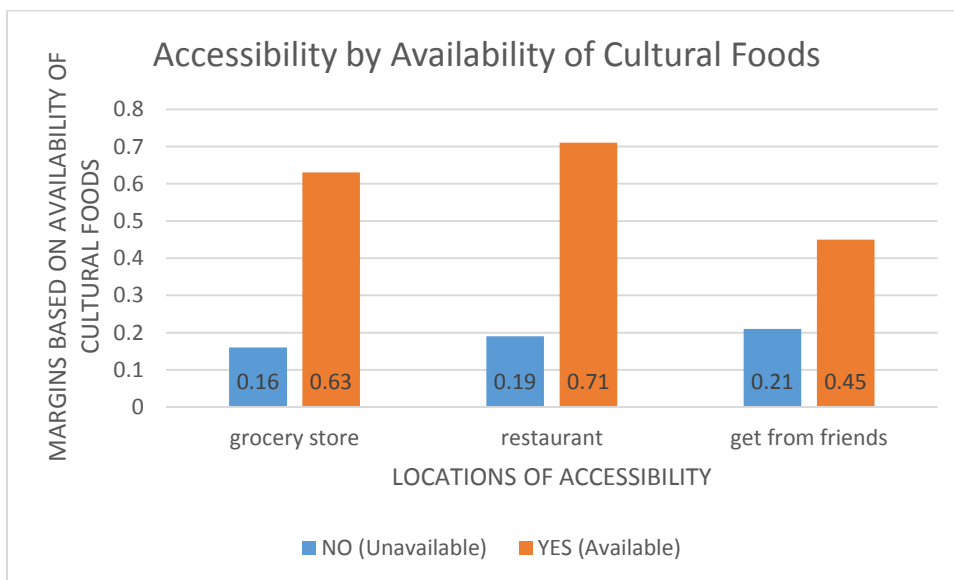
APPENDIX 9: GENDER OF PARTICIPANTS**APPENDIX 10: ORIGIN OF PARTICIPANTS**

APPENDIX 11: LOCATION OF RESIDENCY OF PARTICIPANTS**APPENDIX 12: AVAILABILITY OF INTERNATIONAL STUDENTS' CULTURAL FOODS IN HALIFAX**

