Exploring dietary acculturation among recent European immigrants in Canada.

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AN ABSTRACT OF THE THESIS

Abstract:

Canada is a country with an evident commitment to multiculturalism, and immigration is an important force shaping our demography and identity. Past research reports that the diets of immigrants adapting to the prominent diet of their host country can often result in negative effects on health, but there has been little research focusing on migration between countries of advanced economic development. In order to determine the influence of Canadian culture and the Canadian food environment on recent Western European immigrants, 13 individuals participated in 5 online focus groups via Facebook and completed a survey pertaining to their dietary habits. Content analysis revealed that many believe the cost of healthy food, and a lack of availability of foods from their home country were major factors in the changes experienced. Participants also indicated an increase in consumption of fast food, and a dislike for Canadian foods were barriers to a healthy adaptation to the Canadian food environment. This research can be used by stakeholders to develop inclusive strategies to strengthen this area of our immigration system, and ensure foreign-born Canadians are meeting their health and nutritional needs.

Key Words: *immigration, dietary acculturation, migrants, Canada, Western Europe, qualitative analysis*

Résumé:

Le Canada démontre un engagement certain envers le multiculturalisme. Dans une certaine mesure, ce multiculturalisme découle de l'importance de son immigration, qui, à son tour, influence la démographie et l'identité du pays. Plusieurs études ont montré que l'adaptation des habitudes alimentaires des immigrants à celles de leurs pays d'accueil, peut avoir des conséquences négatives sur leur état de santé. Cependant, peu d'études explorent ce lien chez des individus qui migrent entre pays développés. Afin de déterminer l'influence de la culture et des particularités alimentaires canadiennes, 13 individus ayant récemment immigré de pays d'Europe occidentale ont participé à 5 groupes de discussion à travers Facebook. Ils ont également pris part à un sondage concernant leurs habitudes alimentaires. L'analyse des résultats indique que le coût des aliments sains, ainsi que le manque de disponibilité d'aliments provenant de leurs pays d'origine, sont des facteurs déterminants dans le changement qu'ils ont dû opérer dans leurs habitudes alimentaires. Les participants ont par ailleurs mis en relief deux principales barrières à une saine adaptation à l'environnement alimentaire canadien, en l'occurrence une augmentation de la consommation d'aliments transformés prêts à manger, et le manque de goût pour les aliments canadiens. Cette recherche peut être utilisée pour développer des stratégies afin de renforcer cet aspect de notre système d'immigration, et assurer que les Canadiens nés à l'étranger puissent continuer de répondre à leurs besoins de santé et de nutrition.

Mots clés: immigration, acculturation alimentaire, migrants, Canada, Europe de l'Ouest, analyse qualitative

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LIST OF ACRONYMS AND ABBREVIATIONS

HIE	Healthy Immigrant Effect
HDI	Human Development Index
FGD	Focus Group Discussion
UNRIC	United Nations Regional Information Centre
OCASI	Ontario Council of Agencies Serving Immigrants
OECD	Organization for Economic Cooperation and Development
US	United States
Approx	Approximate
Yrs	Years
ON	Ontario
QC	Quebec
AB	Alberta
NB	New Brunswick

OUTLINE OF THE THESIS

This monograph thesis is divided into four chapters. The first chapter begins with contextual information regarding the phenomena related to changes in dietary habits following migration. It points out the current gaps in knowledge concerning dietary acculturation research, and discusses the current state of migration and globalization. It also discusses the emerging use of online methods in qualitative research. The objectives and research questions for the current study, as well as the conceptual framework employed are outlined here.

Chapter two describes the methods. This includes a description of the overall study design (context, design, data collection methods, and participant recruitment). This chapter discusses the appropriateness of the chosen study design, as well as a description of the inclusion criteria for participation in the study and a justification of the chosen recruitment strategy.

Chapter three presents the results of the study. The chapter begins with a demographic description of the participants produced via survey results, and describes the analytic approach for the project. Along with the approach are the results of the focus group discussions, and both a visual and written description of the themes and subthemes identified.

In the fourth chapter, the findings of the study are explored and interpreted based on the overarching research question. Here I attempt to explain new insights about the research problem, in light of what is already understood through existing literature. I explore some of the changes in lifestyle that appear to affect dietary habits temporarily, the risk of accelerating a transition to a modern diet by migrating to Canada, and the tendency for this population to

abstain from taking advantage of immigration-related services. Finally, this chapter explored the study limitations, explains the significance of the findings, describes positionality and reflexivity strategies, presents the interdisciplinarity of the project, and provides concluding remarks. The bibliography and appendices follow.

CHAPTER 1: INTRODUCTION

Background & Context

Immigration is an important force shaping Canadian demography and identity. The large number of immigrants residing in Canada means that the health of Canada's immigrants is also an important determinant of general measures of population health, and so is directly related to issues of the cost and adequacy of the Canadian healthcare system. As of 2010, immigrants made up 20% of our nation's population, and two thirds of our total population growth; numbers that are both expected to grow (Gushalak, Pottie, Hatcher, Torres, & DesMeules, 2010). We are a country committed to multiculturalism, meaning that a synthesis of knowledge related to acculturation experiences and effects on the health of our foreign-born citizens is essential to the ensuring the wellbeing of future Canadians.

There is a widely accepted phenomenon called the 'Healthy Immigrant Effect', which proposed to explain how newly arrived immigrants are healthier compared to locals with similar socio-demographic characteristics, but their health worsens with additional years spent in the host country (Rivera, Casal, & Currais, 2015).

The 'Nutrition Transition' is described as large shifts that have occurred in diet and physical activity patterns worldwide, particularly in the last two decades of the 20th century (Popkin & Gordon-Larsen, 2004). Modern societies have shifted to diets that are high in saturated fats, sugar, and refined foods, but low in fiber; this diet profile is often deemed the

'Western Diet.' In 2012, Holmboe-Ottesen & Wandel examined consequences of dietary acculturation among South Asians in Europe and determined that migrants experienced these same negative changes but experienced a "radical form" of the nutrition transition. Impacts on this dietary change can come from: busier lifestyle, lack of social relations, higher levels of stress, food insecurity, and lack of traditional foods. These can result in high fat and sugar diets, low consumption of fruits/vegetables, larger portions, consumption of convenience food, and inactivity (Dunn & Dyck, 2000). These unfavorable dietary changes can in turn result in chronic diseases including cardiovascular diseases, hypertension, and type 2 diabetes, among others. Research has shown that this is especially the case with time spent in foreign countries like USA and Canada, whereas cases in Europe showed minor negative or even positive impacts (Dunn & Dyck, 2000).

Dietary acculturation refers to the process that occurs when the members of immigrant groups adopt the eating patterns and food choices of their host country (Satia, 2010). Over time, the lifestyle and nutritional patterns of immigrants converge toward that of the host population. Many migrant groups show a significant adoption of obesogenic behaviours (i.e. consumption of more energy-dense and nutrient-poor foods, as well as less physical activity), experience weight gain following migration, and record higher body weights than their host country counterparts (Delavari, Farrelly, Renzaho, Mellor, & Swinburn, 2012). In addition, studies have found that immigrants from countries with a low- or medium-human development index (HDI) to countries with a high-HDI experience weight gain following migration (Dijkshoorn, Nierkens, & Nicolaou, 2008). In addition, the experience of acculturative stress is well documented, and is often associated with outcomes such as lowered mental health status (specifically depression and

anxiety), feelings of marginality, and identity confusion. These factors can significantly affect one's food habits and physical activity patterns (Delavari et al, 2012).

Sanou, O'Reilly, Ngnie-Teta, Batal, Mondain, Andrew, Newbold, & Bourgeault (2013), identified in a scoping review that much of the current research in the area of dietary acculturation and the nutritional health of immigrants focuses on Asian, African, or Middle-Eastern populations. It was also indicated that though European populations are not researched as frequently, European immigrants living in Canada are the most likely to report poor health status, chronic conditions, and hospitilizations (Sanou et al, 2013). Cairney and Ostbye (1999) also found that, in Canada, individuals of European origin have the highest overall prevalence of obesity. As of 2010, European immigrants made up 36.8% of the entire immigrant population in Canada (Gushalak et al, 2010).

There is currently little to no research pertaining to migrant health of those moving between countries of advanced economic development. This can likely be attributed to the fact that the populations repeatedly studied come from vastly different food environments than that of their host country (i.e. Hispanic populations migrating to Canada), whereas populations from regions like Western Europe are assumed to not experience drastic changes in food landscapes when migrating to countries of similar economic development. This leaves a large gap in dietary acculturation knowledge, and possibly unknown health implications that are not immediately evident. Exploring and understanding the process of dietary acculturation in all immigrant populations is useful for providing insight to immigrant service agencies, clinicians, policy

makers, and nutritionists to better communicate and develop messages that will promote adaptations of healthy dietary patterns following migration.

Study Rationale

The current gaps in knowledge challenge our ability to understand the adaptations which may impact the health status of Western European immigrant groups and the immigrant population in Canada as a whole. The current study aims to contribute to knowledge in the area of dietary acculturation of an underrepresented population. By studying the Western European immigrant population, we are targeting individuals likely hailing from countries of high scores on the HDI (Human Development Index), similar to that of Canada. This is a target population which presents little to no material in peer-reviewed literature, but presents many of the indicators related to deterioration of healthy eating habits, and the Healthy Immigrant Effect (Sanou et al, 2013; Cairney and Ostbye, 1999).

The work presented in the current thesis will contribute to bridge the aforementioned gap in the literature. It will also explore ways for solving problems related to dietary acculturation and its relation to the Healthy Immigrant Effect in this population. Additional rationale for the study is to contribute to knowledge of the setup and implementation of online focus groups, specifically synchronous focus groups among hard-to-reach populations with the use of Facebook. This work will hopefully help to inform future interventions and provide insight to key stakeholders like other researchers, immigrant service agencies, clinicians, policy makers, and nutritionists. Additionally, the current project will contribute to the professional

development of the researcher in the area of qualitative research methods, dietary acculturation research, and research dissemination.

Research Objective

The purpose of the study is to explore how Canadian culture and a change in food environment due to migration influence the dietary behaviours of recent Western European immigrants. The results of the research may suggest nutritional education approaches and messages aimed at this population to minimize any deterioration in health that occurs following migration to Canada.

Research Questions

1. How are the dietary behaviours of Western European immigrants impacted by the influences of a new cultural and food environment?
2. What are some of the specific barriers to healthy eating after migration to Canada?

Literature Review

Migration & Immigrant Health

Migration is an important component of globalization. As of 2010, international migration was estimated at 200 million people, and between 1990 and 2005, global migrants had increased by some 33 million people (Gushalak et al, 2010). Immigration has been and remains an important force shaping Canadian demography and identity, and the health characteristics

associated with the movement of large numbers of people have current and future implications for migrants, health practitioners, and our health systems (Gushalak et al, 2010). The large number of immigrants residing in Canada means that the health of Canada's immigrants is also an important determinant of general measures of population health, and so is directly related to issues of the cost and adequacy of the Canadian healthcare system. As of 2010, immigrants made up 20% of our nation's population, and two thirds of our total population growth; numbers that are both expected to grow (Gushalak et al, 2010).

Health characteristics of the various migrant populations within Canada vary according to environmental, economic, genetic, and socio-cultural factors including when they migrated to Canada, where and how they lived in their country of origin, and how and why they migrated (Gushalak et al, 2010). Health of immigrants is also greatly influenced by post-migration factors involving integration into their host country, employment, education and poverty, accessibility and responsiveness of health practitioners and health systems, and nutritional changes (Gushalak et al, 2010). A review on the Canadian Guidelines for Immigrant Health (2010) indicates that because the health characteristics of some migrant populations vary according to their origin and experience, improved understanding of the scope and nature of the immigration process will help practitioners who will be increasingly involved in the care of immigrant populations, including prevention, early detection of disease, and treatment (Gushalak et al, 2010). It has been found that exposure to the obesogenic environments in North America may foster development of overweight and obesity in immigrants (Sussner, Lindsay, Greaney, & Peterson, 2008), which may have implications including development of chronic disease in the future.

