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Becoming American: Diet Acculturation among Refugee Adolescents from Bhutan Living in Georgia

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An abstract of a thesis submitted to the
Faculty of the Rollins School of Public Health of Emory University
in partial fulfillment of the requirements for the degree of
Master of Public Health
in Hubert Department of Global Health
2013

Abstract

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By Sarah Gray

Background: The diets of refugee adolescents and other immigrants change with resettlement in America. Adolescent refugees are at a formative stage in life and food related behaviors can impact health. The population of refugees from Bhutan is growing in Georgia and little is known about food related behaviors, dietary changes and the role of best friends in diet acculturation among these adolescents.
Objective: This study examines the food related behaviors of adolescent refugees from Bhutan and explores the role of friends in changing these behaviors.
Methods: A questionnaire addressing food frequency, preferences and their perceptions of a best friend's food related behaviors was completed with 30 adolescent refugees from Bhutan between the ages of 9 and 19. Participants were recruited from the Bhutanese families resettled with World Relief in Clarkston, Georgia. Frequency of food consumption, preferences, and best friend correspondence analysis were calculated using Epi Info and SPSS.
Results: Participants showed preferences for both traditional Bhutanese foods and foods identified as American. Adolescents reported similarities with their nominated best friend in food consumptions patterns and preferences. A strong association was found between adolescent's frequency of fast food consumption and their perception of their best friend's fast food consumption. Participants viewed their own diets and the diets of their friends as being healthy.
Discussion: Adolescent refugees incorporate both Bhutanese foods and new foods into their diet upon resettlement and report food behavior similarities with their best friend. For the growing number of refugee and other immigrant adolescents in America, further research is needed to explore the process by which friends inform food related behaviors in order to promote healthy transitions and lifestyles for all Americans.

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Acknowledgements

I would like to than my wonderful thesis advisor Solveig Argeseanu Cunningham, for providing excellent guidance, feedback and support throughout this journey. Thank you to World Relief for introducing me to the refugee community and allowing me to contact their families. I would also like to thank Mandira Giri for her support in providing interpretation and delicious examples of home-cooked Bhutanese food.

Thank you to Joe and my mom and dad for encouraging me to keep going and reminding me why I decided to do this in the first place.

Finally, I would like to thank the refugee adolescents and their families living in Clarkston, Georgia who have taught me so much about faraway lands but also about my country and the beauty and resilience of the human spirit. I hope that together as Americans we can continue down the road of health and happiness.

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Preface

The once sleepy southern town of Clarkston, Georgia is now a vibrant melting pot where one can travel to the far corners of globe by walking down the neighborhood streets. As refugee resettlement agencies have made a place for thousands of war weary refugees over the last two decades, nearly half of Clarkston's population is foreign born.(U.S. Census Bureau, 2013) I have found Clarkston to be a fascinating place to learn about how both 'American' and foreign culture impacts health. Through afterschool tutoring and a Girl Scout troop for refugee kids, I've had the opportunity to watch some of these cultural transformations take place as curious wide-eyed newcomers become experts in pop culture, teaching me about all the latest fads I seem to be ignorant of. Over the last four years, I've tried to model an active lifestyle and make healthy food choices the 'social norm' during our meetings and special outings. Yet, I have watched several of the normal body weight, school-aged girls become overweight, self-conscious, and discontented adolescents. The World Relief staff had also noticed how many of their adult and adolescent clients were gaining weight and developing diabetes and hypertension across ethnic groups. These observations, coupled with my interests in pediatrics, nutrition, and global health, stirred a curiosity and determination to learn more about diet acculturation in the refugee community and find ways to support healthy transitions in America.

As part of the GH 502 course, Survey Methods, I had the opportunity to design a questionnaire and learn how to investigate my research questions with refugee adolescents. Every step of this process including the literature review,

instrument development, data collection, and articulation of the results has taught me a great deal about the value of research and the great need for interventions founded on research findings. In both my professional practice as a pediatric nurse practitioner and public health graduate, as well as in my personal interactions with vulnerable populations such as refugees, I want to help kids and their families build healthy, successful lives. Excessive weight gain and chronic disease should not be a normal part of growing up in America. Through research, advocacy, and empowering my pediatric patients, I will take the lessons learned from this project and help build an environment where kids from all backgrounds have bright, healthy futures.

Chapter One: Introduction

Immigration is the oldest and the newest story of the American experience. Immigration has enabled America's growth and prosperity, and helped shape our dynamic American society.(Hirschman, 2013) Currently, immigrants and their children represent one-sixth of the U.S. population.(Camarota, 2012) This includes over a million people seeking a new beginning in America after fleeing violence and persecution in the most unstable corners of the globe.(Martin & Yankay, 2013) Each year, nearly 20,000 young people under the age of 18 are resettled and must quickly learn to become American.(Martin & Yankay, 2013) In schools and neighborhoods, adolescent refugees find out that talking, dressing, acting and even eating certain ways communicates messages about identity and have the potential to accelerate social acceptance.(Correa-Velez, Gifford, & Barnett, 2010) Adolescent refugees face substantial changes to their diet with resettlement which can have a lasting impact on health.(Patil, 2009) Although little data addresses refugees specifically, numerous studies of other immigrant groups suggest that these changes in diet may lead to weight gain and increased risk of lifestyle related diseases including diabetes and heart disease.(Antecol & Bedard, 2006; Gordon-Larsen, Harris, Ward, & Popkin, 2003) Changes in food consumption and health related behavior are particularly important during the formative years of adolescence which are sensitive to social norms yet dynamic with growth and development.(Lake, Adamson, Craigie, Rugg-Gunn, & Mathers, 2009)

Bhutanese refugees represent the largest group of refugees to be resettled in the US and DeKalb County, Georgia since 2009. A substantial burden of chronic

disease, micronutrient deficiency and depression has been found among Bhutanese refugees resettled in America.(Kumar et al., 2013) Over half of Bhutanese adults are overweight or obese while 23% have hypertension and 14% have diabetes.(Kumar et al., 2013) Bhutanese adults shared in anecdotal reports that their previously active farming lifestyles with yogurt and vegetable-rich diets in Bhutan were replaced in camps by sedentary lifestyles with diets consisting primarily of rice provided by aid organizations.(Brennan, Biluhka, & Bosmans, 2005) With resettlement in the US, these adverse lifestyle changes may be perpetuated with further acculturation to American diet and lifestyle.(Kumar et al., 2013) Adolescent refugees are making the transition between childhood and adulthood and their emerging attitudes and beliefs regarding food may be influenced by friends.(Patil, 2009)

Significance of this Study

Bhutanese refugees are part of the growing portion of the American population who has relocated from other parts of the world. Nearly 60 thousands refugees per year and thousands more immigrants move and make the transition to life in America.(Office of Refugee Resettlement, 2013) Refugees and their children become part of our schools, businesses and communities and their health becomes intertwined with ours. Healthy transition that included well balanced diets, physical activity, and access to quality medical care can support successful futures than influence the health of the nation.(Harrison et al., 2005) Yet, the knowledge base surrounding the diet and health of refugee populations is insufficient, making it

challenging to address needs and encourage healthy acculturation.(Patil, 2009; Renzaho, 2004) Studies of adolescent refugees, in particular, are sparse as further research is needed to better understand the experiences and diets of this vulnerable ethnic and age group. Although previous data describing diet and health status of resettled refugees exist, the changing demographics and countries of origin of refugees and immigrants highlights the importance of collecting current, local data. The results of this study will be used by World Relief to guide health education initiatives and new arrival orientations. This study may also be used by other refugee organization or by future projects at Emory University. Finally, the results of this study may be useful locally or nationally to school-based, adolescent or immigrant health organizations to inform diet and health related initiatives for improved access to nutritious foods, health education, and environments that support healthy choices.