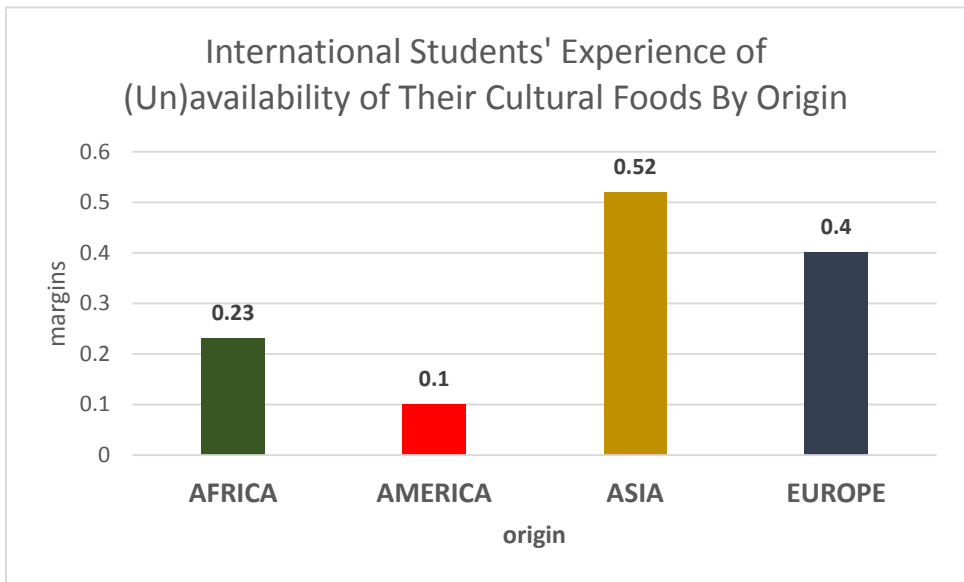
APPENDIX 13: ACCESSIBILITY OF INTERNATIONAL STUDENTS' CULTURAL FOODS IN HALIFAX



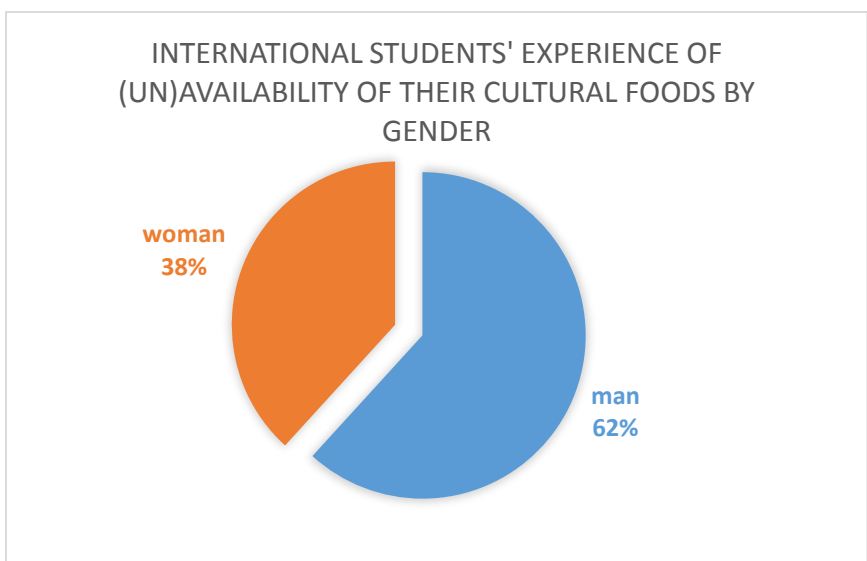
APPENDIX 14: THE EFFECT OF (UN)AVAILABILITY ON ACCESSIBILITY OF CULTURAL FOODS



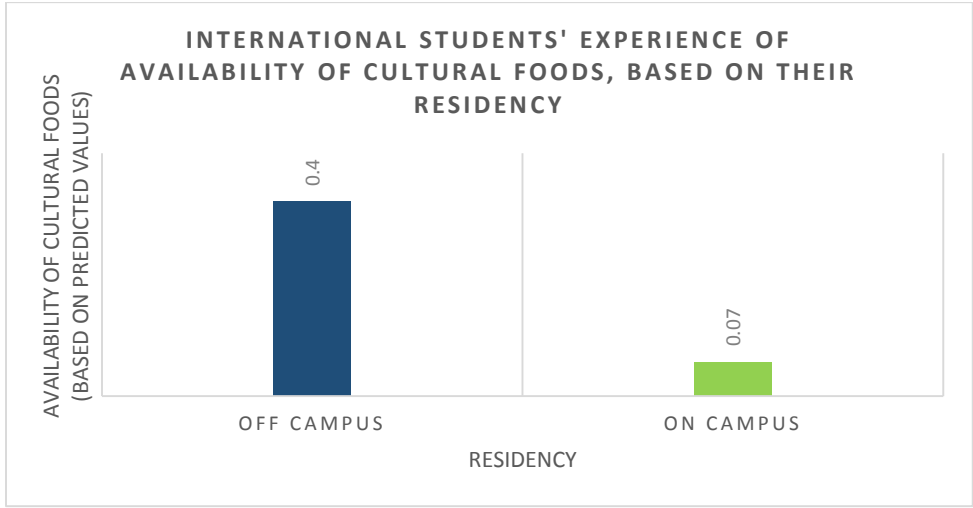