Overview of Phenomena

The topic of dietary acculturation, and the nutritional health of immigrants has been gaining interest among researchers for some time. With international immigration being a critical component of Canada's population growth, and foreign-born Canadians accounting for a large portion of the general population, the health status of immigrants is an important issue among many stakeholders (Chui, Tran, & Maheux, 2006). The phenomena surrounding migrant health have important implications for host countries in terms of health services, and policy makers have to become better informed about the specific characteristics of immigrants (Rivera, Casal & Currais, 2015).

In terms of general health, there is a phenomenon called the Healthy Immigrant Effect (HIE), which explains how newly arrived immigrants are healthier compared to locals with similar socio-demographic characteristics, but their health worsens with additional years in the new country (Rivera, Casal & Currais, 2015). McDonald and Kennedy (2004) point out that the healthy immigrant effect is often attributed to a number of factors: Immigrant self-selection; in which healthier potential immigrants are most likely to be physically or financially able to migrate, direct health screening by Canadian authorities, as well as under-reported health conditions because of immigrants' under-utilization of health services could all contribute to immigrants being healthier than the native population upon arrival in Canada (McDonald & Kennedy, 2004). They also indicate that it has been found that recent immigrants are healthier than immigrants who have been in Canada for more than 10 years, and this narrowing of the health gap has been hypothesized to be caused by a process of acculturation in which recent immigrants take on characteristically Canadian ways of living (McDonald & Kennedy, 2004).

The term acculturation is commonly used to describe the process by which ethnic groups adopt the patterns of a dominant/host group. Dietary acculturation refers to the process that occurs when the members of these groups adopt the eating patterns and food choices of their host country (Satia, 2010). Researchers in North America and Europe have consistently found positive associations between the level of dietary acculturation and negative health outcomes, including obesity and chronic diseases (Cairney & Ostbye, 1999; Kuo, 2013; Gray, Cossman, Dodson & Byrd, 2005; Delavari, Farrelly, Renzaho, Mellor & Swinburn, 2013). Though well defined, the process of acculturation is rather ambiguous and constantly changing, and researchers continually attempt to measure and understand it. Some theories attempt to place immigrants on a linear scale of levels of acculturation to their host culture (Ryder, Alden, & Paulhus, 2000). Some include bidimensional models where heritage and host cultures are distinct from each other, and theorize that individuals retain some values and also adopt new ones (Ryder, Alden, & Paulhus, 2000; Hunt, Schneider, & Comer, 2004). Some researchers stress the importance of understanding that the process of acculturation is multi-dimensional (Abraido-Lanza, Armbrister, Florez, & Aguirre, 2006). Though an established acculturation scale is beneficial in the sense of having a functional score to compare individuals, it may exclude several common factors. For example, place of birth, residency patterns, self-identity, language use, generational status, music and movie preferences, participation in heritage culture traditions, ethnic origin of friends, and food preferences both at home and at restaurants are all proxies commonly used in these scales (Thomson, Hoffman-Goetz, 2009; Ryder, Alden, & Paulhus, 2000; Hunt, Schneider, Comer, 2004; Abraido-Lanza et al, 2006).

Globally, the idea of a "nutritional transition" has been heavily referred to in health research. For several decades, rapid and profound demographic and socioeconomic changes, along with large scale declines in food prices, increased food availability, and increased urbanization, have resulted in a "nutritional transition" that is characterized by a shift to more energy-dense diets, as well as a reduction in physical activity (Satia, 2010). In the nutrition transition theory, there is an increase in the consumption of animal foods, fat and processed foods, and a decrease in the content of fiber and micronutrients (Bojorquez, Renteria, & Unikel, 2014). These changes lead to a more 'modern' diet which is common to North America, which has been associated with the rise in chronic and degenerative diseases (Bojorquez, Renteria, & Unikel, 2014). There has been more and more focus in recent years on lower- and middle-income countries, where negative dietary, physical activity, and body composition changes are occurring quickly and at earlier stages of these countries' economic and social development (Popkin, 2004).

Previous Findings

Due to a lack of previous research on the dietary acculturation of European immigrants in Canada, it is difficult to base the proposed study on previous dietary acculturation studies. A review of the literature pertaining to dietary acculturation found much research on mainly Chinese, Hispanic, South Asian, Arab, and African populations.

A qualitative study of the dietary acculturation of Hispanic immigrants in Mississippi was carried out in 2005, and used both interviews with community representatives to gain insight on programs and services available as well as interviews with Hispanic immigrants. Gray, Cossman,

Dodson, and Byrd (2005) used content analysis to then produce 5 main themes, which included meal purchase and preparation of foods, ideas about healthy nutrition, influences on food choice in the US, perceived effects of school food on nutrition of children, and differences in frequencies of consumption of foods eaten in their native country and the consumption in the US. It was found that within this study population, work and time demands were a primary influence on food choices, and convenience foods gained importance after migration. Though participants displayed a strong tie to traditional Hispanic dishes, they expressed that their children in particular were starting to prefer "American" foods (Gray et al, 2005).

Another study used qualitative methods to study diet, acculturation, and health among Chinese-American women in order to design and evaluate a culturally appropriate dietary intervention for this population (Satia, Patterson, Taylor, Cheney, Shiu-Thronton, Chitnarong, Kristal, 2000). Researchers used qualitative interviews and focus groups to elicit in-depth opinions and views regarding their changes in dietary habits following migration. They used the PRECEDE (Predisposing, Reinforcing, and Enabling Constructs in Educational Diagnosis and Evaluation) model as the conceptual framework for their research, to group the factors affecting behavior into 'predisposing', 'reinforcing', and 'enabling' (Satia et al, 2000). Their results indicated that the breakfast appears to be the first meal that changes after immigration, with participants reporting they consumed a more 'Western-style' breakfast, which was primarily for convenience. Convenience, cost, and food quality were found to be the most important predictors of dietary changes after immigration of this population to the US (Satia et al, 2000).

Delavari, Farrelly, Renzaho, Mellor, and Swinburn (2012), used focus groups discussions with recent Iranian immigrants (N=33) in Victoria, Australia to explore migration experiences and determinants of obesity. Their data revealed that stress during the initial immigration transition contributed significantly to changes in diet and physical activity habits. Other important factors included gender, the effect of political/religious changes, and their ability and willingness to adopt positive health behaviours after migration (Delavari et al, 2012). The participants of this study identified an increase in physical activity, but similar to the previously mentioned studies, they had concerns about quality of food, and an increase in obesogenic eating habits (Delavari et al, 2012).

Lesser, Gasevic, and Lear (2014) explored the effect of acculturation on dietary patterns as well as awareness and knowledge of healthy nutrition among South Asian immigrants (N=207) living in Canada. Length of residence in Canada was used as a marker for acculturation, and quantitative methods revealed an increase in consumption of fruits and vegetables (due to affordability), but also an increase in consumption of convenience foods, sugar-sweetened beverages, red meat, and dining out. While quantitative methods were thorough, and a large number of participants (N=207) contributed to the research, a lack of in-depth qualitative methods means that there was a lack of mechanisms identified that could be contributing factors, which could have been identified through capturing feelings and attitudes pertaining to dietary behaviours of the participants.

Though much of the literature points to a trend in negative changes in eating habits upon migration, El Hassan & Hekmat (2012) found otherwise. Their mixed-methods study

investigated dietary acculturation of Arab immigrants (N=24) in the Greater Toronto Area, and the overall perception of participants was that their diet was healthier than before they immigrated to Canada. Factors contributing to this perception were increased nutritional health awareness, greater variety of foods, healthier cooking techniques, and adherence to Islamic dietary guidelines (El Hassan & Hekmat, 2012).

Gaps in Knowledge

Sanou, O'Reilly, Ngnie-Teta, Batal, Mondain, Andrew, Newbold, & Bourgeault (2013), carried out a scoping review of acculturation which identified that there is a major gap in acculturation literature pertaining to the mechanisms by which immigration related factors affect nutrition and health. They also identified that there is insufficient focus on the mental health of immigrants in relation to their dietary habits, which is important considering the stress associated with a drastic change in cultural surroundings (Sanou et al, 2013). This review also identified that much of the current research in the area of dietary acculturation and the nutritional health of immigrants focuses on Asian, African, or Middle-Eastern populations. It also indicated that though European populations are not researched as frequently, European immigrants living in Canada are the most likely to report poor health status, chronic conditions and hospitalizations (Sanou et al, 2013). Cairney and Ostbye (1999) also found that, in Canada, individuals of European origin have the highest overall prevalence of obesity, a common contributor to many chronic diseases.

Through review of relevant literature, it is clear that these research gaps identified in 2013 still hold true. Another clear gap in the literature is knowledge of dietary acculturation

trends in populations migrating between developed countries. While many different immigrant subgroups are represented in the literature, a common theme is selecting study populations migrating from less to developed countries to highly developed countries, namely the US, Canada, and the UK.

Online Qualitative Methods

In study populations that prove 'hard-to-reach', there are many challenges for recruiting participants and collecting rich textual data. With rapid development of the internet and various social network applications, researchers are now able to employ virtual communication formats to capture research participants' understandings of a social phenomenon of interest (Lijadi & van Schalkwyk, 2015). One way in which researchers working with qualitative methods have taken advantage of this is through online focus group discussions. This emerging data collection method improves access for people of diverse backgrounds across different geographical locations and time zones, and enables them to contribute to discussion (Boateng, Nelson, Huett, Meaux, Pye, Schmid, Berg, LaPorte, Riley, & Green, 2016). While prior studies have found that participants in online discussions talk openly about their personal health issues in this type of information exchange (Kenny, 2005; Kramish-Campbell, Meier, Carr, Enga, James, Reedy, & Zheng, 2001), there is still limited information describing practical considerations for the setup and implementation of online focus group discussions.

The use of online focus groups represents attempts within the research community to adapt conventional methodological approaches to keep pace with advances in communication technology (Fox, Morris & Rumsey, 2007). Considering the likelihood of consistent advances in

technology, the use of online qualitative methods will likely become more prominent. The majority of published studies have used asynchronous, or non-real time groups, which may include bulletin boards and discussion groups, where messages posted in a folder are viewed and responded to by other participants (Fox, Morris & Rumsey, 2007). While this is advantageous in embracing slow typists, and overcoming time zone differences, it has been debated whether this actually constitutes a focus group. Researchers using more traditional, synchronous focus groups conclude that group interactions are characterized by dynamism and immediacy (Fox, Morris & Rumsey, 2007).

There are many clear limitations to online FGD's. Bruggen & Willems (2009) suggested that offline focus groups might provide greater depth and breadth in responses among participants and lead to high-quality outcomes, while online focus groups might be more efficient when trying to elicit spontaneous reactions and interactiveness. The main limitation is thought to be that online focus groups are restricted to participants with internet access. Additionally, the role of the mediator becomes more complex as they might have to respond to more than one posting at the same time while also having to maintain the flow of conversation and pay attention to the interaction between participants (Lijadi & van Schalkwyk, 2015).

On the other hand, challenges associated with the use of traditional, face-to-face focus groups include scheduling a specific venue and time, transportation to the study site, and travel costs, including gasoline and parking expenses. Participants are often eager to share their experiences but struggle to find time for travel due to commitments at work and school (Boateng et al, 2016). Most researchers agree that online focus groups could help reduce cost and remove

the time and geographical constraints as participants can log in anytime, anywhere, and when it is convenient for them (Bruggen & Willems, 2009). Additionally, the physical absence and psychological distance of the internet could stimulate group participation and boost self-disclosure, especially for individuals who might otherwise hesitate to participate in a face-to-face focus group (Lijadi & van Schalkwyk, 2015). Furthermore, online FGD's could be conducted either synchronously or asynchronously. Synchronous focus groups occur in real time, which may be difficult to implement when recruiting participants from various countries and different time zones. This means some researchers have turned to asynchronous focus groups, which are text based and allow greater time flexibility and typically use online discussion boards or forums allowing participants to read prompts and have more time for reflection before responding to the discussion (Lijadi & van Schalkwyk, 2015).