Definition of Terms

Acculturation- The process of acculturation involves the cultural modification of an individual, group or people by adapting to or borrowing traits from another culture(Schwartz, Unger, Zamboanga, & Szapocznik, 2010)

Adolescent – The term adolescence is commonly used to describe the transition stage between childhood and adulthood. As identified by the World Health Organization, an adolescent includes young people between the ages of 10 and 19.(World Health Organization, 2000)

Diet – Diet consists of the usual food and drink of a person

Dietary Acculturation – A reciprocal process, dietary acculturation refers to how members of a migrating group adopt the eating patterns and food choices of their new environment(Satia-Abouta, 2003)

Fast Food – Foods designed for ready availability, use or consumption which are sold at restaurants for quick availability or take out.(U.S. Department of Agriculture and U.S. Department of Health and Human Services, 2010) These eating establishments are also known as quick-service restaurants and include convenience stores.

Healthy Foods – According to the USDA Dietary Guidelines for Americans, healthy food is defined as plant or animal product that provides essential nutrients and energy to sustain growth, health and life while satiating hunger.(2010)

Immigrant – A person who leaves one country to settle permanently in another is considered an immigrant. The person is not a tourist or a visitor.

Refugee – As defined by the UNHCR, a refugee is someone who 'owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality, and is unable to, or owing to such fear, is unwilling to avail himself of the protection of that country.'(2012b)

Chapter Two: Review of the Literature

Immigrants in America

America is a nation of immigrants.(Kennedy, 1964) Countless generations can trace their origins to outside the borders of the United States making a diverse population with a rich cultural and ethnic heritage. Seeking religious freedom, economic opportunity, and safety from ethnic violence, over 40 million people have recently immigrated to the United States.(United States. Department of Homeland Security, 2011) The number of immigrants in the USA currently is higher than any time in American history as immigrants represent 13% of the nation's population.(Camarota, 2012) While immigrants hail from nearly every country, the largest groups of immigrants come from Mexico, China, and India.(United States. Department of Homeland Security, 2011)

Immigrants are incredibly diverse with various levels of education, fluency, skills, health issues, cultural background, and life experiences. Comparable to native born Americans, approximately 11% of immigrants are highly educated with graduate or professional degrees.(Camarota, 2012) Meanwhile, 28% of immigrants have not completed high school compared to 7.2% of native born adults.(Camarota, 2012) Immigrant households are on average slightly larger in size than native households and unemployment rates are similar to native born people at 8.1%.(Camarota, 2012) Many immigrants make significant economic progress the longer they live in America, yet even after living in the US for 20 years, they are much more likely to live in poverty, lack health insurance, and access the welfare system available to native-born Americans.(Camarota, 2012)

Despite the diverse backgrounds of immigrants in America, they share similarities in their experiences, needs and challenges. Once in America, most immigrants are determined to enter the workforce, continue their education and build brighter futures for their families. As documented by a Robert Woodruff Johnson study, the lives of immigrants involve work and sleep with little else in between.(Camarota, 2012; Garrett, 2006) Commonplace tasks like grocery shopping, taking a bus or finding a doctor can be overwhelming.(Garrett, 2006) Family life suffers from daily strains and immigrant parents often feel they are growing apart from their children.(Kwak, 2003) However, many immigrants remain optimistic that life will get better with time and few regret their decision to come to America.(Garrett, 2006)

Refugees

People generally come to America voluntarily, seeking economic opportunity, yet among these immigrants are refugees who are fleeing unsafe situations in their home country. The United States provides refuge to persons who have been persecuted or have a well-founded fear of persecution.(United States. Department of Homeland Security, 2011) In 2012, a total of 58,179 persons were admitted to the U.S. as refugees and comprise approximately 10% of all immigrants in the USA.(Martin & Yankay, 2013) Refugees include those who apply for admission to the U.S. while outside the country while asylees refers to persons who apply for admission either at a port of entry or at some point after their entry into the United States.(United States. Department of Homeland Security, 2011) Following the United Nations Protocol of 1967, which prohibits any nation from returning a

refugee to a country where his or her life or freedom would be threatened, Congress enacted the Refugee Act of 1980 and began resettling refugees throughout the nation. Since the 1980's, the US has welcomed over 3 million refugees from all over the world, offering a chance to build new lives, homes, and communities.(United States. Department of Homeland Security, 2011) In 2012, the leading countries of nationality for refugee admissions were Bhutan (26%), Burma (24%), and Iraq (21%) with 71% of all refugee admissions being from these three countries.(Martin & Yankay, 2013)

Life Prior to Resettlement

As defined by the United Nations High Commission for Refugees (UNHCR), refugees have experienced persecution in their home country and most have been the victims of political, ethnic or religious violence.(UNHCR, 2012c) Worldwide, 42.5 million people have been forcibly displaced from over 80 countries including Afghanistan, Iraq, Somalia, and Bhutan. (UNHCR, 2012b) The stories and experiences of refugees vary depending on country of origin and personal characteristics, yet many are fraught with loss, deprivation and harsh circumstances.(UNHCR, 2012b) Persecuted people may be forced to flee to different parts of their country resulting in internal displacement or cross over international borders to seek refuge in neighboring countries.(UNHCR, 2012c) Thousands of people make long and dangerous journeys through conflict zones and across borders seeking refuge in foreign lands. While refugees may be safely beyond the reach of threat of domestic persecution, they often do not find a stable or successful life over the borders.

Arriving with very few belongings, large groups of refugees quickly find themselves in crisis situations without food, water, or shelter as aid from the host country or international agencies may be slow to arrive.(Cronin et al., 2008; UNHCR, 2012b) Countries neighboring nations in civil war or ethnic conflict host four out of five refugees worldwide including millions of Afghanis living in Pakistan and over 105,000 Bhutanese living in Nepal.(Ranard, 2007; UNHCR, 2012b) Neighboring countries such as Pakistan and Nepal have their own share of domestic conflict and have limited resources to support an influx of refugees in need of humanitarian assistance.(Luxemburger, Rigal, & Nosten, 1998) Impromptu settlements are erected along border areas that are often militarized or have permeable boundaries, leaving refugee with a constant sense of insecurity.(Sedghi & Rogers, 2011)

Life in refugee camps is fraught with untold hardships. The temporary settlements are constructed with minimal infrastructure and result in very tight living quarters.(Cosgrave, 1996) In Nepal, the camps for Bhutanese refugees makeshift huts of bamboo, thatch and plastic clustered together in isolated rural areas.(Ranard, 2007) Each small hut must offer shelter for several people and is typically filled with several inches of water and mud during the rainy season.(Bhutanese Refugee Support Group, 2012) Sanitation and clean water sources may not be available until several years after the first wave of refugees arrive.(Cronin et al., 2008) Electricity and transportation is rare and refugees are often required to stay within the confines of the camp due to host country laws or disincentives.(Human Rights Watch, 2009) Without land to farm or legal documentation needed for employment, refugees find it nearly impossible to make a

living and must rely on the rations provided by UNHCR and other relief organizations.(Human Rights Watch, 2009)