APPENDIX 15: THE EFFECT OF (UN)AVAILABILITY ON ORIGIN OF PARTICIPANTS



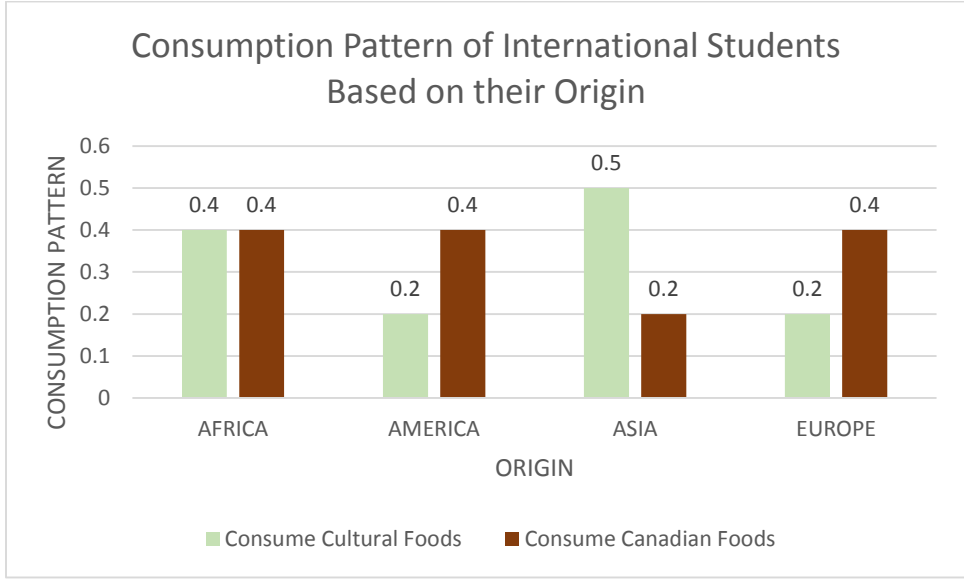
APPENDIX 16: THE EFFECT OF (UN)AVAILABILITY ON GENDER OF PARTICIPANTS



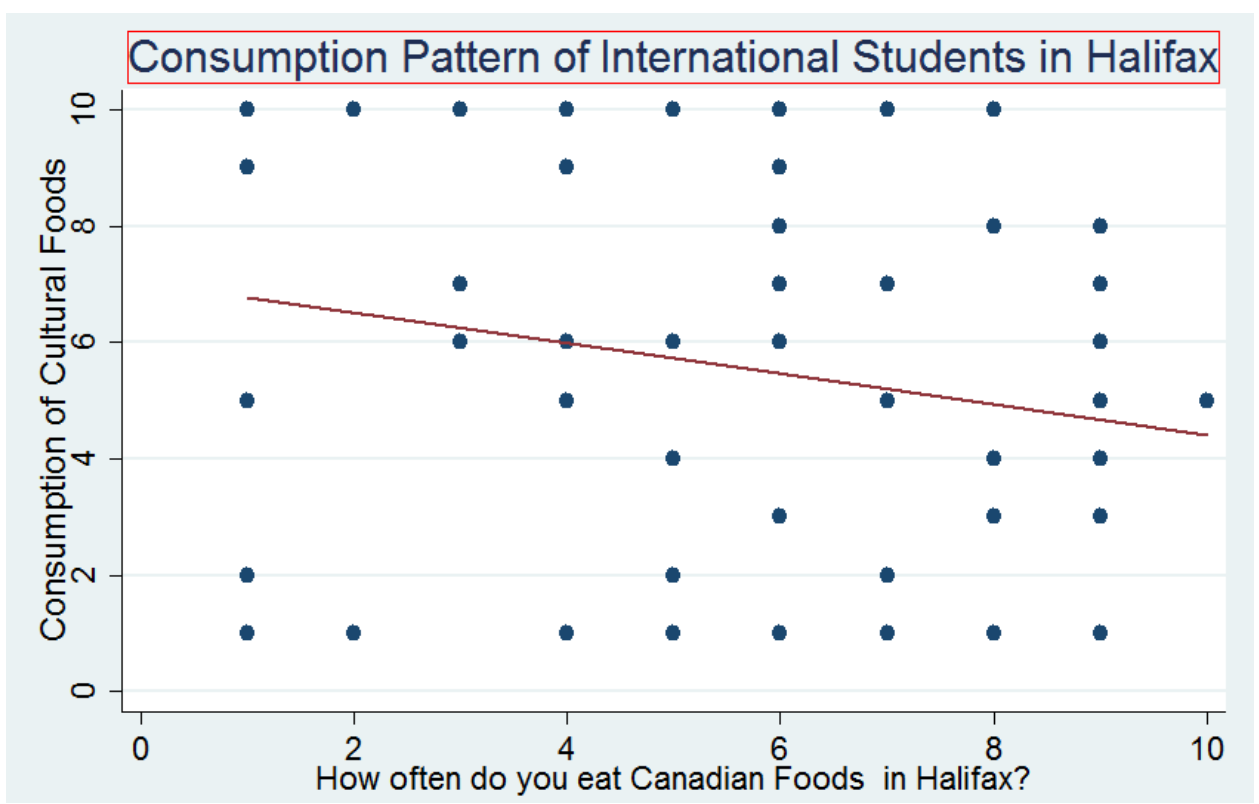
APPENDIX 17: THE EFFECT OF (UN)AVAILABILITY ON THE LOCATION OF RESIDENCY OF PARTICIPANTS