Hosting a real-time focus group requires a virtual venue that uses a chat room environment. The literature currently offers little advice on choosing an online venue for focus groups, but there exist many online venues offered by external providers. These proved to be expensive, inflexible, and unintuitive. Further research found published studies that used the Messenger tool on Facebook, which acts like a live chat room. Kreuger's (1988) principle for face-to-face focus groups states that the venue should be free of distraction, easy to find, and relaxed. Considering the massive reach of Facebook and the wide-spread familiarity with its use and functions, it seemed the natural choice for a population that proved to be hard-to-reach. While online focus groups have gained popularity, the use of Facebook as a collection tool has not frequently been seen. This may be due to the lack of anonymity of Facebook, where personal information can often be viewed freely. While not used specifically for online focus groups,

there is a rapidly growing literature base dedicated to the impact of Facebook on social life, and the utility of Facebook as a tool to observe behavior in a naturalistic setting, test hypotheses, and recruit participants (Lijadi & van Schalkwyk, 2015).

Conceptual Framework

The present study design is partly informed by Satia-Abouta, Patterson, Neuhouser, and Elder's (2002) Proposed Model of Dietary Acculturation, which posits that there is a complex and dynamic relationship of socioeconomic, demographic, and cultural factors with exposure to the host culture. Satia-Abouta et al report that this set of characteristics predicts the extent to which new immigrants may change their attitudes and beliefs about food, taste preferences, and food purchasing and preparation. Ultimately, these factors can lead to changes in dietary intake. This Proposed Model of Dietary Acculturation (Satia-Abouta et al, 2002) shows how exposure to the host culture results in changes in psychosocial factors and taste preferences and changes in environmental factors, leading to changes in food procurement and preparation, which in turn causes different patterns of dietary intake. In order to create a broad picture of the nature of dietary acculturation among the study population, Satia-Abouta et al also specify that researchers who include immigrants in their study samples should measure acculturation as well as socioeconomic and demographic characteristics. Because there is likely confounding of acculturation with education and income, it is important to identify the independent effects of acculturation on diet to appropriately interpret study results (Satia-Abouta et al, 2002).

Satia-Abouta et al explain that a consequence of immigration is exposure to a new food supply, which can lead to changes in food procurement and preparation. For instance,

unavailability of traditional foods and ingredients will likely result in increased consumption of the foods of the host country. Their proposed model is inclusive of all immigrant populations, and they suggest that this proposed model be used to design questionnaires that ask about determinants of, barriers to, and changes in eating patterns (Satia-Abouta et al, 2002).

CHAPTER 2: METHODS

Research Context

The present study was conducted online in Ottawa, Ontario, using a personal, password protected computer. Data collection began in November of 2016 and finished in February of 2017.

Research Design

This qualitative study involved semi-structured online focus group discussions followed by an online exit survey with recent immigrants hailing from Western Europe. These qualitative methods were suitable for the aforementioned research questions as they will better elicit thoughts and feelings of the participants in relation to their dietary behaviours, to serve as a basis to develop an in-depth understanding of the existing phenomena. These methods were also suitable in order to explore their strengths and limitations in this type of research, and to better understand how future researchers may implement them.

Data Collection

Online Focus Group Discussions

As previously mentioned, the emerging data collection method of online focus groups improves access for people of diverse backgrounds across different geographical locations and time zones, and enables them to contribute to discussion (Boateng, Nelson, Huett, Meaux, Pye,

Schmid, Berg, LaPorte, Riley, & Green, 2016). This research design was appropriate as it expanded the range geographically for the recruitment phase, and allowed for a sample of participants that likely would not have been accessible through traditional focus groups. As previously mentioned, it has been argued that these online methods do not constitute a focus group discussion. In order to improve significance and credibility of the results, the use of synchronous discussions was used to maintain immediacy and evoke greater expression of emotion, an aspect that many believe is lost when collecting data asynchronously (Tates, Zwaanswijk, Otten, van Dulmen, Hoogerbrugge, Kamps, & Bensing, 2009).

The moderated, synchronous online Focus Group Discussions (FGD) were held using the Messenger tool on Facebook. Participants were first added to a private Facebook group (not viewable without an invitation), and convenient times were arranged with each participant to conduct synchronous focus groups. At the arranged times, a total of 5 focus groups of 2 or 3 individuals were carried out in a group message. Participants were first asked to read an introductory paragraph posted in the group introducing them to the goals of the study, what topics will be discussed, a request for complete confidentiality, and a request to give full, honest answers to the best of their ability. Participants were also encouraged to discuss with each other in addition to discussing with the researcher, and were encouraged to use Emoji's as they saw fit in order to better communicate their tone.

The aim of the FGD was to qualitatively examine themes like food purchasing/prices, perceived differences in foods from home and Canadian foods, preparation methods, willingness to try new foods, Canadian foods avoided, reasons for migration, use of

immigration related services in Canada, and diet-related knowledge, attitudes, and beliefs. The FGD were moderated by the researcher, and the aim was to encourage comfortable and honest communication. This study design was partly informed by Satia-Abouta, Patterson, Neuhouser, and Elder's (2002) Proposed Model of Dietary Acculturation. As previously mentioned on Page 15, the current study used the factors and topics seen in Figure A as a guide to design focus group questions and probes, as well as demographic survey questions. The full list of questions and prompts used appear in Appendix B.

During and following the online FGD's, the moderator took brief notes about what worked and what did not, concerning the flow of questions, specific prompts used, and how to better communicate with the participants; these things were slightly amended throughout the duration of data collection. For example, the following things were observed during the very first FGD: Participants were slow to answer initially, and it was clear that 2 participants would have been quicker and more intimate than 3 participants in a FGD of this nature. Additionally, it was clear some participants may have been focusing on things outside of the discussion, as this is possible while discussing online rather than face to face. In the following FGD's, participants were asked to set aside time to participate and to give the discussion their full attention in order to finish in a timely manner. This greatly improved the flow of the following FGD. Another amendment made was the use of emoji's by the moderator. It was clear that when the moderator was more animated in their tone and used various emoji's, the participants followed suit and were much more descriptive in their answers. Some prompts following questions were left out if deemed irrelevant following the first focus group (i.e. What are your dietary restrictions?) The focus group guide found in Appendix B presents every question initially included.

One benefit of carrying out focus groups online was that it was much easier to regulate the influence of the researcher on the participants. This greatly assisted with maintaining good positionality, as it was easy to edit your text before sending to participants in order to avoid leading or closed questions.

Survey

Methods triangulation was used in order to elucidate complementary aspects of the dietary acculturation phenomenon (Patton, 1999). At the end of each FGD, participants were asked to fill out an electronic survey (using Survey Monkey) containing demographic questions that were not asked during the FGD. This allowed more time during the FGD to discuss diet-related topics, and allow for confidential self-disclosure of certain topics, including age, household income, and marital status. Additionally, the Exit Survey provided the opportunity to draw on quantitative data of interest to backup qualitative data gathered from the FGD. Both Chapter 3 and Appendix D contain results from this demographic Exit Survey.

Inclusion Criteria & Recruitment

Recruitment for the study was mainly done online through the online expat community 'Internations' using a public forum to advertise details of the study. Internations is a popular online network for migrants around the world. It has a presence in 390 cities worldwide, and is reported to have 2.5 million users (Internations, 2017). Internations allows public posts in forums for many major Canadian cities, and users can respond to posts publicly or privately.

Recruitment was also done by way of flyers through collaboration with immigration agencies throughout the city of Ottawa, but did not yield any recruitment results. Additionally, a snowball sampling technique was employed using word of mouth from existing participants. Recruitment was ongoing from the time of ethical approval (November 2016) until February 2017.

The inclusion criteria for the study included being a landed immigrant from the region of Western Europe, as defined by the United Nations Regional Information Centre. The UNRIC defines Western Europe as including the following countries: Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Monaco, the Netherlands, Norway, Portugal, Spain, Sweden, and the UK (United Nations, 2013). This is a widely accepted definition, and represents the area well geographically. It was predicted that there would be larger groups of immigrants hailing from some of these nations than others, leaving some areas under- or not represented; therefore, keeping this inclusion criteria broad was necessary to ensure heterogeneity of the sample and diverse results.

The United Nations Development Programme maintains a Human Development Index (HDI), which is a composite statistic used to rank nations according to their development levels (United Nations Development Programme, 2015). Countries are scored and ranked based on things like life expectancy, education, standard of living, child welfare, health care, economic welfare, and population happiness. Though the HDI does not produce a complete picture of a country's human development, it uses widely accepted criteria for assessing development of a country, not by economic growth alone (United Nations Development Programme, 2015). Countries in the region of Western Europe generally have very high HDI scores, and 5 of the 10

countries with the highest HDI scores are countries located in Western Europe (Norway, Switzerland, Netherlands, Germany, and Denmark). Canada also holds a high HDI score (0.920/1), and holds the 9th highest ranking in the world (United Nations Development Programme, 2015). The United Nations Human Development Report showing country profiles shows that North America and Western Europe are the two largest regions in the world with 'Very High Human Development.' As previously mentioned, this choice in study population allowed us to target the gap in knowledge pertaining to the acculturation experiences of those migrating between highly developed countries.

Statistics Canada defines immigrants as "persons who are, or have been, landed immigrants in Canada. A landed immigrant is a person who has been granted the right to live in Canada permanently by immigration authorities" (Statistics Canada, 2014). Immigrants who have been residing in Canada for 10 years or less were included, in order to sample individuals who will still be able to recollect their lifestyle in their country of origin, and the changes they experienced following migration. With an initial criterion of a maximum of 5 years residence in Canada, as frequently seen in previous studies of a similar methodology, this was expanded to ensure thematic saturation as this was found to be a hard-to-reach target population. Further criteria for participation were healthy adults (ages 19-64) with working English proficiency.

Ethical Considerations

The University of Ottawa Health Science & Science Research Ethics Board determined this study to be ethical on May 19th, 2016. The focus groups and survey were completely voluntary and participants each gave their informed written consent via Facebook prior to

participating. Participants were repeatedly assured that their responses would in no way be personally identifiable. Indeed, no personally identifiable information was released to anyone by the researcher.

CHAPTER 3: RESULTS

Survey Results

A total of 13 individuals participated in the study (9 female, 4 male). All participants were healthy adults of ages ranging from 22 to 54. All were landed immigrants and have been living in Canada for an average of 4 years with a range of 0.5 to 10 years. Recruitment was aimed towards individuals of the 19 countries in the region of Western Europe, and the 13 participants were from England (N=4), Scotland (N=2), Switzerland (N=1), Germany (N=1), Netherlands (N=2), Ireland (N=1), and France (N=2).

All of the participants were fluent in English with a minimum of Professional Working Proficiency. Other first languages of participants included German (N=2), French (N=2), and Dutch (N=2). Nearly a third of participants reported using a language other than English most often at home.

Table 1 provides demographic information of participants including age, number of children, country of birth, years lived in Canada, education level, approximate household income, occupation, Canadian province of residence, and English proficiency. All names have been changed to protect the identity of the participants. The remainder of the quantitative findings can be found in Appendix D.

Table 1: Overview of Participants

Name*	Approx. Age	Country of Origin	Region of Origin	Education Level	Occupation	Yrs in Canada	Province	First Language
Phillip	35-44	England	Urban	Bachelor's	Bank Clerk Marketing	10	QC	English
Stephanie	25-34	Switzerland	Urban	Bachelor's Professional	Manager	3	QC	German
Jessica	35-44	Scotland	Rural	Degree College	Midwife Radio	6	AB	English
Tom	45-54	Netherlands	Urban	Diploma	Technician	3.5	NB	Dutch
Molly	18-24	Ireland	Rural	Bachelor's	Barista Research	0.5	ON	English
Francine	35-44	England	Urban	Bachelor's	Assistant	4	ON	English
Marie	22	France	Urban	High School	Student Church	3	ON	French
Amanda	25-34	England	Urban	Bachelor's	Director	1	ON	English
Marc	18-24	Germany	Rural	Trade School	Cook	0.5	ON	German
Duncan	35-44	France	Urban	Master's	Translator Property	10	QC	French
Jackie	45-54	England	Rural	Bachelor's College	Investor	0.5	ON	English
Melanie	35-44	Netherlands	Urban	Diploma College	Hospitality Coast Guard	4	NB	Dutch
Abby	45-54	Scotland	Urban	Diploma	Worker	7	QC	English
					Average:	4		

N=13

*All names have been changed.

Data Analysis

Focus Group Transcripts Analysis

A total of 13 individuals participated in the study (9 female, 4 male). Five focus groups (N=2 or 3) lasting an average of 67 minutes were conducted using the Messenger tool on Facebook.