Due to poor living conditions, food scarcity and limited access to health care, refugees experience many untreated health problems.(UNHCR, 2012b) Immunization coverage is generally low and good documentation is rare as less than 4% of refugee children arriving in America have written record of their vaccines.(Watts, Friedman, Vivier, Tompkins, & Alario, 2011) Refugees are disproportionally affected by infectious disease due to this lack of immunizations, tight living quarters and poor sanitation.(Connolly et al., 2004) Diarrheal diseases, acute respiratory infections, measles and malaria are preventable diseases that cause significant morbidity and mortality among refugees living in camps.(Connolly et al., 2004) A study of refugee children recently resettled in Atlanta found nearly a quarter of the children had stool cultures positive for parasites including *giardia lambila*.(Shah et al., 2013) Cholera, hepatitis, and meningitis outbreaks are common and more than 85% of refugees flee from and stay in countries with high burden of tuberculosis.(Connolly et al., 2004; Kimbrough, Saliba, Dahab, Haskew, & Checchi, 2012) While HIV prevalence among refugees is difficult to determine, sexual violence experienced during conflict or relocation puts refugees at risk of sexually transmitted infections.(Lowther et al., 2012)

The diets of refugees prior to resettlement are varied depending on location, access to resources, intensity of conflict, and humanitarian support. Some refugees may experience food shortages and nutrition related diseases..(Corbett & Oman, 2006; Lutfy, Cookson, Talley, & Rochat, 2013) A 2010 survey of Bhutanese refugee

children living in camps in Nepal showed anemia prevalence as high as 40%, chronic malnutrition (stunting) exceeding 20% and 8% acute malnutrition (wasting).(Abdulla & Mutharia, 2008) Living in poverty, refugees may also experience over nutrition and obesity. (Grijalva-Eternod et al., 2012) As the prevalence of chronic diseases has risen in low-income countries, more than half of refugees originate from nations with diabetes and hypertension prevalence rates similar to those seen in the US.(Abegunde, Mathers, Adam, Ortegon, & Strong, 2007; Yun, Fuentes-Afflick, & Desai, 2012) Access to health care may vary depending on host country and level of international support.(Connolly et al., 2004; Spiegel, Checchi, Colombo, & Paik, 2010) As the camps become more permanent, conditions progressively improve as basic health services are established, often parallel to host-country services.(Spiegel et al., 2010)

Nearly 40% of all people living in camps are under age 17 and these young people have often experienced violence and instability leading to physical and psychological trauma.(Lustig et al., 2004) As refugee groups are unable to return home, many children grow up knowing only of life within the camp. Children miss years of school or do not being their education until schools are established later on in the camps.(World Food Programme, 2005) Families continue to hope for peace and repatriation yet nearly 7.2 million refugees live in protracted refugee situations involving 5 or more years of exile with a low likelihood of resolution in the near futures.(UNHCR, 2012a) With make-shift schools, limited employment opportunity, rampant disease, and continuing persecution, quality life in refugee camps is poor and hence, not a durable solution.

Resettlement Process

When local integration is not an option and voluntary repatriation is not viable or feasible in the near future, resettlement may be the only durable solution available, especially in protracted refugee situations. Refugees and their families must register with the UNHCR and undergo a series of interviews and lengthy documents to verify that persecution has occurred and the refugees are unable to repatriate for fear of their lives(UNHCR, 2011) The UNHCR then refers cases to nations with established resettlement programs otherwise known as 'third country' nations including the United States, Australia and Canada.(UNHCR, 2012a) The U.S. Refugee Admission Program determines which refugees meet initial admission requirements and arrange an interview with the Department of Homeland Security's U.S. Citizen and Immigration Services (USCIS).(Martin & Yankay, 2013) If approved for resettlement, the refugee will receive a medical exam, cultural orientation and a loan for travel to the US.(Martin & Yankay, 2013)

The UNHCR reports that less than 1 percent of all refugees are eventually resettled in third countries and the US welcomes over half of these refugees.(Martin & Yankay, 2013; UNHCR, 2012b) Every attempt is made to reunite families and refugees with comparatively more financial resources, higher education or social standing are often given priority.(Martin & Yankay, 2013) This process from initial application to approval and travel to the US can take anywhere from one year to nearly a decade.(World Relief, 2012)

Local Resettlement

The state of Georgia, and more specifically DeKalb County, is a large site for refugee resettlement with approximately 4,000 refugees arriving each year.(State of Georgia Refugee Health Program, 2010) While DeKalb County offers refugees relatively cheap housing and access to jobs both in metropolitan Atlanta and surrounding agricultural areas, Georgia historically has high rates of obesity (29.6%) and chronic disease.(Center for Disease Control and Prevention, 2012) Like other immigrants populations in Georgia, refugees tend to be uninsured and find the health care system imposing.(Garrett, 2006; Segal & Mayadas, 2005) Neighborhoods are dotted with cheap fast food and convenience stores but lack grocers with fresh produce.(Treuhaft, 2011) The refugee communities in DeKalb County offer a unique opportunity to explore the process of acculturation and the risks of obesity and chronic disease.

Refugees from Bhutan

Since 2007, one of the largest groups of refugees to be resettled in the US are from the small Himalayan country of Bhutan.(Sedghi & Rogers, 2011) In 2012, over 15 thousand refugees or 25.9% of all resettled refugees originated from Bhutan and represent the largest group of refugees arriving in DeKalb County.(State of Georgia Refugee Health Program, 2010) Located near northeast India, Nepal and China, Bhutan has been in violent civil war for nearly 50 years. The Lhotshampa, who made up the third largest ethnic group in Bhutan, trace their ancestry back several centuries to Nepal and thus retained aspects of Nepali language, culture, and Hindu religion.(Ranard, 2007) In the 1980s, the ruling majority began persecuting

Lhotshampa Bhutanese forcing thousands to flee across the border into Nepal. Over 100,000 Lhotshampa Bhutanese, composing nearly a fifth of the small country's total population, are living in exile with no foreseeable solution that might warrant peace and repatriation.(Bhutanese Refugee Support Group, 2012) Bhutanese refugees have spent 15 years or more living in refugee camps in eastern Nepal until the UNHCR negotiated for permanent resettlement in eight countries including the US in 2008.(Bhutanese Refugee Support Group, 2012) Gradually, more and more families have been given the opportunity to leave the impermanence of the camps and attempt to reunite with love ones and build new lives in the US.(Bhutanese Refugee Support Group, 2012)

Prior to resettlement, Bhutanese refugees have very limited exposure to the culture of the West.(Ranard, 2007) Nearly all Bhutanese refugees speak Nepali and very few study English prior to resettlement.(Bhutanese Refugee Support Group, 2012) Social interactions are defined by the caste system and many Bhutanese traditionally worked as farmer, school teachers, weavers or housekeepers. Bhutanese refugees generally have a few years of elementary education, with little opportunity to acquire job skills in the camps.(Ranard, 2007) Given that most Bhutanese refugees are Hindu, the typical diet is vegetarian, consisting of rice, lentils, and curry cooked on open fires.(Abdulla & Mutharia, 2008) All of the Bhutanese people eligible for resettlement lived in one of the seven refugee camps in eastern Nepal.(UNHCR, 2013) Nearly all of the adolescent refugees were born in Nepal as older Bhutanese refugees have lives in camps for nearly 15 years.(Ranard, 2007) Thus, many Bhutanese adolescents have grown up with more exposure to

Nepali culture and have no recollection of life in Bhutan.(Bhutanese Refugee Support Group, 2012) Bhutanese people are very communal and hospitable, welcoming extended family and neighbors into their homes without advance notice.(Maxym, 2010)