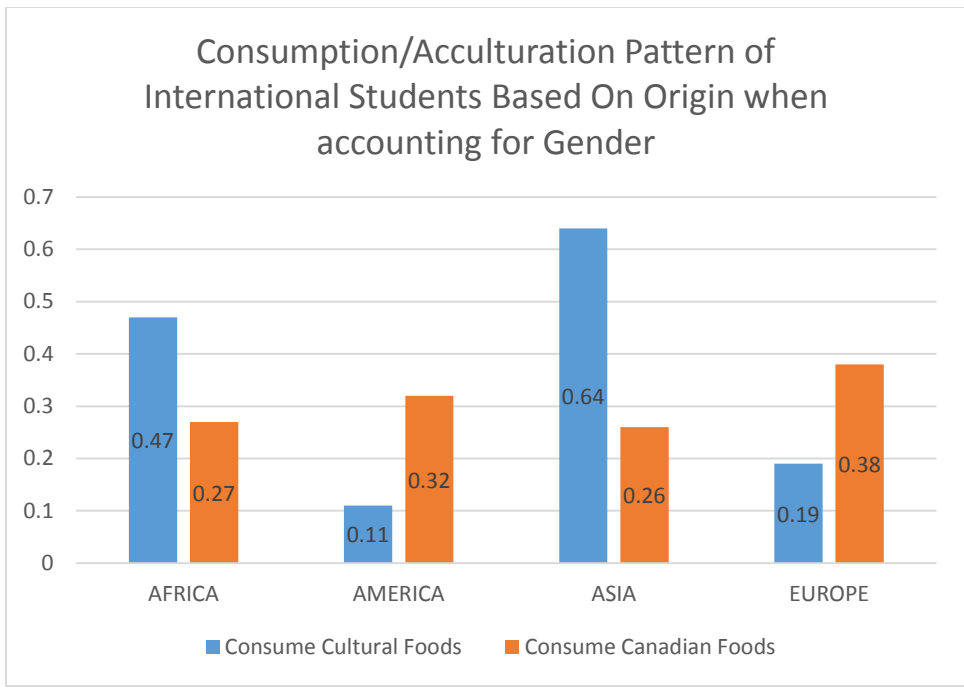
APPENDIX 18: CONSUMPTION PATTERN (CCF/CEF) OF INTEERNATIONAL STUDENTS BASED ON THEIR ORIGIN



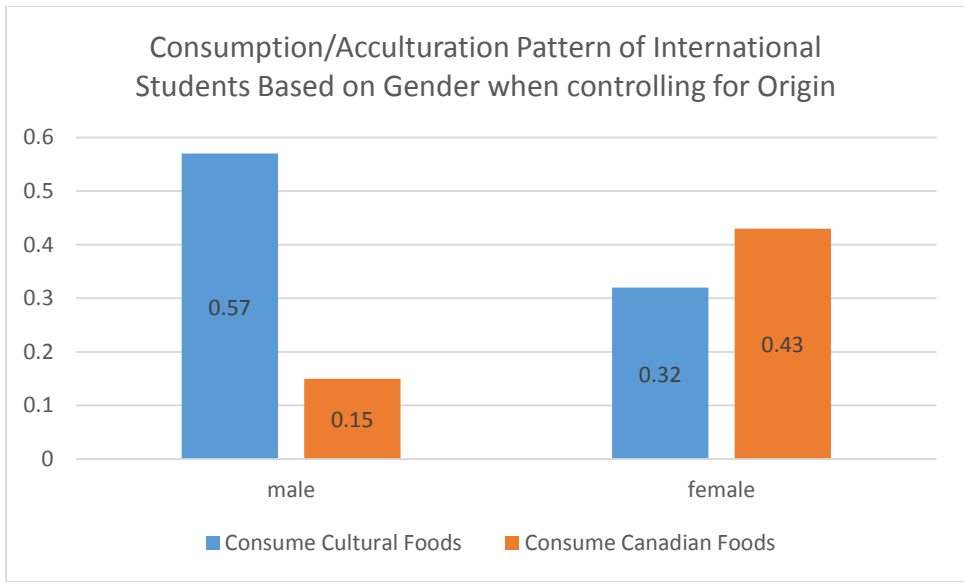
APPENDIX 19: SCATTERPLOT SHOWING THE CORRELATION BETWEEN CONSUMPTION OF CULTURAL AND CANADIAN FOODS