The online FGD's aimed to explore questions about changes in dietary habits (including food procurement and preparation), barriers to healthy eating, openness to novel foods, and the overall adaptation to the Canadian food environment. The research objective was to explore how Canadian culture and the Canadian food environment influence the dietary behaviours of recent Western European immigrants.

A clear advantage to carrying out focus groups in an online platform is the simplification of the analysis process. Eliminating the process of digital recording and transcription provided more time to hand-code the data. After analysis, five common themes emerged from the FGD.

The literature often shows various Acculturation Scales, some that are very widely used for specific populations, i.e. the Acculturation Scale for Mexican Americans (Cueller, Harris, & Jassp, 1980). These range in number of items assessed, and number of subscales or dimensions including things like language, social interactions, food preferences, length of residency in host country, friendship choices, ethnic identification, cultural exposure, among others. With no current scale available for Western European populations, and using the small sample size was

an advantage, participants were organized from least accultured to most accultured according to the major themes identified. Participants were grouped into 4 columns as seen in Table 2, in order to better view the characteristics these individuals might have in common.

Table 2: Organization of Study Participants According to Level of Acculturation Perceived

Least Accultured → **Most Accultured**			
Duncan Melanie Tom Abby	Amanda Jessica Francine Marc	Jackie Stephanie	Phillip Molly Marie
- English is 2nd language - Have children - Reasons for migration not internal (i.e. spouse's job opportunity, to be closer to partner/spouse) - Do not plan to settle permanently in Canada		- Have more extensive travel experience - Younger in age	

N=13

It was found that the majority of those in the 'least accultured' columns were individuals whose first language was not English, who had children, who migrated for reasons related to a spouse or partner, and who do not plan to remain in Canada. The more accultured groups held individuals who generally had more travel experience, and who were younger in age.

Focus Group Themes

From the online FGD's, five major themes were consistent throughout, and were all related to the complex process of relocating to a new cultural and food environment. The following sections present an overview of the themes from the focus groups as well as data of interest from the exit surveys, along with supporting quotes. Appendix E provides additional illustrative quotes. A further discussion of the findings with reference to the literature will follow.

The five major themes appear in Figure A, organized in a Theme Map to show the related subthemes.

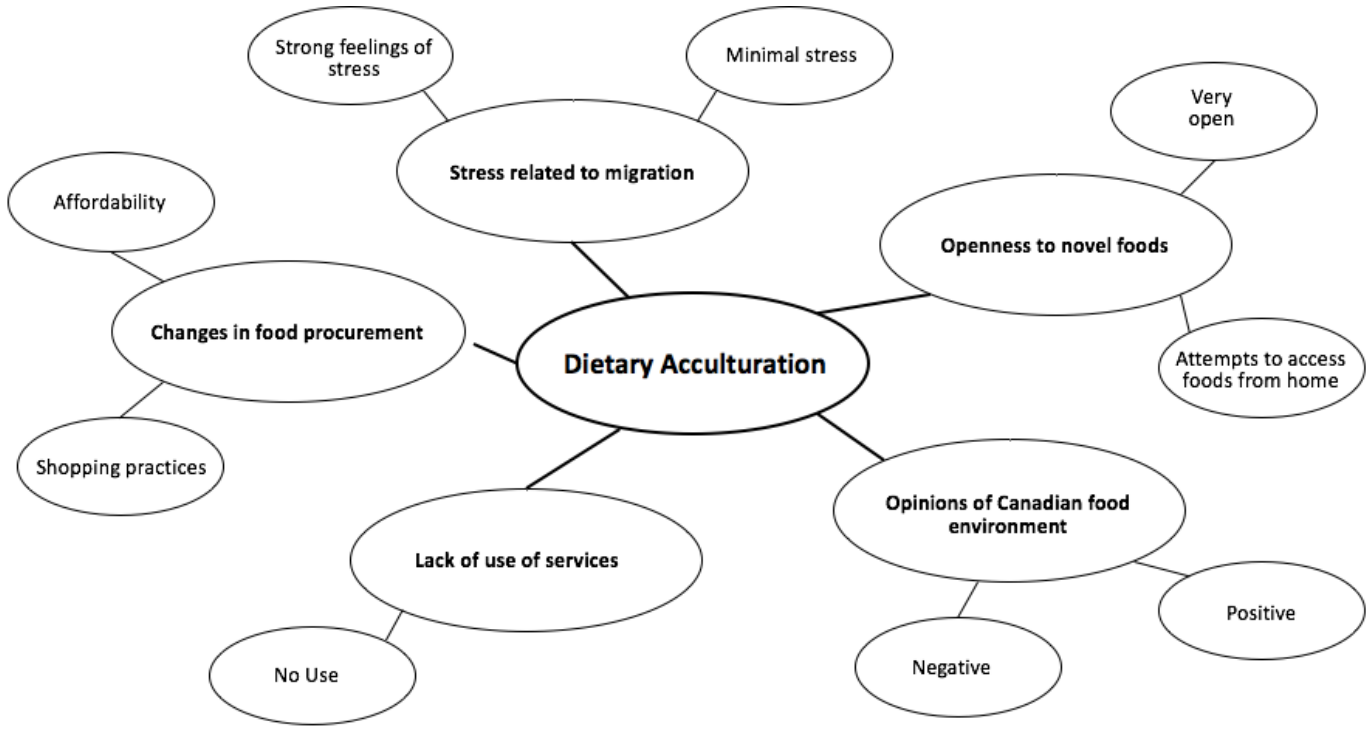

Figure A: Theme Map of Themes and Subthemes Identified Among Recent Western European Immigrants in Canada (N=13)

While these themes do not overlap in the figure, the subsequent discussion of the results will emphasize how the themes are interrelated and many of the subthemes may affect the others. Table 3 provides a further overview of themes and their corresponding subthemes and codes used during analysis.

Table 3: Overview of Themes & Subthemes Identified Among Recent Western European Immigrants in Canada (N=13)

Theme	**Subthemes**	
Changes in food procurement	Positive	• Cost sometimes leads to purchasing healthy options • Currently 'dieting'
	Negative	• Unaffordable healthy foods • Difficulties shopping for food • Dine out more
Stress related to migration	Strong feelings of stress	• Anxiety & depression • Professional instability • Housing issues • Deterioration of health
	Minimal stress	• Similar socioeconomic status • Embracing a new culture • Making attempts to adapt
Openness to novel foods	Very open	

		• More variety
	Attempts to access foods from home	• Specialty stores • Having foods sent from home • Unaffordable foreign foods
Opinions of Canadian food environment	Positive	• More opportunities to live healthier (i.e. exercise)
	Negative	• High sugars, fats; less nutritious • Low North American standards • Large portion sizes • Dine out more frequently
Lack of use of immigration-related services and assistances	No use	• Inactive expat communities • Will help to better integrate with locals

Changes in Food Procurement

The first theme encompasses the changes brought up by participants that they have experienced in relation to food procurement following migration. This includes behaviours and routines related to gathering/shopping for food, and to the preparation of their food. While not all of the participants reported a change in diet following migration (23.1%), a change in diet was prominent for the majority of the group (76.9%). The process of getting used to grocery shopping in a new environment was clearly a source of stress for many individuals, and posed a barrier to maintaining a healthy diet. While adapting to ways of grocery shopping, new stores, brands, etc., takes time, many said that this was troublesome for them in the beginning. Stephanie, from Switzerland, said,

> I remember that I was more stressed to actually go grocery shopping the first few times as all products were different and it took some time to know what to get where etc.

Going hand in hand with shopping for groceries, was the topic of cost of foods, and healthy foods in particular. While several blamed the change in currency for the adaptation they have had to make to their spending on grocery shopping, the majority expressed that finding affordable healthy food in Canada was difficult. Tom, from the Netherlands, said.

> You pay 4x the normal price here. Healthy food is expensive, I have seen a 10 dollar cauliflower.

The cost of healthy foods was also compared to how affordable junk food is in Canada, and it had a clear effect on some of the participants' eating habits. Duncan, from France, said,

> Too much candies, processed foods, crisps, and all kind of junk food at low prices.. Vs. vegetables, fruits, meat, fish, at high prices and not excellent quality.

While most described their issues with cost of food as a negative influence on their eating habits, one individual portrayed it as a cause for him to make better choices. Marc, from Germany, said,

> I eat way more veggies because meat and milk products are so expensive.

Stress Related to Migration

Moving to a new country is a major undertaking for any human being. During focus group discussions, many participants described the experience of adapting to their new Canadian environment as being stressful. While some embraced their new culture, and were enthusiastic about the change, most described only their difficulties. Duncan, from France, said,

> I've had a really hard time adapting to Quebec and Canadian culture in general. I struggled with anxiety and depression because of the adaptation.

Several individuals expressed that the struggle with migration was mainly bureaucratic in nature. Things like securing visas, Canadian passports, and driver's licenses were a source of stress for some. Marie, from France, said,

> Everything related to visas/passports was terrible.

Openness to Novel Foods

It was clear early on that this was a group that was not fond of trying new foods, and rather attempted to access ingredients from home. Those hailing from the United Kingdom in particular opted to have certain brand names and ingredients shipped from home. Jessica, from Scotland, said,

> I've found it hard adjusting to cooking with Canadian foods. I still get some stuff shipped over from an online store from the UK.

It is difficult to assess whether the distain for trying new foods in Canada is a characteristic of this population, or they simply do not like the taste of these new foods.

Opinions of Canadian Food Environment

Many of the comments made by participants concerning their opinions of the Canadian diet pointed to the obesogenic food culture in Canada. Most individuals were not shy to express that the diets of Canadians are high in calories, high in sugars, and high in fats. Duncan, from France, said,

> Here in Canada.. Too much sugar, salt, and fat in all the food.. Especially English Canada.

Another frequent topic was that of the standards of products sold in Canadian grocery stores and restaurants. Many thought that foods in Europe are prepared or sold at a higher, healthier standard. One British participant explained that even while trying to make healthy

choices for her family, purchasing foods without added or hidden sugars here was difficult. Many also pointed to the fact that Canadians dine out more often, and generally eat larger portions of food at each sitting. Stephanie, from Switzerland, said,

> I feel like looking at the overall recipes and restaurant structure, maybe the general Swiss cook and eat healthier.

Many individuals also described Canada as being similar to the US in terms of diet, having many overweight people, having a culture of dining out, and eating foods very high in calories. Overall, there was a very negative perception of the typical Canadian diet, and participants made it clear this would be an unhealthy way of living for them to adopt.

Lack of Use of Immigration-Related Services and Assistances

An unexpected finding was that none of the participants in the current study described any use of immigration-related services or assistances during their migration experiences. They were asked about both immigration service agencies as well as contact with physical expat communities in Canada. While many used the online expat community Internations, as previously mentioned, none actually used any physical expat communities or groups as support systems to network, find work, or find housing. The common theme seemed to be that this was a conscious decision with the hopes of better integrating into their host community. For example, Francine, from England, said,

> We didn't use any services once we arrived and made the conscious decision not to connect with expat communities explicitly, rather choosing to integrate with the locals.

CHAPTER 4: DISCUSSION

The research objective of this study was to explore how Canadian culture and a change in food environment due to migration influence the dietary behaviours of recent Western European immigrants. The research questions were:

1. How are the dietary behaviours of Western European immigrants impacted by the influences of a new cultural and food environment?
2. What are some of the specific barriers to healthy eating after migration to Canada?

The following sections attempt to answer the research questions using the themes from and the topics discussed during the online focus groups in addition to insight from relevant literature.

Adaptations In Lifestyle Leading to Temporary Changes in Diet

Dietary acculturation is based on the underlying assumption that it is primarily changes in the physical food environment (i.e. the foods available) that lead to changes in the types of food eaten (Martinez, 2013; Perez-Escamilla, 2011). The current study found that the physical environment was only one of several important influences on eating and that multiple aspects of the economic, physical, and social environments shaped their dietary changes. Things like stress related to cultural changes, adaptations to climate, and new routines for their children, altered their regular food choices and routines. Ideally these are things that are temporary and are associated with the migration experience, and not necessarily long term. The risk is that any poor health behaviours stemming from these changes could become lifelong habits.