Acculturation and Diet

Migration and global communication have increased the 'culturally plural' nature of modern societies.(Berry, 1997) Acculturation was originally defined as "those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact with subsequent changes in the original cultural patterns of either or both groups."(Redfield, Linton, & Herskovits, 1936) The process of adaptation includes a reconciliation of the way in which distinct and possibly competing cultural attitudes, expectations and behaviors are managed.(Bhui et al., 2005) Complicated by variations in the direction of acculturative change, the process of acculturation is influenced by active individual and group choices as well as contextual factors such as the host nation's reaction to immigrant and ethnic minorities.(Berry, 1997) Acculturation occurs at the individual level as new cultural exchanges change one's attitudes, beliefs, behaviors and values. At the macro level, acculturation impacts physical, biological, political, economic, and cultural changes in the acculturating group or in the society as a whole.(Satia-Abouta, 2003) Empirical studies indicate that immigrants who are more integrated have lower risk of mental health problems while those who are marginalized due to isolation or traditionalism have the poorest mental health outcomes.(Berry, 1997; Bhui et al., 2005) Some studies, however, indicate that high

levels of acculturation may have a negative impact on physical health status including obesity.(Gordon-Larsen et al., 2003)

Diet acculturation is multidimensional and dynamic as one does not simply move linearly along the continuum from traditional to acculturated. An exchange occurs where refugees retain some traditional foods, but exclude others while adopting parts of the host country diet.(Satia-Abouta, 2003) Instead of nutrition being key to survival as is often the case prior to resettlement, families culturally acquire the western determinants of food consumption characterized by taste, appearance, texture, and social implications.(Renzaho, 2004; Rondinelli et al., 2011) Families are less likely experience under-nutrition, yet newcomers confront a new set of risks involving weight gain and lifestyle related diseases.(Harris, Gordon-Larsen, Chantala, & Udry, 2006) Dietary acculturation can result in both healthful and less healthful dietary changes. Among many refugee groups, traditional plant based diets become are supplemented with processed foods high in sugar, fats, sodium and preservatives.(Kruseman, Barandereka, Hudelson, & Stalder, 2004) Overall, evidence from studies with refugees and other immigrant groups consistently indicate that changes towards a 'Westernized' diet increases risks of several major chronic diseases. (Antecol & Bedard, 2006; Cappellini & Yen, 2012; Gordon-Larsen et al., 2003; Patil, 2009)

Dietary changes after resettlement in the USA have been most thoroughly documented among Hispanics who make up the largest immigrant group. While economic immigrants rarely migrate out of fear for their lives, like refugees, they must both undergo the process of acculturation as they are confronted with

different food choices. Many studies have compared dietary patterns of first and second generation Hispanic immigrants and have shown increasingly poor diet quality with time spent in the United States.(Gordon-Larsen et al., 2003) Children born outside the USA consistently show less obesity than those born in the USA of immigrant parents.(Antecol & Bedard, 2006; Diaz, Marshak, Montgomery, Rea, & Backman, 2009; Unger et al., 2004) Gorden-Larsen and colleagues also found rapid acculturation of overweight-related behaviors including poor diet and inactivity among Hispanic adolescents.(2003) Immigrants may arrive with normal or low BMIs but within 10 years of living in America, the prevalence of overweight and obese individuals rises to meet or exceed the national prevalence.(Antecol & Bedard, 2006)

This weight related acculturation change has also been observed among Asian, European and African immigrants.(Bhui et al., 2005; Diaz et al., 2009) A study of Hmong adolescents found that those born in the US were significantly taller and heavier than those born in Thailand.(Franzen & Smith, 2009) With less food insecurity, the US born adolescents experienced less stunting and their diets included more American foods than even their siblings born in Thailand.(Franzen & Smith, 2009; Mulaski-Pokhriyal, Smith, & Franzen-Castle, 2011) Consequently, for Hmong adults in the US, the rate of diabetes is estimated to be twenty times higher than that of Hmong adults in Thailand.(McCarty, 2005; Yang, Xiong, Vang, & Pharris, 2009) Oza-Frank and colleagues found higher diabetes prevalence and lower overweight prevalence among migrants from the Indian subcontinent when compared with those from Europe.(Oza-Frank & Narayan, 2010) This higher

prevalence of diabetes, yet lower body weight among people from the Indian subcontinent has been attributed to a genetic predisposition that coincides with weight gain and insulin resistance at a lower BMI threshold.(Ramachandran, Ma, & Snehalatha, 2010) Hence, immigrants or refugees from Southeast Asia can develop diabetes and metabolic syndrome when slightly overweight or even at a normal body weight. Especially for refugee who may have experienced famine conditions, moving to America offers a plethora of foods that satiate but also fatten and deteriorate one's health. Seeing the trends of weight gain and chronic disease among immigrant and refugee groups, it is essential to consider the mechanisms of dietary change.

Factors Associated with Diet Change

Dietary acculturation is a complex process involving socioeconomic, demographic and cultural factors. These factors are associated with extent to which refugees change their attitudes and beliefs about food, taste preferences, food purchasing, and preparation.(Satia-Abouta et al., 2003) Studies have shown that longer residence in the host country, high education and income, employment outside the home, having young children, and fluency with the host language results in increased exposure to mainstream culture and subsequent acculturation. (Peterman et al., 2010; Satia-Abouta, 2003) Availability of traditional foods depends on the communities in which refugees are resettled. In areas such as Clarkston, Georgia where there are sizable groups of refugees from throughout the world, it is fairly easy to find ingredients from back home or even grow traditional vegetables or herbs on balconies or small garden plots.(Treuhaft, 2011) Even when available,

traditional ingredients are often expensive and prompt families to substitute with cheaper items.(Patil, 2009) For parents working long hours and reliant on public transportation, the low cost and availability of fast food has made feeding their families more efficient but less healthful.(Trapp, 2010) A study by Harrison and colleagues of low income Asian immigrants explored the struggle between maintaining traditional Asian diets and adopting American foods and culture.(2005) Traditional diets were considered by the participants to be healthier as they included a wide variety of fruits and vegetables that were easily available at either American or Asian markets. Adults in the study expressed how they gave into their children's desires to buy and eat popular, less healthy American foods rather than cook traditional foods at home.(Harrison et al., 2005)

Foods are laden with social meaning that also changes with acculturation. Considered to be high status foods, items such as soda, cakes and meat were rarely eaten in camps.(Renzaho, 2004) In the US, these luxury foods are eaten much more regularly and may be eaten proudly as a symbol of social standing and privilege.(Patil, 2009) Coca-Cola and McDonalds are associated with what it means to be 'American' in low-income countries and confer superior social status to those who are struggling economically.(Goodman, 2000) In several studies, parents have expressed pride in finally being able to provide these items to their kids.(Patil, 2009; Trapp, 2010) Just as items high in sugar and fat are signs of financial wellbeing, having extra body fat may be desirable. In camps, thin, lean bodies reflected poverty, starvation and disease.(Renzaho, 2004) A study of African refugees entitled "Fat, Rich, and Beautiful", found wealthy individuals could afford fattening

foods and wore their curves proudly as a public sign of financial status.(Renzaho, 2004) Hence, a powerful, rich and envied person was described as a potbellied man strolling with a gold walking stick.(Renzaho, 2004) For some refugee families, a corpulent body is something to aspire to and a sign that parents are offering their children a better life in America. Children and adolescents may welcome these indulgences and show parents all the new treats and foods they come across at school and at the homes of friends.(Patil, 2009)