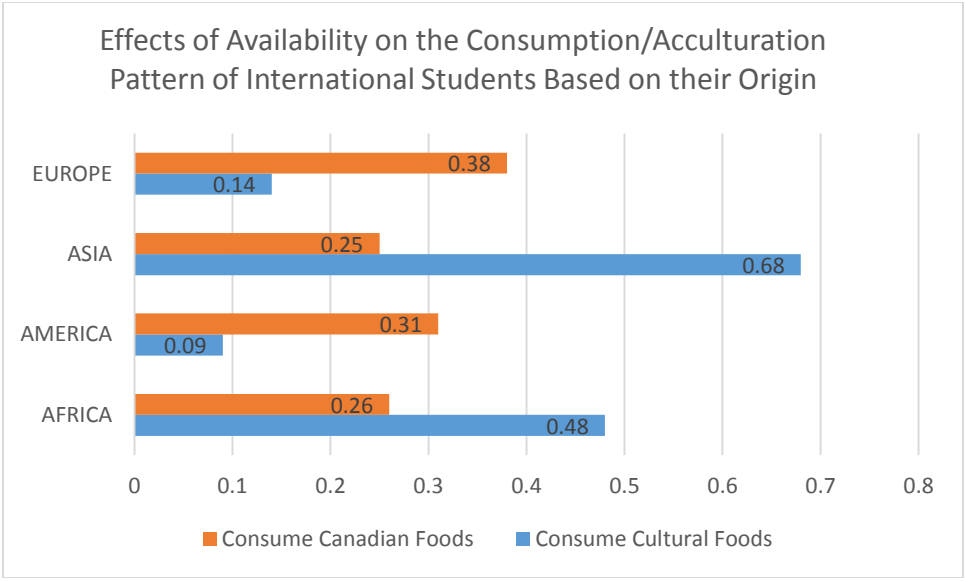
APPENDIX 20: CONSUMPTION/ACCULTURATION PATTERN OF INTERNATIONAL STUDENTS BASED ON THEIR ORIGIN, WHILE CONTROLLING FOR GENDER



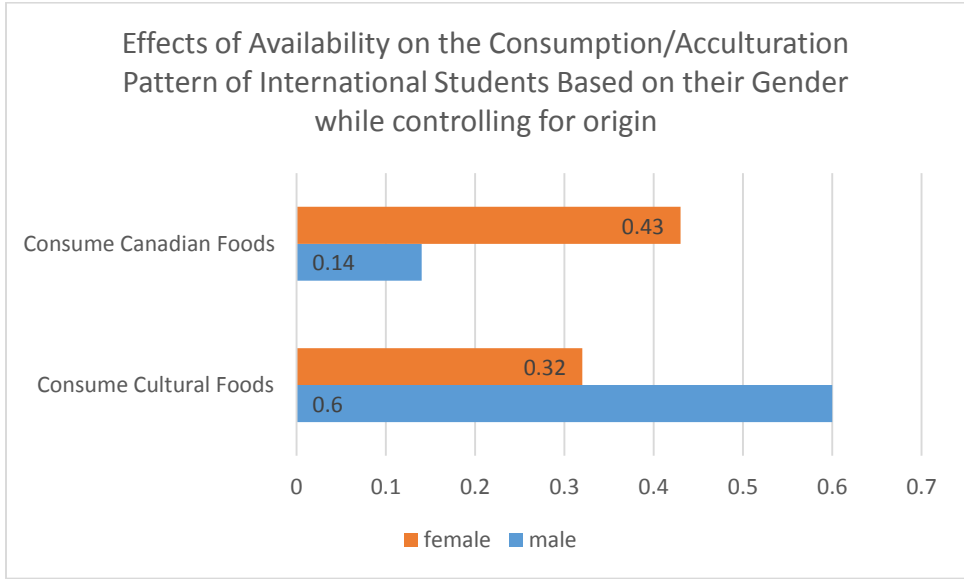
APPENDIX 21: CONSUMPTION/ACCULTURATION PATTERN OF INTERNATIONAL STUDENTS BASED ON THEIR GENDER, WHILE CONTROLLING FOR ORIGIN



APPENDIX 22: THE EFFECT OF (UN) AVAILABILITY ON THE CONSUMPTION/ACCULTURATION PATTERN OF INTERNATIONAL STUDENTS BASED ON THEIR ORIGIN AND GENDER



APPENDIX 23: THE EFFECT OF (UN) AVAILABILITY ON THE CONSUMPTION/ACCULTURATION PATTERN OF INTERNATIONAL STUDENTS BASED ON THEIR GENDER AND ORIGIN



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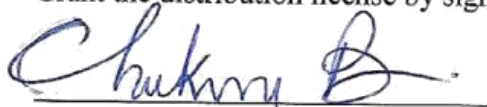
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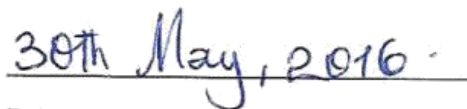
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