Though some personal characteristics were not acknowledged by participants as barriers to healthy acculturation, some were evident. Age at time of migration, travel experience, motivations for moving abroad, gender, and whether or not they are a parent seemed to play a role. These factors have frequently been seen in past literature. As an example, a 2014 study qualitatively examining dietary changes in Mexican females migrating to the US reported that routines involving their children lead to unwanted changes in dietary habits; like finding new child care, and new school hours lead to consumption of convenience foods, and exposing their children to food of poor nutritional quality (Bojorquez et al, 2014). Delavari et al (2013) examined determinants of obesity among recent Iranian immigrants in Australia, and their sample population was described as well educated, and having emigrated for reasons related to personal freedom as opposed to material deprivation. They reported that the reason for migration played an important role in the feeling of greater acculturative stress, and suggest that those people who are 'forced' to leave their home country may experience feelings of resentment, which in turn can lead to high stress. As seen in the current study results, those individuals who migrated for external reasons (mainly migrating because of a spouse and/or their spouse's job), appear to have had more difficulty adjusting than those who chose to migrate for their own internal reasons.

This same study reported that ten participants noted having gained weight after arriving in Australia, and attributed this to the stress they experienced as a result of immigration. Feelings of loneliness and isolation, lack of stability, and lack of routine were reported, and several stated that they coped with this feeling by over eating and/or eating non-nutritious foods. Their participants identified that this was a transitory experience, and that once they began to socialize

(especially with other Iranian immigrants), they felt less stress and felt healthier (Delavari et al, 2013). While participants in the current study had similar feelings of stress, and also described unhealthy dietary habits as a coping mechanism, it was unclear from their statements whether the majority thought this would be temporary, and none described socialization as a remedy to this problem. One difference between these two immigrant populations was the openness of the Iranian sample group to try the foods prominent in their new environment, which was not common in our Western European group. This could be attributed to many different factors, namely new cultural freedoms, including fewer societal rules relating to women participating in physical activity, and less pressure to adhere to body ideals typical in Iran (Delavari et al, 2013).

A 2015 review of dietary changes in recent immigrant women of various origins described barriers to maintaining health eating habits that are very much in line with those found in the current study:

- High prices of healthy food, leading to the purchasing of unhealthy cheap products,
- Unavailability of traditional foods and ingredients, i.e. certain types of vegetables or spices,
- Uncertainty and unfamiliarity towards new foods and new preparation practices,
- Busier work schedule and lifestyle of all family members,
- Stress, loneliness, feeling of exclusion resulting in higher intake of tasty and unhealthy food, as well as,
- Convenience and affordability of fast foods and pre-packaged foods (Popovic-Lipovac & Strasser, 2015)

The authors also identify that the changes experienced following migration lead to the concept of the 'healthy immigrant effect', where migrants are healthy upon arrival, but lose their health advantage with time spent in their host country (Popovic-Lipovac & Strasser, 2015). The findings of the current study may challenge this idea in terms of the Western European immigrant population in Canada, as many participants identified the above-mentioned barriers as things that were very challenging at first, but that they are in the process of adapting to in order to maintain their health. These results may indicate that an intervention in the very early stages of migration may be beneficial for this population.

Falling Victim to the Nutritional Transition

In the nutritional transition, there is a shift to a more modern diet, one that comprises an increase in the consumption of animal foods, fat, and processed foods, and a decrease in the content of fiber and micronutrients (Belasco, 2008). Changes in the diets of migrants usually go in the same direction and can be considered a "radical form" of the nutritional transition (Holmboe-Ottesen & Wandel, 2012). Impacts on dietary change in immigrants can come from: busier lifestyle, lack of social relations, higher level of stress, children's preferences, taste, food insecurity, and lack of traditional foods. These can result in high fat and sugar diets, low consumption of fruits/vegetables, larger portions, consumption of convenience food, and inactivity (Dunn & Dyck, 2000). These unfavorable dietary changes can in turn result in chronic diseases including cardiovascular diseases, hypertension, type 2 diabetes, among others. Research has shown that this is especially the case with time spent in foreign countries like USA and Canada, whereas cases in Europe show minor negative or even positive impacts (Dunn & Dyck, 2000).

As previously mentioned, many of the demographic characteristics of our study population also pointed to individuals that lead generally healthy lifestyles and make informed health decisions. This population is employed (77%), educated (54% with a Bachelor's degree or higher), speaks the dominant language of their host country (100% fluent in English), and are relatively prosperous (50% have a household income of at least $50,000). Despite these things, 76% of the group we studied reported a negative change in their eating habits following migration. While many participants described sticking to their original diet as best they could, they attributed changes in their diet to changes in other aspects of their dietary behaviours, like when and how much they ate. Satia (2010) stated that the nutritional transition is not only characterized by more energy-dense, processed, and animal products, but also by increases in away-from-home eating, more frequent snacking, and consumption of larger portions of food. These are things that were all evident in conversations with the current study population. Western countries are at the forefront of the nutritional transition, and it is evident that despite having many resources available to them, Western Europeans moving to Canada may be at risk of accelerating their own transition to a modern diet. It may, therefore, be fair to assume that Canada is further along in the nutritional transition to an unhealthy modern diet than countries in Western Europe. This can further be seen in quotes from the focus group discussions relating to quality of food in North America. Several of the participants were under the impression that food in Canada is not produced to the same standards as in their home countries, which greatly affected their health even while they consciously try to make healthy food choices. Some individuals acknowledged a greater diversity of food available in Canada, but raised several concerns about its quality.

According to the database of The Organization for Economic Cooperation and Development (OECD), the six main receiving countries for human movement are USA, Australia, Canada, UK, Germany, and France, which collectively represent 77% of overall immigrant populations (Defoort, 2008). As a nation that prides itself on welcoming foreigners, it is our duty to assist newcomers to adapt to a diet that will support health and wellbeing. This being said, it is important to intervene early to ensure that immigrants are not falling victim to the modern diet in Canada resulting from the nutritional transition, but that they are learning to adjust their dietary habits appropriately.

A Population Declining Beneficial Services

Citizenship and Immigration Canada funds an extensive network of immigrant service-providing organizations that are able to provide counselling and settlement assistance to newcomers (Government of Canada, 2016). They aim to promote innovative ways to assist immigrants in the integration into their new communities, and provide online access to best practices in settlement services to inform organizations and individuals working with newcomers about programs taking place across Canada (Government of Canada, 2016). Some of these organizations include non-profit organizations, social services organizations, visa consultants, and settlement agencies. Canadian provinces provide databases online to assist newcomers in finding settlement agencies in their area. Many agencies provide services or connect immigrants to external services including language instruction, integration programs, clinical counselling, employment assistance, family support and counselling, crisis intervention services, private refugee sponsorship, scholarships, and business counselling (Immigrant Services Association of

Nova Scotia, 2017; Ontario Council of Agencies Serving Immigrants, 2016; Ottawa Community Immigrant Services Organization, 2017; Alberta Labour Settlement Services, 2017).

While government funded integration programs may be useful, many immigrants turn to expatriate communities in their host country to make ties with individuals of similar cultural backgrounds. As previously mentioned, the current study population opted to not use any sort of physical expat communities in order to make connections, but rather used an online platform, or attempted to make connections on their own. In 2000, a large-scale investigation of immigration and integration, including well-being of immigrants in a number of areas of social life, examined differences between immigrants of European and non-European origin. It was found that those of non-European origin (Asia, Africa, and South America), were more likely to report unemployment insurance (UI), worker's compensation, or welfare as their primary source of income than European immigrants (Dunn & Dyck, 2000). Non-Europeans were also found to be less educated, were significantly underrepresented in home ownership, and had more dependents in the home. Despite these factors that may point to less economic prosperity, non-Europeans were more likely than their European counterparts to draw on ties with others from the same language and cultural background for mutual aid and benefit in order to strengthen their social support, a factor commonly associated with health status (Dunn & Dyck, 2000).

According to Social Identity Theory (Tajfel & Turner, 1985), it is very important for a minority group to feel accepted by the majority group and to develop relationships with this group. The current sample population may not be representative of all Western European immigrants, but it is a sample that points to a trend in this being a population that does not wish

to use immigrant service organizations. A 2012 study of settlement and integration services for immigrants and refugees by the OCASI (Ontario Council of Agencies Serving Immigrants) developed an inventory of immigrant serving agencies that have had contact with recent immigrants. Their survey revealed that of the 158 countries represented in the survey, the top five countries of birth were China, India, Colombia, Sri Lanka, and Pakistan (Ontario Council of Agencies Serving Immigrants, 2012); meaning that on a national scale, the Western European immigrant population are not amongst the most likely to use these services.

The current study population present unique characteristics compared to many populations typically studied in dietary acculturation research. This population is English speaking and highly educated, and many had employment secured prior to moving to Canada. That being said, this is a population that may not require the services provided for immigrants in relation to employment assistance, language instruction, or sponsorship. Future research aims might look at the perception of immigrant service organizations by Western European immigrants, as this might be a group that deems contact with these agencies redundant for them. Generally, the nonprofit sector offers services that are tailored to meet the specific needs and circumstances of all newcomers (OCASI, 2012), which may be the most beneficial for this population if they were to seek them out. This involvement of nonprofit organizations in settlement service programming is designed to reduce the size of government bureaucracy involved in the actual provision of community services (Trudeau, 2008). The purpose of this is that nonprofit agencies are believed to be better positioned to know the needs and to service immigrant clients thus improving efficiency and satisfaction levels (Grey & Statham, 2005), while resulting in significant cost savings. The non-use of these agencies by one of the largest

immigrant groups may point to gaps in their current programming, or methods of advertisement to immigrants.

It is clear from the results of this study that the migration process is not one free of trials and tribulations. Some expressed frustration with things like finding housing, dealing with anxieties surrounding integration into their new surroundings, a perception of poor food quality in their host country, unavailability of foods they are familiar with, and culture shock. While none perceived their non-use of immigration-related services as a barrier to healthy eating, it is possible that tapping into tailored resources available to them may help to ease their transition and limit any negative side effects of dietary acculturation.

Significance

Foreign-born Canadians account for a large part of our population, and the continual intake of immigrants is crucial to our economic development and population growth. Canada's diverse society and statutory commitment to multiculturalism means that a synthesis of knowledge related to acculturation experiences and effects on health is essential to ensuring wellbeing for future Canadians. This study is also timely in terms of recent changes in Canadian government. Canada possesses a new Liberal government, one which included immigration related promises in their recent campaign platform. Promises were made to "improve the current immigration system to ensure that families can stay together and successfully integrate into their new communities" (Liberal Party of Canada, 2015). The Liberals plan to increase number of family class applications allowed, ensuring that more parents, grandparents, children and spouses of permanent Canadian residents are able to bring their families to Canada. Their platform also

included an expanded and renewed refugee program for Canada, including a right to appeal refugee decisions for citizens of designated countries of origin (Liberal Party of Canada, 2015). With these prospective changes occurring in the near future, there is potential for an increase in the number of immigrants we will welcome to Canada annually, making the health status of these groups increasingly important.

Potential stakeholders in this study include those in Canadian healthcare services, Citizenship and Immigration Canada, immigrants themselves, Canadian policy makers, dieticians, and employers of foreign-born Canadians. In addition to contributing to the peer-reviewed literature on the phenomena of dietary acculturation and the Healthy Immigrant Effect, I intend to proactively disseminate the results of my project with key stakeholders and other researchers. The results of this study may be significant in future interventions or policies related to immigrant health.

Positionality & Reflexivity

In contrast to most quantitative research endeavors, in which objectivity, replicability, and predictability are all expected, qualitative inquiry is unpredictable, non-replicable, and relies on actions, reactions, recollections, and meaning-making. With this comes many ethical dilemmas (Eide & Kahn, 2008). Positionality is often used in the context of the inductive approach to social science inquiry as an exploration of the investigator's reflection on one's own position within the many contexts, layers, power structures, identities, and subjectivities of the viewpoint (England, 1994). Reflexivity in terms of the current research process involved self-scrutiny in terms of awareness of the relationship between myself and the participants.

It is important to create a welcoming and non-threatening discussion environment in which interviewees are willing to share personal experiences and beliefs. A feeling of intimacy throughout data collection is fueled through unstructured, informal, anti-authoritative, and nonhierarchical atmosphere in which the qualitative researcher and participants establish their relations in an atmosphere of power equality (Karnieli-Miller, Strier, & Pessach, 2009). While it is unlikely, a power imbalance could have been perceived by participants as the researcher is a native Canadian, and holds an authoritative role as the researcher. Additionally, the topic of food choices could be perceived by some as a sensitive topic, which some people may be weary of sharing in great detail with a stranger; for example, if participants were on any kind of special diet. The following passage describes how I maintained consciousness of my positionality and how this may have influenced the results.