Diet of Young Refugees

Curious children and adolescents are instrumental in introducing new foods into the family diet. In a study by Patil and colleagues, several parents recounted that their children did not like the traditional food but insisted on eating 'American' foods like chips and noodles.(2009) An Ethiopian father stated that adults eat 'traditional food but the kids like bologna and hot dog. So that is a shift from our civilization…These are American kids."(Patil, 2009) The father goes on to explain that even though eating pork is against religious traditions, the mother ends up cooking pork barbeque because the kids try it with their friends and insist on eating it at home.(Patil, 2009) The authors conclude that parents were genuinely concerned about their children's satisfaction with food and would provide 'American' foods that their children preferred rather than worry about their children feeling hungry.(Patil, 2009) Children become the cultural brokers for their parents, making decisions about grocery shopping and what kinds of foods the family eats. Parents give into children's requests for ice-cream, sodas and cookies and maybe unaware of their nutritional value.(Trapp, 2010) A Liberian mother

discussed how children acquire a taste for 'American food' in the following response:

> 'Children eat American food because that's what they learn from school. Like I, when I arrived in this country, my children did not start school, they did not love American food…But by this time, when she comes from school, she says 'Mommy, I love barbeque and hamburgers.'(Patil, 2009)

There is anecdotal evidence to suggest that refugee parents often send their children to school with convenience foods like chips or snack packs at the expense of traditional foods to facilitate their children's adaptation and increases their chances of being accepted by their peers.(Renzaho, 2004)

Role of Friends in Health Related Behaviors

Several of the studies mentioned above highlight children and adolescent as instrumental in changing the diets of refugee families yet few focus specifically how these young refugees interact with friends and learn about new foods. While there is a paucity of studies with refugee adolescent's specifically, there is a wealth of literature concerning the social aspects of food consumption among other populations of adolescents. Food and drinks hold meaning and value far beyond their nutrient content. Adolescents intuit that food plays a large role in projecting a certain identity and is one component of 'fitting in' with one's peers.

A review of food stereotype studies by Vartanian and colleagues states that the old adage 'You are what you eat' holds true particularly in adolescent social circles.(2007) Both how much and what one eats is used to associate with certain groups or portray characteristics such as femininity, health consciousness or even a care-free mentality. Consumption of junk foods symbolizes independence, friends

and pleasure and demonstrates a growing loyalty to their adolescent peer group.(Ludvigsen & Scott, 2009) A study by Stead and McDermott found that students labeled as 'trendy' would choose only the best name brands such as Coca Cola, while nerdy or poor kids would bring 'knock-off' store brands.(2011) Likewise, the adolescents described someone who brought 'healthy' foods like an apple, yogurt or raisins for lunch as an 'untrendy geek' who drew the wrong sort of attention or wanted to broadcast their deviation from the mainstream.(Stead et al., 2011) This suggests that adolescents are well aware of social expectation and what foods are acceptable to eat at school.

Straying from established social norms can cause ridicule as bringing foods from home when not socially favored is quickly discouraged by simple 'looks' of disapproval or disgust from others.(Ludvigsen & Scott, 2009) Outright teasing also occurs as a study by Ludvigsen recounts the following situation: an adolescent girl described a Chinese classmate who brought chicken legs from home prompting other kids to call him names like 'Chinese chicken boy' until he would cry.(2009) In a similar study of the food choice process among adolescents, a participant said "I like to eat healthy. But I wouldn't dare come to the lunch table without a hamburger 'cause that is what they always get."(Contento, Williams, Michela, & Franklin, 2006) These examples of social consequences for bringing home-cooked food were more common in schools with primarily low socioeconomic status and minority students(Karrebaek, 2012) Bringing healthy food or lunch from home might make minority adolescents who are already targets of bullying even more vulnerable to ridicule.(Cullen, Baranowski, Rittenberry, & Olvera, 2000) From observations such

as these, food can act as 'social camouflage' that can minimize teasing and allow for acceptance among peers.(Ludvigsen & Scott, 2009)

These social food rules are echoed in studies of a common school lunch phenomenon: food swapping. School-aged students engage in swapping food with their friends and the most envied items include soda, chips, chocolate pudding, fruit snacks and brownies.(Ludvigsen & Scott, 2009) Other foods like fruit, some sandwiches and vegetables were least likely to get swapped and more likely to be found in the trash uneaten given that "nobody wants it."(Ross, 1995) Although they might eat fruit at home, adolescents do not perceive eating fruit in school as a 'cool behavior.'(Krolner, 2011) Adolescents in other studies emphasized the importance of bringing food to school that peers wanted to swap in order to be part of this shared social event.(Krolner, 2011) When asked directly about the importance of eating the same as their friends, the majority of school-aged participants in the study said it was not important.(Krolner, 2011) Yet from the lunch room observations, it was concluded that friends did impact what foods and drinks were brought to the lunch table.

Food trading and social acceptance that takes place at the lunch table establishes food norms that influence diet outside of school. Adolescents misperceive social norms for food consumption and set their own habits based on these false perceptions of other's behaviors. Lally, Bartle and Wardle asked older adolescents report how often they consumed certain food items.(2011) The participants also reported how often they thought their friends were consuming the same items.(Lally et al., 2011) This series of questions was then answered by the

participant's nominated friend. Upon comparing perceived and actual consumption patterns, respondents overestimated their friend's intake of sugar-sweetened drinks by 5.2 portions per week and underestimated fruit and vegetable intake by 3.2 portions per week.(Lally et al., 2011) Adolescents expected that their friends had negative attitudes toward eating fruits and vegetables, when in fact, these friends reported that they had more positive attitudes.(Lally et al., 2011) Likewise, adolescents perceived their friends to have more positive attitudes toward soda and snacks then actually reported by the friends. These adolescent generally thought of themselves as having a more nutritious diet and being more health-conscious than their friends.(Lally et al., 2011) In addition, perceived eating norms were stronger predictors of the adolescents eating behaviors than their friend's actual behavior.

While there are both direct and indirect routes of social influence on food behavior, it is difficult to determine if adolescent select friends with similar values including those related to food or if adolescents change their eating habits to match those of their friends.(Cunningham, Vaquera, Maturo, & Narayan, 2012; Fletcher, Bonell, & Sorhaindo, 2011) Several studies have found similarities in adolescent's consumption patterns of fast food, soda and snack foods.(Ali, Amialchuk, & Heiland, 2011; Fortin & Yazbeck, 2011; Walet, 2009; Wouters, Larsen, Kremers, Dagnelie, & Geenen, 2010)

Best friends have long been known as more influential than the overall peer group.(Epstein & Karweit, 1983) Other studies of adolescent behavior have focused on the role of best friends or used best friends as a proxy for peer influences.(Urberg, 1992) Bruening and colleagues looked at positive health

behaviors and found that adolescents were more likely to eat breakfast and whole grains if their best friends did the same.(Bruening et al., 2012) For children and adolescents who are new to America, they may find friends that share a cultural heritage but will inevitably be introduced to new food items and social norms that they must decide to either reject or incorporate into their own behaviors. Refugee adolescent are under increased social pressure to find a friend group and quickly minimize, at least among peers, any behaviors that might be identified as foreign, poor or incongruent with popular culture.(Correa-Velez et al., 2010; Mosselson, 2009; Titzmann & Silbereisen, 2009)

Friends of Refugee

Upon moving to America, refugee adolescents are likely to choose friends with whom they share similar backgrounds. For friendships in general, people of all ages tend to select others with similar interests or cultural perspectives.(McPherson, Smith-Lovin, & Cook, 2001) The concept of homophily was first defined by Lazarsfeld and Merton and addresses the tendency of individuals to form links disproportionately with others like themselves.(1954) The degree of homophily in a network impacts the spread of beliefs or behaviors across that network.(Maharaj & Connolly, 1994) For refugee adolescents, the intensity of interaction with America or other culture of refugees can be modified by who the adolescent selects as friends. Studies have repeatedly found a preference for intra-ethnic over interethnic friendships.(Titzmann & Silbereisen, 2009) This preference may be related to similarities within an ethnic group, including cultural background, comparable acculturation-related challenges, easier communication in the same

language, or a similar social status.(Maharaj & Connolly, 1994) Recently arrived immigrants have been shown to have high levels of friendship homophily that may only slightly decrease with time.(Titzmann & Silbereisen, 2009) It is possible that having like-minded friends act as a social buffer for refugee adolescents from mainstream social groups that might be more critical. Yet it is also possible that refugee friends are acutely aware of social norms and may avoid any behaviors that would identify them as an outsider.(McCarthy & Marks, 2010; Phinney, Horenczyk, Liebkind, & Vedder, 2001) Thus, the social norms regarding food choices may vary depending on the adolescent's friends and the larger social context.