As a researcher with past experience in facilitating focus groups discussions with participants of varying backgrounds, I came to the project with an ability to conduct FGD's in a culturally sensitive manner. Even while I believe I was prepared to conduct the focus group discussions competently, I am aware that my positionality as a researcher can influence the results. Through memos made during and following each focus group, I was able to reflect on these influences, and ensure I was recognizing my personal subjectivity throughout the data collection. My educational background and experiences were the main lenses I was concerned would affect how I interacted with participants, and how I interpreted their words. As a health sciences student with a strong interest in nutrition, and an experience with temporal migration, I used memo-ing and reflecting between FGD's as an opportunity to ensure my own experiences

and my own position were not evident and not contributing to the use of any leading questions. Additionally, focus group guides were thoroughly prepared, with specific possible prompts for each question, in order to prevent the addition of any impulsive prompts or questions that may lead participants. The chosen methodology proved to be an asset in terms of maintaining reflexivity throughout the discussions. Online method required me to type out my questions, which took more time and provided opportunity for brief review of the question before it was asked. This was advantageous as I have past research experience in this area, and there was a risk of asking leading questions that may generate responses that may have been previously hypothesized during the design of the study.

Participants were reminded several times of the confidential nature of the study, and that the sole purpose was to better understand the chosen phenomena. They were reminded to keep each other's shared stories confidential, in order to nurture a welcoming and non-judgmental environment. The act of reflecting on my own position in terms of my existing knowledge and assumptions was paramount in enhancing the credibility and trustworthiness of the research.

Limitations

Canada and Western Europe are both vast regions with varying food environments. Therefore, it would be impossible to strictly define the dietary habits in either region. Even with in-depth discussions, we will still be uncertain of the specific food cultures in participants' native towns and cities, and the specific changes in food environments they may be experiencing. While the European countries selected for the study were close geographically, they all have their differences in terms of culture, economic development, food landscapes, and languages. It is

important to note that the Canadian food environment nor the various Western European food environments have not been strictly defined throughout the thesis. This is extremely difficult to do and would require much larger scale and detailed research. The author acknowledges the heterogeneity within these diets (i.e. it is evident that citizens of the Yukon and citizens of Quebec have vastly varying diets despite nation-wide food regulations), and does not claim to investigate the changes in specific food consumption, but rather the overall feelings and thoughts experienced surrounding dietary changes following migration in general. The sample population (individuals who have migrated from Western Europe to Canada) was chosen based on the economic similarities between the two regions in order to investigate the perceived influences on dietary behaviours created by the act of migration, and some of the perceived barriers to healthy eating following migration to Canada.

Another key limitation in this study is the small sample size (N=13). The use of online focus groups was an attempt to remedy an initially smaller sample size in order to create a broader reach. A larger sample would have been beneficial to account for the heterogeneity of the sample population, but the smaller sample also allowed for thematic saturation in the results. Additionally, because the online methods used required participants with not only internet access, but also a Facebook account, with a working knowledge of how to use the popular social networking site.

Typically, focus group discussions involve the participation of 5-10 people. With time constraints, and initial observations during the first two focus groups showing slow typists, it was best to restrain the online discussions to two or three people in order to keep the focus groups

shorter and ensure participants were remaining focused throughout. This posed a problem as traditional focus groups purposely use 5-10 people in order to best elicit feelings and experiences surrounding social norms. Additionally, larger groups contribute to the awareness of any outliers. The aspect of group discussion was certainly limited by the smaller group discussions. In this regard, the comprehension of the design and the usefulness of the chosen methodology may be seen as more credible and conclusive than the strength of the thematic saturation reached.

As previously mentioned, the use of online qualitative methods poses some limitations. Bruggen & Willems (2009) suggested that offline focus groups might provide greater depth and breadth in responses among participants and lead to high-quality outcomes, while online focus groups might be more efficient when trying to elicit spontaneous reactions and interactiveness. This was the necessary option for the target population due to the difficulty in reaching them. These limitations were remedied through limiting the number of people participating in each focus group in order to allow for more 'speaking time'. Also, participants were encouraged to use Emoji's to convey their emotions, feelings, and facial expressions. Emoji's are a common application available to Facebook users consisting of pictures representing different emotions and actions. One of the most widely cited disadvantages to using online group discussions is the reported lack of nonverbal signals. A potential disadvantage of lack of nonverbal cues is the less personal nature of the medium, leading to greater potential for misinterpretation of the written communication, particularly in those writing in their second language. One question that deserves further investigation is that of the participants' preferences in terms of different modes of group discussion. Follow-up questions for the participants concerning their opinions and

evaluations of the methods may have been helpful in determining the usefulness of the methods, and contributed to greater recruitment success in future research.

Additionally, the location and timing of the study was more representative of a winter diet in Canada, which could have impacted the availability and price of certain foods.

Project Interdiscilpinarity

The topic of immigrant health is one that is broad, and truly interdisciplinary. Though the current study had one principal investigator, knowledge and evidence was drawn from research stemming from several subject areas, including: social sciences, nutrition and dietetics, global health, and health promotion. Dietary acculturation is a complex topic, that requires the work of investigators in varying fields in order to carry out significant and consequential research in this area.

Conclusion

This study provides insight into the effect of migration on the dietary habits of recent Western European immigrants in Canada. Immigrants' individual acculturation experience and the impact of their lifestyle change appear to be affected by several factors, including acculturative stress, a lack of openness to trying new foods, and changes in food routines. Participants' discourse was largely focused on their opinions of the obesogenic nature of the Canadian food environment, and the lack of quality and nutritional value of foods available in Canada. While many described the typical Canadian diet as unhealthy and undesirable, many

appear to still be falling victim to the deterioration of their originally healthful diet, which is typical following migration to Western countries.

Many studies that examined the relationship between acculturation and dietary habits have focused on migrants from low-HDI countries migrating to high-HDI countries. This qualitative evidence offers a perspective on those migrating between highly developed countries and indicates that these groups may also be adopting obesogenic behaviours, despite having drastically different demographic characteristics than groups who have previously been shown to be susceptible to this.

Future research should take into account that this underrepresented population may be falling through the cracks as far as support following migration to Canada. It is posited that this is a group that may appear to be better prepared for expatriatism compared to their immigrant counterparts of lower economic standing, but is one that is still facing the negative side effects of the Healthy Immigrant Effect. As is true with qualitative research in general, these findings cannot be generalized to all Western European immigrants in Canada; but these interviews provide us with a thorough understanding of lived experiences, and we are confident that the themes we have identified are meaningful.

Our findings emphasize that online focus groups certainly have potential to gather quality data in a relatively short period of time from respondents located in varying geographical regions. While deeper conversations may be possible through traditional FGD, the online methods employed may have increased self-disclosure in a sample that would have been

impossible to have gathered face-to-face. It is not argued that online focus groups should replace their traditional counterpart, but it is anticipated that these methods will continue to grow into a valued option for researchers.

Future research should search for ways to support our immigrant population in its entirety. Messages aimed at this population should take into account the importance of social support from expatriate communities, as well as the benefits that can come from the utilization of immigration-related services, especially related to integration and adaptation. Effective intervention in this and other populations will help Canada continue to be a welcoming and compassionate country that ensures all citizens are meeting their nutritional needs to best support good health.

BIBLIOGRAPHY

Abraido-Lanza, A., Armbrister, A., Florez, K., Aguirre, A. (2006). Toward a theory-driven model of acculturation in public health research. *American Journal of Public Health.* 96(8):1342-6.

Bojorquez, I., Renteria, D., Unikel, C. (2014). Trajectories of dietary change and the social context of migration: A qualitative study. *Appetite*. 81:93-101.

Bruggen, E., & Willems, P. (2009). A critical comparison of offline focus groups, online focus groups and e-Delphi. International Journal of Market Research, 51, 363–381. doi:10.2501/S1470785309200608

Cairney, J., Ostbye, T. (1999) Time since immigration and excess body weight. *Canadian Journal of Public Health.* 90(2): 120-124.

Chui, T., Tran, K., Maheux, H. (2006) 2006 Census: immigration in Canada: A Portrait of the Foreign-born Population, 2006 Census. Statistics Canada. no 97-557-XIF au catalogue. [Access on September 22nd 2015]. Retrieved from: http://www12.statcan.ca/census-recensement/2006/as-sa/97-557/index-eng.cfm

Cuellar, I., Harris, L., Jasso, R. (1980) An acculturation scale for Mexican Americans, normal and clinical populations. *Hispanic Journal of Behavioural Science*. 2, 199-217.

Defoort C. Long-term trends in international migration an analysis of six main receiving countries. Population (English Edition). 2008;63:285–317.

Delavari, M., Farrelly, A., Renzaho, A., Mellor, D., Swinburn, B. (2013) Experiences of migration and the determinants of obesity among recent Iranian immigrants in Victoria, Australia. Ethnicity & Health. 18(1): 66-82.

Dijkshoorn, H., Nierkens, V., Nicolaou, M. (2008) Risk groups for overweight and obesity among Turkish and Moroccan migrants in The Netherlands. *Public Health*. 122(6) 625-630.

Dunn, J., Dyck, I. (2000) Social determinants of health in Canada's immigrant population: results from the National Population Health Survey. *Social Science & Medicine*. 1573-1593.

Eide, P., Kahn, D. (2008) Ethical issues in the qualitative researcher-participant relationship. *Nursing Ethics*. 15 (2).

El Hassan, D., Hekmat, S. (2012). Dietary acculturation of Arab immigrants in the Greater Toronto Area. *Canadian Journal of Dietetic Practice and Research*. 73 (3), 143-146.

England, K. V. L. (1994). Getting personal: Reflexivity, positionality, and feminist research. *The Professional Geographer, 46*(1), 80-89.

Government of Alberta (2017). Alberta Labor, Settlement Services. Retrieved from https://work.alberta.ca/Immigration/settlement-services.html

Government of Canada (2016). Immigrant-serving organizations; Best Practices in Settlement Services. Retrieved from http://www.cic.gc.ca/English/department/partner/index.asp

Gray, V., Cossman, J., Dodson, W., Byrd, S. (2005). Dietary acculturation of Hispanic immigrants in Mississippi. Salud Publica de Mexico. 47(5).

Grey, E., & Statham, P. (2005). Becoming European? The transformation of the British pro-migrant NGO sector in response to Europeanization", *Journal of Common Market Studies*, 43(4), 877-898.

Gushalak, B., Pottie, K., Hatcher, J., Torres, S., DesMeules, M. (2010). Migration and health in Canada: health in the global village. *Canadian Medical Association Journal*. 183(12):E952-958.

Holmboe-Ottesen, G., Wandel, M. (2012) Changes in dietary habits after migration and consequences for health: a focus on South Asians in Europe. *Food & Nutrition Research.* 56.

Hunt, L., Schneider, S., Comer, B. (2004). Should "acculturation" be a variable in health research? A critical review of research on US Hispanics. *Social Science and Medicine.* 59(5):973-986.

Immigrant Services Association of Nova Scotia (2017). Retrieved from http://www.isans.ca

Karnieli-Miller, O., Strier, R., Pessach, L. (2009) Power relations in qualitative research. Qualitative Health Research. 19(2), 279-289.

Kenny, A.J. (2005). Interaction in cyberspace: An online focus group. Advances in Nursing Science, 49(4), 414-422.

Kramish-Campbell, M., Meier, A., Carr, C.,Enga, Z., James, A.S., Reedy, J., & Zheng, B. (2001). Health behavior changes after colon cancer: A comparison of findings from – face-to-face and online focus groups. Family and Community Health, 24(3), 88-103.

Kreuger, R. (1988) Focus groups: A practical guide for applied research. Newbury Park, CA: Sage.

Kuo, B. (2013). Coping, acculturation, and psychological adaptation among migrants: a theoretical and empirical review and synthesis of the literature. *Health Psychology & Behavioural Medicine*. 2(1):16-33.

Lesser, I., Gasevic, D., Lear, S. (2014) The association between acculturation and dietary patterns of South Asian immigrants. *PLoS ONE*. 9(2).

Lijadi, A., Schalkwyk, G. (2015) Online Facebook focus group research of hard-to-reach participants. *International Journal of Qualitative Methods*. 1-9.

Martinez, A. D. (2013). Reconsidering acculturation in dietary change research among Latino immigrants: challenging the preconditions of US migration. *Ethnicity & Health.* 18(2), 115e135. http://dx.doi.org/10.1080/13557858.2012.698254.

McDonald, T., Kennedy, S. (2004). Insights into the 'healthy immigrant effect': health status and health service use of immigrants to Canada. *Social Science & Medicine.* 59(8):1613-1627.

Ontario Council of Agencies Serving Immigrants. (2012) Making Ontario home: A study of settlement and integration services for immigrants and refugees. Retrieved from http://www.ocasi.org/downloads/OCASI_MOH_ENGLISH.pdf

Ottawa Community Immigrant Service Organization (2017). Retrieved from https://ociso.org

Patton, MQ. (1999) Enhancing the quality and credibility of qualitative analysis. *HSR: Health Services Research.* 34 (5) Part II. pp. 1189-1208.

Perez-Escamilla, R. (2011). Acculturation, nutrition, and health disparities in Latinos. *American Journal of Clinical Nutrition.* 93(5), 1163Se1167S. http://dx.doi.org/10.3945/ajcn.110.003467.

Popkin, B., Gordon-Larsen, P. (2004) The nutrition transition: Worldwide obesity dynamics and their determinants. *International Journal of Obesity.* 28:52-59.

Popkin, B. (2004) The nutrition transition: an overview of world patterns of change. *Nutrition Reviews.* 62:140-3.

Popovic-Lipovac, A., Strasser, B. (2015) A reviews on changes in food habits among immigrant women and implications for health. *Journal of Immigrant and Minority Health*. 17:582-590.

Rivera, B., Casal, B., Currais, L. (2015) The healthy immigrant effect on mental health: Determinants and implications for mental health policy in Spain. *Administration and Policy in Mental Health and Mental Health Services Research*. pp 1-12.

Ryder, A., Alden, L., Paulhus, D. (2000). Is acculturation unidimensional or bidimensional? A head-to-head comparison in the prediction of personality, self-identity, and adjustment. *Journal of Personality and Social Psychology*. 79(1):49-65.

Sanou, D., O'Reilly, E., Ngnie-Teta, I., Batal, M., Mondain, N., Andrew, C., Newbold, B., Bourgeault, I. (2014). Acculturation and Nutritional Health of Immigrants in Canada: A Scoping Review. *Journal of Immigrant and Minority Health*. 16: 24-34.

Satia, J. (2010) Dietary acculturation and the nutrition transition: an overview. *Applied Physiology, Nutrition, and Metabolism*. 35: 219-223.

Satia, J., Patterson, R., Taylor, V., Cheney, C., Shiu-Thronton, S., Chitnarong, K., Kristal, A. (2000). Use of qualitative methods to study diet, acculturation, and health in Chinese-American women. *Journal of the American Dietetic Association*. 100(8):934-940.

Shields, J., Drolet, J., Valenzuela, K. (2016) Immigrant settlement and integration services and the role of nonprofit service providers: A cross-national perspective on trends, issues and evidence. Ryerson Centre for Immigration and Settlement Working Papers. Retrieved from http://www.ryerson.ca/content/dam/rcis/documents/RCIS%20WP%202016_01%20Shields%20et%20al%20final.pdf

Statistics Canada (2007). Population by immigrant status and period of immigration, 2006 counts, for Canada, provinces and territories, 20% sample data (table). Ottawa (ON) Retrieved from http://www12.statcan.ca/census-recensement/2006/dp-pd/hlt/97-557/T403-eng.cfm?Lang=E&T=403&GH=4&SC=1&S=99&O=A

Sussner, K., Lindsay, A., Greaney, M., Peterson, K. (2008) The influence of immigrant status and acculturation on the development of overweight in Latino families: A qualitative study. *Journal of Immigrant and Minority Health*. 10(6): 497-505.

Tajfel, H., Turner, J. (1985) The social identity theory of intergroup behavior. *Psychology of Intergroup Relations* (2nd ed., pp 7-24). Chicago, Nelson-Hall.

Tates, K., Zwaanswijk, M., Otten, R., van Dulem, S., Hoogerbrugge, P., Kamps, W., Bensing, J. (2009). Online focus groups as a tool to collect data in hard-to-unclude populations: examples from paediatric oncology. *BMC Medical Research Methodology*. 9:15.

Thomson, M., Hoffman-Goetz, L. (2009). Defining and measuring acculturation: A systematic review of public health studies with Hispanic populations in the United States. *Social Science and Medicine.* 69(7): 983-991.

Trudeau, D. (2008). Junior partner or empowered community? The role of non- profit social service providers amidst state restructuring in the US. *Journal of Urban Studies*, 45(13), 2805-2827.

United Nations (2013). United Nations Regional Information Centre for Western Europe. Retrieved from http://www.unbrussels.org/agencies/unric.html

United Nations Development Programme (2015). Human Development Index (HDI). Retrieved from http://hdr.undp.org/en/faq-page/human-development-index-hdi#t292n35

APPENDICES

Appendix A: Research Ethics Board Approval

Ethical approval was obtained from the University of Ottawa Health Sciences and Science Research Ethics Board on May 19th, 2016.

File Number: H04-16-07 **Date (mm/dd/yyyy):** 05/19/2016

Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

Ethics Approval Notice

Health Sciences and Science REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

First Name	Last Name	Affiliation	Role
Sanni	Yaya	Health Sciences / Others	Supervisor
Isabelle	Giroux	Health Sciences / Others	Co-Supervisor
Johanna	Guty	Health Sciences / Others	Student Researcher

File Number: H04-16-07

Type of Project: Master's Thesis

Title: Exploring dietary acculturation among recent European immigrants in Canada

Approval Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)	Approval Type
05/19/2016	05/18/2017	Approved

Appendix B: Focus Group Guide

Introduction, Ground Rules, and Consent

Welcome and thank you for taking the time to participate in this group discussion! My name is Johanna, and as you know I am conducting a study on the dietary changes experienced upon immigration to Canada.

Everything you say is important to us and will help to better understand your experiences. Please feel free to speak openly and use any language or words you are comfortable with, there are no right or wrong answers. You are encouraged to give lengthy, detailed answers, and feel free to use emoticons! You can choose to stop participating in the discussion at any time, or choose not to answer any question, but we hope you will contribute because your participation will give us insight into your experiences with migration to Canada.

In order to later analyze this discussion, the conversation will be printed, but will not be shared with anyone except my thesis supervisors. It's important to note that participating may be easier on a laptop or desktop computer, rather than a cell phone.

I'll ask that you please respect each other during the conversation. Also, everything that is discussed today is confidential in nature, and we ask that you respect the others by not sharing any information outside of this group.

I have a list of questions prepared, and will begin with one question, and move onto the next once everyone has given a response. You are encouraged to also discuss with each other; feel free to respond to the other participants!

The discussion shouldn't take any longer than one hour. Following the discussion, you will each receive a link to a quick survey, this shouldn't take more than 5 minutes to complete!
Does anybody have any questions before we begin?

INTRODUCTION

I'll start by getting you to introduce yourself: tell me your name, where you're from, what you're currently doing for a living, and how long you've been in Canada.

LANGUAGE/FLUENCY

Is English your first language? If not, are you fluent in English? If not fluent, are you taking steps to become fluent?

REASONS FOR MIGRATION/PLANS TO SETTLE

What were your reasons for migrating to Canada?

Do you all plan on settling here in Ottawa, or do you have plans to either move back home or to another city in Canada at all?

STRESS & CULTURE SHOCK
What would you say were some of the stresses you experienced during and after your migration to Canada? Recall from when you initially moved to Canada, as well as in the time that's passed since then.

What were some of the positive and negative outcomes of moving to Canada?

Would you say that stress affects your eating habits/food choices?

What are some specific stressors that can lead you to make unhealthy food choices?

Would you say you guys experienced any culture shock when you first moved to Canada? And how would you describe it?

IMMIGRATION SERVICES
Did you use any services when you arrived to help with these things? I.e. Immigration services, Expat communities, etc.

DIETARY RESTRICTIONS
Do you follow any specific diet or have any major dietary restrictions? I.e. Allergies, gluten free, dairy free, vegan, etc.? And please explain any reasoning behind these choices.

IMPORTANCE OF HEALTHY EATING
How important is healthy eating in your life? Has this changed following your move to Canada?

CHANGE IN DIET
Overall do you think you've experienced a change in your diet since moving to Canada?

Would you say your change in diet is mostly positive or mostly negative? In terms of how healthy your food choices are.

.

OPENNESS TO NEW FOODS
Do you find you're seeking out the kinds of food you would eat back home, or have you started eating more Canadian foods?

Would you say you're generally open to trying new foods?

What are some specific foods from back home you miss?

WEIGHT GAIN
Have you experienced any weight gain since migrating to Canada?

BARRIERS TO HEALTHY EATING

Just in general, what are some of the barriers to healthy eating that you face? And are there any barriers that are Canada-specific (you didn't experience them until moving to Canada)?

PERCEPTIONS OF CANADIAN DIET

What is your opinion of the Canadian diet? How would you describe how you think Canadians typically eat?

This is pretty subjective, but in general, would you say the diets of Canadians are healthier, less healthy, or equally as healthy as in your home country?

PERCEPTIONS OF DIET OF HOME COUNTRY

How would each of you describe the typical diet of your home country? (Feel free to be specific with food types and meal types)

HEALTHY EATING

What does healthy eating mean to you? I'll provide you a list of options and let me know which ones you mostly agree with; feel free to add your own.
Low carb, a balanced diet, no dairy, low fat, no processed food, eating whole grains, eating fresh foods, eating organic foods, etc.

THINGS AFFECTING FOOD CHOICES

In your everyday life, what are some things that affect your food choices? I.e. time, cost, etc.

GROCERY SHOPPING & COST OF FOOD

As far as grocery shopping in Canada - does this differ from back home? (i.e. the style of grocery stores, the number of grocery stores around, brands of foods, where items are located, how close they are to your house, etc)

Do you find larger grocery stores are a good thing or bad thing?

As far as cost of food, how does this compare here to back home? Both of food in general, and of healthy foods. .

PORTION SIZES

How would you compare portion sizes of foods and meals in Canada to back home? (I.e. in restaurants and fast food chains)

DINING OUT

Since moving to Canada, do you eat out at restaurants/fast food more or less than you did back home?

In your opinion would you say Canadians dine out more or less than people you're your home country?

CONCLUSIONS

Is there anything else you would like to share with us about your experiences?

Do you have any questions for us?

Thank you all very much for taking the time to speak with us today. We have one final thing on our agenda for today, which is a quick exit survey that will give us a little more information about who you are.

If you have any questions about the survey or study, or have anything else you'd like to add, please feel free to contact me at any time!