Food Choices and Chronic Disease

Diet has been known for many years to play a key role as a risk factor for chronic disease.(WHO, 2002) High intake of energy-dense macronutrient-poor foods can promote weight gain and obesity. Eating behaviors that have been linked to overweight and obesity include snacking, eating frequency, binge-eating patterns, and consumption of fast food. Overweight and obesity are associated with an increased risk of type 2 diabetes, hypertension and heart disease. Relative weight and weight gain in young adulthood has been found to be associated with increased risk of cancer of the breast, colon, rectum, prostate and other sites.(Must & Lipman, 1999) High blood pressure among children and adolescents can occur with excessive intake of fats, cholesterol, salt, and reduced physical activity.(Aboderin, 2002)

For refugees who may have been thin and undernourished as children, it has been found that there is a high risk of chronic disease among undernourished children who become obese later in life.(Wright, 2001) The real concern about diet and the links to obesity is that the early manifestations of chronic disease in childhood tend to continue into adulthood.(Lake et al., 2009) Refugee and immigrant adolescents will experience a diet change upon moving to America and these changes have the potential to either increase or decrease their risk of obesity chronic disease.(Buttenheim, Pebley, Hsih, Chung, & Goldman, 2013; Roshania, 2008; Van Hook, Balistreri, & Baker, 2009)

Chapter Three: Theoretical Framework

Knowledge Gaps

Consuming a diet high in sugar, sodium and saturated fats has been found to increase one's risk of obesity and chronic disease such as diabetes and hypertension.(Gordon-Larsen et al., 2003; Hu, 2011; Oza-Frank & Narayan, 2010; Rosenheck, 2008) As immigrants to America, refugees can no longer eat exactly the diet they consumed in their home country due to different costs and availability, growing seasons and food traditions.(Patil, 2009; Trapp, 2010) Acculturative diet changes, refugees like other immigrant groups face diet and lifestyle related morbidity similar to the general US population.(Oza-Frank & Narayan, 2010)

It is known that children and adolescents experience intense cultural immersion in schools and neighborhoods and are often the first to be introduced to and adopt new behaviors.(Franzen & Smith, 2009; Patil, 2009) Yet little is known about the behaviors of young refugees and how this process of dietary acculturation occurs in social situations. Friends and peers have been shown to play a role in shaping eating patterns and preferences of adolescents. If the friends of adolescent refugees are instrumental in introducing and establishing less healthful behaviors, interventions can be designed to harness this social force in a more positive direction. Furthermore, few studies have been conducted with Bhutanese refugees who make up the largest wave of refugees to be resettled in recent years throughout the US and in DeKalb County, Georgia.(Martin & Yankay, 2013) The purpose of this study is to find out what Bhutanese refugee adolescent are eating, their food related perceptions and how they interact with their friends regarding food.

Theory of Planned Behavior

Considering the heightened social sensitivity of adolescents, the Theory of Planned Behavior (TPB), which is an extension of the Theory of Reasoned Action and derived from social psychological research, has been used to explore factors influencing adolescent behavior.(Ajzen, 1991) The TPB proposes that human behavior is determined by one's attitudes, subjective norms and perceived behavioral control. In relation to food, attitude would be an adolescent's personal positive or negative feelings toward certain behaviors such as eating fast food or snacking between meals. The adolescent's desire to respect or follow the food related opinions of significant others, such as friends, is incorporated in subjective norms. For example, an adolescent boy might not view energy drinks positively but knows that his friend like the taste and drinks them frequently when hanging out and playing video games. The third component, perceived behavioral control, involves the individual's understanding of their own capabilities to control behaviors. A high school student may like to eat home-cooked vegetables and noodles for lunch at school but may not feel this is a viable option due to food availability at home, logistics of bringing food to school or social disincentives among friends.

Normative beliefs tend to be stronger with friends than family or teachers. In their investigation of adolescent food behaviors, Seo and colleagues found that higher intention, perceived behavior control, attitude, and subjective norm led to higher rates of fast food consumption, as the theory describes.(Seo, Lee, & Nam, 2011) Dennison and Shepard incorporated a measure of friends behavior in their

application of the TPB and found that the more subjects reported that their friends ate the item, the more likely they were to intend to eat the item themselves.(Dennison & Shepherd, 1995) The study suggests that if groups of friends are regularly making the same choices, then questions about the participant's friends' past behavior can act as a proxy for the subjects' own past behavior.(Dennison & Shepherd, 1995) As it has been used to conceptualize the food related behaviors of adolescent in a social context, the TPB provides a framework to understand how adolescent refugees experience changing attitudes, perceived social norms and behavioral control in their new environments. This theory is yet to be used with the refugee adolescent population.

Research Questions

This study investigates the diets and food-related social interactions of adolescent refugees from Bhutan who have resettled in DeKalb County, Georgia within the last 5 years. The study will address the following research questions:

1. What typifies the food choices of refugee adolescents from Bhutan?
2. What are some of the food related perceptions held by refugee adolescents from Bhutan?
3. What role do best friends play in informing food choices among refugee adolescents from Bhutan?

Conceptual Framework – Figure 1

Upon arrival in the United States, refugee adolescents are often eager to become part of American society and form a new identity away from their parents and gain peer acceptance.(Correa-Velez et al., 2010; Mosselson, 2009; Smith, 2012) In refugee camps, food is limited in variety and quantity as families are rarely able to afford processed foods or soda.(Renzaho, 2004) Thus, pre-migration diets are typically more plant based with vegetables and starches for meager meals.(Story & Harris, 1989) While obesity is becoming more common even in refugee camps, most refugee adolescents are at higher risk for nutrient deficiencies and low body weight.(Abegunde et al., 2007; Benbenek & Garwick, 2012; Lutfy, 2012; Rondinelli et al., 2011) Life quickly changes once adolescents arrive in America given that a majority of dietary changes occur within the first few months of residence.(Kruseman et al., 2004)