Appendix C: Survey Questions

1. What is your age?
18 to 24
25 to 34
35 to 44
45 to 54
55 to 64

2. What is your gender?
Female
Male
Other

3. Which of the following categories best describes your employment status?
Employed, working full-time
Employed, working part-time
Self-employed
Out of work for less than 1 year
Out of work for more than 1 year
A homemaker
Student
Retired
Unable to work

4. What is your occupation?

5. What is your approximate household income?
$0-$24,999
$25,000-$49,999
$50,000-$74,999
$75,000-$99,999
$100,000-$124,999
$125,000-$149,999
$150,000-$174,999
$175,000-$199,999
$200,000 and up

6. How many dependants are in your care?
0
1
2
3
4
5

More than 5

7. What is your current marital status?
Married
Widowed
Divorced
Separated
In a domestic partnership or civil union
Single, but cohabiting with a significant other
Single, never married

8. What is your country of origin?

9. What is your city of origin?

10. Which best describes your region of origin?
Rural
Urban

11. Which race/ethnicity best describes you? (Please choose only one.)
American Indian or Alaskan Native
Hawaiian or other Pacific Islander
Asian
Black
Hispanic or Latino
White / Caucasian
Multiple ethnicity / Other (please specify)

12. What was the approximate date you emigrated from your country of origin?

13. How many years have you been residing in Canada?

14. Which province did you originally immigrate to?
Quebec
Ontario
Newfoundland and Labrador
Prince Edward Island
Nova Scotia
New Brunswick
Nova Scotia
Manitoba
Alberta
Saskatchewan
British Columbia
Yukon
Nunavut

Northwest Territories

15. Which Canadian city did you originally immigrate to?

16. What is the highest level of education you have completed?
No formal education
Elementary school
High School Diploma
Trade school or Apprenticeship
College Diploma or Certificate
Bachelor's Degree
Master's Degree
Degree in dentistry, medicine, veterinary medicine, optometry, or law
Doctorate
Other (please specify)

17. Which city do you currently reside in?

18. Which language do you speak most often at home?
Arabic
English
French
German
Greek
Italian
Polish
Portuguese
Russian
Spanish
Dutch
Other (please specify)

19. What is your proficiency in English?
No proficiency
Elementary proficiency
Limited working proficiency
Professional working proficiency
Full professional proficiency
Native or bilingual proficiency

20. What is your proficiency in French?
No proficiency
Elementary proficiency
Limited working proficiency
Professional working proficiency
Full professional proficiency

Native or bilingual proficiency

21. Do you follow any of these dietary restrictions? (Please select all that apply.)
Vegan
Vegetarian
Kosher
Lactose Free
Celiac disease
Gluten free diet
Food Allergy (e.g. gluten free, peanut free)
Other (please specify)

22. What are your plans for staying in Canada?
Settle permanently in Canada
Maintain residences in both Canada and another country
Live in Canada for some time and then return to my home country
Move to another country
Not sure, cannot say now

23. What was your main reason for immigration? (You may select more than one)
To be close to family and friends
Quality of life is better in Canada
Improve future for family
Access to education is better in Canada
A specific educational opportunity
Job opportunities are better in Canada
A specific job opportunity
Canada's social system is ideal (i.e. health care, social programs, etc)
Political or religious freedom
Peaceful country, no war
Other (please specify)

24. Have you experienced changes in your diet since moving to Canada?
Yes, my diet has become more healthy
Yes, my diet has become less healthy
No, my diet has not changed at all
Not sure

25. Do you wish to receive general information about the results of this study? If yes, please provide your e-mail address.
Yes
No

Appendix D: Survey Results

Closed-Ended Question Results

	Response %	Response Count
1. What is your age?		
18 to 24	23.1%	3
25 to 34	15.4%	2
35 to 44	38.5%	5
45 to 54	23.1%	3
55 to 64	0.0%	0
2. What is your gender?		
Female	69.2%	9
Male	30.8%	4
Other	0.0%	0
3. Which of the following categories best describes your employment status?		
Employed, working full-time	61.5%	8
Employed, working part-time	15.4%	2
Self-employed	7.7%	1
Out of work for less than 1 year	7.7%	1
Out of work for more than 1 year	0.0%	0
A homemaker	0.0%	0
Student	0.0%	0
Retired	7.7%	1
Unable to work	0.0%	0
5. What is your approximate household income?		
$0-$24,999	16.7%	2
$25,000-$49,999	33.3%	4
$50,000-$74,999	25.0%	3
$75,000-$99,999	0.0%	0
$100,000-$124,999	8.3%	1
$125,000-$149,999	0.0%	0
$150,000-$174,999	0.0%	0
$175,000-$199,999	8.3%	1
$200,000 and up	8.3%	1
6. How many dependants are in your care?		
0	61.5%	8
1	15.4%	2
2	7.7%	1
3	15.4%	2
4	0.0%	0
5	0.0%	0
More than 5	0.0%	0

7. What is your current marital status?		
Married	38.5%	5
Widowed	0.0%	0
Divorced	0.0%	0
Separated	0.0%	0
In a domestic partnership or civil union	23.1%	3
Single, but cohabiting with a significant other	15.4%	2
Single, never married	23.1%	3
10. Which best describes your region of origin?		
Rural	38.5%	5
Urban	61.5%	8
11. Which race/ethnicity best describes you? (Please choose only one.)		
American Indian or Alaskan Native	0.0%	0
Hawaiian or other Pacific Islander	0.0%	0
Asian	0.0%	0
Black	0.0%	0
Hispanic or Latino	0.0%	0
White / Caucasian	84.6%	11
Multiple ethnicity / Other (please specify)	15.4%	2
14. Which province did you originally immigrate to?		
Quebec	30.8%	4
Ontario	38.5%	5
Newfoundland and Labrador	0.0%	0
Prince Edward Island	0.0%	0
Nova Scotia	0.0%	0
New Brunswick	0.0%	0
Nova Scotia	0.0%	0
Manitoba	0.0%	0
Alberta	7.7%	1
Saskatchewan	0.0%	0
British Columbia	23.1%	3
Yukon	0.0%	0
Nunavut	0.0%	0
Northwest Territories	0.0%	0
16. What is the highest level of education you have completed?		
No formal education	0.0%	0
Elementary school	0.0%	0
High School Diploma	7.7%	1
Trade school or Apprenticeship	7.7%	1
College Diploma or Certificate	23.1%	3
Bachelor's Degree	46.2%	6
Master's Degree	7.7%	1
Degree in dentistry, medicine, veterinary medicine, optometry, or law	0.0%	0
Doctorate	0.0%	0

Other (please specify)	7.7%	1
18. Which language do you speak most often at home?		
Arabic	0.0%	0
English	53.8%	7
French	7.7%	1
German	7.7%	1
Greek	0.0%	0
Italian	0.0%	0
Polish	0.0%	0
Portuguese	0.0%	0
Russian	0.0%	0
Spanish	0.0%	0
Dutch	15.4%	2
Other (please specify)	15.4%	2
19. What is your proficiency in English?		
No proficiency	0.0%	0
Elementary proficiency	0.0%	0
Limited working proficiency	0.0%	0
Professional working proficiency	23.1%	3
Full professional proficiency	23.1%	3
Native or bilingual proficiency	53.8%	7
20. What is your proficiency in French?		
No proficiency	23.1%	3
Elementary proficiency	30.8%	4
Limited working proficiency	15.4%	2
Professional working proficiency	0.0%	0
Full professional proficiency	15.4%	2
Native or bilingual proficiency	15.4%	2
21. Do you follow any of these dietary restrictions? (Please select all that apply.)		
Vegan	0.0%	0
Vegetarian	0.0%	0
Kosher	0.0%	0
Lactose Free	25.0%	1
Celiac disease	25.0%	1
Gluten free diet	25.0%	1
Food Allergy (e.g. gluten free, peanut free)	50.0%	2
Other (please specify)	75.0%	3
22. What are your plans for staying in Canada?		
Settle permanently in Canada	53.8%	7
Maintain residences in both Canada and another country	7.7%	1
Live in Canada for some time and then return to my home country	0.0%	0
Move to another country	23.1%	3
Not sure, cannot say now	15.4%	2

23. What was your main reason for immigration? (You may select more than one)		
To be close to family and friends	15.4%	2
Quality of life is better in Canada	30.8%	4
Improve future for family	15.4%	2
Access to education is better in Canada	0.0%	0
A specific educational opportunity	15.4%	2
Job opportunities are better in Canada	15.4%	2
A specific job opportunity	23.1%	3
Canada's social system is ideal (i.e. health care, social programs, etc)	0.0%	0
Political or religious freedom	23.1%	3
Peaceful country, no war	30.8%	4
Other (please specify)		2
24. Have you experienced changes in your diet since moving to Canada?		
Yes, my diet has become more healthy	23.1%	3
Yes, my diet has become less healthy	69.2%	9
No, my diet has not changed at all	7.7%	1
Not sure	0.0%	0
25. Do you wish to receive general information about the results of this study?		
Yes	92.3%	12
No	7.7%	1

Open-Ended Question Results

	Response %	Response Count
1. What is your occupation?		
Research Assistant		
Technician Electronics		
Barista		
Children's social worker/Child protection officer		
Translator		
Bank clerk		
Government Employee		
Administrative Assistant		
Midwife		
Marketing manager		
Director of religious education at a church		
Waste worker		
2. What is your country of origin?		
England	30.8%	4
Netherlands	15.4%	2

Ireland	7.7%	1
France	15.4%	2
Scotland	15.4%	2
Switzerland	7.7%	1
Germany	7.7%	1

3. What was the approximate date you emigrated from your country of origin?

Apr-13
Sep-13
Aug-16
Oct-16
Mar-07
Mar-05
Jan-10
Sep-13
Nov-10
Aug-14
Aug-15
Jan-12
Jul-16

4. How many years have you been residing in Canada?

0.5
0.5
10
10
7
3
6
1.5
3
0.5

Average = 3.5 years

5. Which Canadian city did you originally immigrate to?

Ottawa, ON	30.77%	4
Kelowna, BC	15.38%	2
Niagara Falls, ON	7.69%	1
Montreal, QC	23.08%	3
Panorama Village, BC	7.69%	1
Stony Plain, AB	7.69%	1
Quebec City, QC	7.69%	1

6. Which city do you currently reside in?

Ottawa	30.77%	4
Saint John	7.69%	1
Niagara	7.69%	1

Falls		
Gatineau	15.38%	2
Cantley	7.69%	1
Hanover	7.69%	1
Montreal	15.38%	2
Stony Plain	7.69%	1

Appendix E: Additional Illustrative Quotes

Theme	Subtheme	Quote
Changes in food procurement	Positive	
	Negative	"This definitely affects things, getting used to new shops and stuff." "Much less choice for fruit and vegetables, cheese, delicatessen, and so on…" "Because I usually have to go to special stores to find spices or foreign products it's further away from where I live, and it is more expensive. So I end up eating out sometimes which is not so great." "It is easy to spend a lot of money on food here." "Fruit and vegetables are crazy expensive at supermarkets." "Not to continually harp on about it, but the fruit and veg prices are a big barrier for me."
Stress related to migration	Strong feelings of stress	"It's expensive, and it's hard to find foreign products sometimes and they're of course much more expensive." "Culture shock is a really weak term but it reflects somehow what I've lived. Feeling like being a stranger in Canada, even today." "Stress resulted from the culture, mentality, perception from the Canadians as a European." "Unemployment was [stressful], and professional instability and insecurity resulted in stress, anxiety, and depression." "First 2 years, stress led to digestive problems and also because the food is not produced with the same standards here in North America. I often got sick at the beginning and often went to fast food restaurants." "We had never been further than Europe so we had quite an adjustment."
	Minimal stress	"Not really because Germany and Canada are pretty much on the same level." "We have embraced the cultures here as in Cornwall there is not really any 'culture' we are meeting and making friends from everywhere and are learning so much about religion and views. Love it!"
Openness to novel foods	Very open	"Biggest barrier was changing out mindset. We can't find/afford British imports so we had to adapt."
	Attempts to access foods from home	"I've found it hard adjusting to cooking with Canadian foods. I still get some stuff shipped over from an online store from the UK."

		"I've tried Canadian food or like specialties but I am not a huge fan so I try to stick to my original diet." "Trying Canadian foods was a big change, also I found it hard to find products sometimes."
Opinions of Canadian food environment	Positive	
	Negative	"I take extra iron because my HB is lower here. Maybe the food is less nutritious." "In the Netherlands there is less sugar in the food and more tasteful, and bread is fresh." "Pretty heavy on beef and starch, low on veg and dairy, they eat out a lot though. Quite similar to the UK in food styles in the home, but when it is a time crunch it is frozen pizza, kraft dinner, or eating out junk food." "Far too much sugar in basic foods – even porridge!" "Canadian diet is way less healthy." "Healthy eating is a choise and by having hidden sugars your choice is compromised – unless you have the time to read the ingredients of everything you buy." "Canadian diet is unhealthy, lots of overweight people." "Lots of sugar in most things. Also when eating out at restaurants, I found in the UK there will be a balance of healthy and unhealthy choices wheras here, a lot of the time the healthy option is a salad but even then it's covered in oil and such things." "I cannot adapt to Canadian food except Quebecer food which resembles French food a bit."
Lack of use of services	No use	"I tried to reach out to the Irish expat community here but I guess they aren't too active." "We didn't use any services once we arrived and made the conscious decision not to connect with expat communities explicitly, rather choosing to integrate with the locals."