Acculturation is a dynamic process and may be impacted by family dynamics, food availability, media, socio-economic status, and friends. (Antecol & Bedard, 2006; Cappellini & Yen, 2012; Patil, 2009; Segal & Mayadas, 2005) Friends at school or in the neighborhood act as the primary point of interaction with 'American' culture as friends model dietary behaviors.(Cullen et al., 2000) Refugee adolescents may learn about new foods from what their friends bring to lunch or share as a snack.(Karrebaek, 2012) It is common for adolescents to frequent corner stores or fast food restaurants afterschool with friends, thus consuming unhealthy food items becomes a social activity.(Garrett, 2006; Kalantari, 2011; Unger et al., 2004) In addition, friends may use verbal or non-verbal cues to communicate opinions and

social norms regarding food.(Ludvigsen & Scott, 2009),(Cullen et al., 2000; Krolner, 2011) Adolescents may find sweet, fat-filled American food to be unpalatable at first but progressively acquire a preference for items like potato chips, candies, fast food and soda.(Neuhouser, Thompson, Coronado, & Solomon, 2004) These items become increasingly common in the adolescent's diet if it can be purchased at school or can be negotiated for with family members.(O'Dougherty, Story, & Stang, 2006) Due to limited income or access to fresh produce, the diets of refugees may decrease in nutrient-dense, plant based products to more fast, cheap and calorie-dense foods.(Trapp, 2010) These diet changes eventually become habits, that coupled with inactivity, lead to weight gain.(Antecol & Bedard, 2006) Poor nutrition and weight gain can also be linked to depression and compromised school performance as adolescents deal physically and psychologically with the trauma of resettlement.(Fuxa & Fulkerson, 2011; Kinzie et al., 2008; Stead et al., 2011) Within five years of resettlement, dietary habits have significantly changed and after 10 years obesity and health consequences are evident.(Kruseman et al., 2004; Patil, 2009) This complex intersection of culture, diet, health, and identity is critical in the lives of refugee adolescent and friends may significantly impact long-term health behaviors. Once better understood, friends as a social force may be instrumental in promoting more wholesome diets and healthy body norms among adolescents.

Chapter Four: Methods

Overview

The purpose of this foundational study was to learn more about the diet of refugee adolescents from Bhutan and their food-related interactions with friends. A sample of Bhutanese refugee adolescents was selected from among the Bhutanese families living in Clarkston, Georgia. A group of 30, male and female adolescents between the ages of 11 and 18, participated by answering a questionnaire. The questionnaire included a modified diet recall, food preference inventory, and items exploring food related impressions from friends.

Population and Sample

Several hundred Bhutanese adolescents live in DeKalb County and most are resettled through World Relief (WR).(Office of Refugee Resettlement, 2012) The sample included 30 Bhutanese adolescents, both male and female, between the ages of 11 and 18. Participants were born outside of the US, having lived in DeKalb County for 4 years or less corresponding with the first wave of Bhutanese resettlement in late 2008. WR works closely with refugees during the first three months of resettlement and maintains a database of contact information for current and previous clients. According to staff, WR resettles approximately 900 refugees per year in Clarkston, a third of which are Bhutanese. While contact information was current for recently arrived refugees, older clients often relocate to other areas of the state or country without updating contact information. The PI requested a list of Bhutanese families and WR staff identified families in their database that were most likely to have correct contact information and be living in Clarkston. WR staff

provided the contact information for thirty-five Bhutanese families with adolescents living in the Clarkston area. Five of these families did not respond to calls or had moved to a new address.

The PI and the interpreter identified families from the list of contacts that lived in the same apartment complex or neighborhood. At each apartment complex, the PI and interpreter visited each family explaining the purpose and terms of participation to the parent and the adolescent. The parents generally preferred conversing in Nepali and hence, the interpreter explained the study and answered the parent's question. The adolescents were asked if they would prefer speaking in English or Nepali. All of the participants stated that they preferred English. The interpreter was present as an occasional word needed clarification in Nepali.

Development of the Instrument

Several methods of diet and food choice evaluation were considered in the development of this questionnaire. While standardized food frequency questionnaires and 24-hr diet recalls are valuable for diet analysis, they are tedious, challenging with adolescents and may not be inclusive of traditional Bhutanese food items.(Thompson & Subar, 2008) Hence, a simplified diet screening method was used to gauge the adolescents' general consumption of certain types of foods rather than document precise caloric intake. For a population that may struggle with food-related vocabulary in English, a picture-sort method was used to encourage participation and selection of commonly consumed food items.(Yaroch et al., 2000) This included pictures of food items common to the American and Bhutanese diet. Identification of items from pictures allowed for interaction and prompted higher

response rates during trials of standard written versus picture options. If the participant reported consuming items not represented by the pictures, an 'other' category was provided to specify each item.

Perceived similarities in food behaviors were gauged as participants were asked items about themselves and their nominated best friend.(De Bourdeaudhuij et al., 2008; Seo et al., 2011) This study did not contact or ask any questions of the best friend, all questions about the best friend were answered by the participant. Derived from a study by Vereecken and colleagues, frequency of intake was estimated by asking 'How many times do you usually eat or drink…'(2009) Participants could select from options including 'never,' 'once a week,' once a day, three times a day. Participants were asked about their best friend's food related attitudes and overall health of their diet.(Cullen et al., 2001; Lally et al., 2011) Other studies have asked adolescents to either describe people who would eat certain foods or food that convey certain social messages.(Stead et al., 2011; Vartanian et al., 2007) Adolescents are aware of these social messages and can identify foods that are socially preferred.(Ludvigsen & Scott, 2009) To understand if refugee adolescents perceive these invisible social labels on foods, participants identified foods they would consider to be American, healthy, unhealthy, or cool.(Stead et al., 2011)

Pretesting

Versions of the questionnaire were pretested with native born adolescents and a group of refugee adolescents. Formative research was conducted with adolescent refugees from Iraq, Afghanistan and Bosnia who discussed how friends

impacted their diets. Themes including the 'cool' factor in food selection and eating 'just like my best friend' were integrated with questionnaires from previous studies addressing adolescent diet and social influences.(Magarey, Golley, Spurrier, Goodwin, & Ong, 2009; Nelson & Lytle, 2009; Vereecken et al., 2009; Wouters et al., 2010; Yaroch et al., 2000) The pictures in the food inventory were assessed for clarity and cultural appropriateness with both adolescents and Bhutanese adults. The final instrument was pretested with 15 refugee adolescents with 5 being from Bhutan.

Final Questionnaire (Appendix C)

The diets of Bhutanese adolescent were assessed with a picture prompted 24 hour food inventory and questions about how frequently certain items were consumed.(Nelson & Lytle, 2009; Yaroch et al., 2000) The social meanings associated with foods were explored with questions about which foods were preferred and why as well as how certain foods were categorized.(Dennison & Shepherd, 1995; Magarey et al., 2009) Each adolescent identified a best friend who also lived in DeKalb County and answered questions about this best friend's eating habits and food related attitudes.(Bruening et al., 2012; Vereecken et al., 2009)

Interpretation and Training

Due to recent arrival and varying levels of English fluency, interpretation was offered to study participants. All participants were capable of completing the questionnaires and consents in English. Parents of participants were less fluent in English and generally required explanation of the study in Nepali. Interpretation was provided by a Bhutanese woman identified by WR as a skilled interpreter with

good rapport in the Bhutanese community. The interpreter was educated at the bachelor's level and had previous experience with both academic research and interpretation. The interpreter was trained regarding objectives of the study, ethical considerations, protocols for informed consent, and how to administer the questionnaire.

Interviews

Households with adolescent refugees were identified through a list of WR clients from Bhutan. The principal investigator (PI) and interpreter visited the home, explaining the study objectives to the parents and adolescent. On some occasions, the parent was not home so a follow-up visit was planned for a time when both the parent and adolescent were home. The interpreter introduced the PI, explained the study to the parents and provided interpretation for informed consent. The interviews were conducted in the living rooms of the participant's home and lasted approximately 30 minutes. Parents and other family member or friends in the home were allowed to be present during the interview. Three to five interviews were conducted per day at the apartment complexes housing WR clients in Clarkston, GA.

Ethics

Plans for data collection and analysis were submitted to and approved by the Emory University Institutional Review Board. Special review was required for the inclusion of minors. The PI and the interpreter were present for all informed consent documentation and interviews with adolescent participants. The director of World Relief granted permission to contact Bhutanese clients.

Data Collection

Data collection was conducted in March and April 2013. Families that were clients of WR and had adolescent family members were approached during home visits. After introductions, the purpose and requirements of the study were explained to both the parent and adolescents. Families were informed that participation would remain anonymous and discontinuation of participation was permitted any time without consequence. Personal identifiers were not included on the questionnaire. Monetary or other incentives were not offered. If parent and adolescent agreed to participate, consent and assent forms were signed respectively. The questionnaires were completed by the PI with the Nepali interpreter sitting nearby for occasional interpretation.

All interactions took place within the participant's home typically sitting on living room sofas or on the floor at a coffee table. The participant's homes were brightly decorated with colorful reed floor mats and silk flower arrangements. Most apartments had neon Christmas lights hanging along the walls and multicolored streamers draped across the ceiling. Furnishings were modest as most were donated or provided second hand by WR. Photos of family members, posters of Indian movie stars, religious icons and handmade crafts were displayed on the walls. The temperature in the apartments was quite chilly and participants and family members wore several layers of clothing but rarely did they wear socks. During the interviews, the parents either stayed in the room listening quietly or retreated to the kitchen to prepare tea or a small snack for PI and interpreter. On one occasion, the participant's elderly grandmother insisted on sitting on the floor

between the PI and the participant. The grandmother watched the interaction intently and made comments to the interpreter throughout the interview about how the value of family was lost in America.

Initially, participants were introduced to the purpose of the study and then answered questions concerning demographics. The participant was then asked to think of a person living in Clarkston that they would consider to be their best friend. The participant was asked similar demographic questions about this best friend and informed that several of the questions later on in the interview would concern this nominated best friend. This nominated best friend was not present during the time of the interview and best friends were not contacted at any time during this study. The first part of the interview explored the food choices of the adolescents using a picture menu of common food and drink items. Prior to answering any questions in this section, the PI asked participants to say what each picture looked like to them and discuss any picture items that were unclear or unfamiliar. The participants quickly pointed to items naming them accordingly: hamburger, milk, rice, candy, momos, etc… Adolescents then further specified how often they consumed these items. For example, the participant was asked "How often do you drink milk?" and allowed to respond. The participant was then asked "How often does your best friend drink milk?" Thus participants answered a question regarding frequency of food consumption for themselves and then for their best friend. The next part of the interview returned to the pictures of food items and asked participants to point to or call out which items they thought were America, unhealthy, healthy, or cool.

For the most part, participants were very cooperative and curious about the study. Some participants were very talkative adding commentary to every item they answered on the questionnaire. Others were shy at first but seemed to be curious and comfortable with the picture based portions of the questionnaire. One participant initially recruited withdrew halfway through the study due to loss of interest and a greater desire to play soccer outside with friends. He seemed 'antsy' and in Nepali, repeatedly asked, "why these questions? Why does she need to know that? I don't know? Let me go." Upon completion of the questionnaire, participants were thanked for their time and contribution. Emory University logo pens were offered to participants upon completion of the questionnaire as a small token of thanks.

Data Analysis

Data were entered with Excel and analyzed with Epi Info. Univariate analysis was performed on continuous variables. Categorical variables such as vegetarian and demographic variables were analyzed for frequency distributions for the participant and the nominated best friend. For the picture based food inventory, responses were compiled across the sample to identify the items most often identified as America, healthy, unhealthy, or cool. Open ended questions were coded by hand and analyzed for themes regarding healthy eating, opinions of friends, food preferences and food related stereotypes. Correspondence analysis was performed in SPSS for frequencies in food consumption as reported by the participant and on behalf of the best friend.

Variables

Categorical variables included gender, nationality and type of lunch consumed at school. Variables identified as continuous included age and length of stay in the US. Dichotomous variables included vegetarianism, prior residence in a refugee camp, liking certain food items such as soda, preference for home-cooked food over fast food, and view of own diet as healthy. Some of the categorical variables were made into a series of dichotomous variables: 5 servings of fruits and vegetables per day and daily consumption of milk or soda.

Chapter Five: Results

The final set of data used for analysis included the responses of 30 refugee adolescents living in the Clarkston area just outside of Atlanta, GA (Table 1). The average age was 13.9 years with youngest respondent being nine and the oldest 19. Sixteen of the participants were female and twelve were male. All of the study respondents were born in Nepal to Bhutanese parents and grew up in refugee camps in southeast Nepal. Of the respondents, 70% had lived in the US for two years or less. Nominated best friends were, on average, 13.8 years old with the youngest being 7 and oldest 18. Every respondent reported that their best friend was also a refugee having resettled recently after living in camps for years. All but two respondents nominated a best friend who was also from Bhutan. One male reported having a best friend from Togo and a female respondent nominated her best friend from Burma.

Research Question 1: What typifies the food choices of refugee adolescents from Bhutan?

Food choice characteristics can be seen in Table 2. Of participants, 16.7% identified themselves as vegetarian. For both breakfast and lunch, 97% of participants chose food items from the cafeteria menu, the other 3% eating noodles or sweet cakes at home for breakfast or not eating lunch at all. It was very uncommon for participants to bring packed lunch from home (3.3%) as pizza, fried chicken and fruit were the most frequently chosen lunch items. The most frequently chosen drink items at school were chocolate milk, water and soda. The following top three items were consumed for dinner: rice (73.3%), vegetables

(33.3%) and momos (Asian dumplings) (23.3%). The most frequently selected drinks at dinner were water, soda and milk. When given the hypothetical choice between a meal of home cooked Bhutanese food or their favorite fast food meal for dinner, 80% chose home cooked Bhutanese food. Participants reported eating fast food with their family or friends an average of 2.5 times per week (Table 3). Participants drank an average of 6.4 servings of milk and 5.9 servings of soda per week. The average servings per day were 2.0 for vegetables, 1.8 for fruit and 1.2 sweets. Candy, chips and fruit were most often reported as snacks and several respondents were observed eating these items during the interviews.

Research Question 2: What are some of the food related perceptions held by refugee adolescents from Bhutan?

The items most often selected as 'favorite' included fried chicken, momos, pizza, soda, water, and sports drinks. All participants listed taste as being the primary factor for why certain foods were the favorite. A female participant stated that when she first came to America, she did not like all the greasy American food like French fries and pizza as she would only eat Bhutanese food for many months. She shared that now she liked these foods more because she had to eat them at school. She shared that eating pizza or noodles at school tastes better than some of the vegetable and meat they offer, even though it is more 'healthy.'

Table 4 displays food or drink items most commonly categorized by respondents as American, healthy, unhealthy, and cool. The following items were identified as American*:* hamburgers (70.0%), pizza (63.3%), and fried chicken

(33.3%). Five out of ten adolescents identified energy drinks, sports drinks and soda as American beverages. Several respondents noted that they had never heard of energy drinks such as Red Bull or Monster before coming to the US and thus considered them 'American' drinks.

Participants explained, in their own words, what 'healthy' and 'unhealthy' meant and commonly discusses how certain foods can make your body strong and happy or sick and weak. A female participant stated "having fat is good. I wish to have fat. Fat looks good, not really fat….fat is healthy." An adolescent boy described how eating too much unhealthy food would make result in being fat and laughed saying, "fat gets stuck in the door." Vegetables, rice, fruit, milk and water were identified as *health* while candy, chips and hamburgers were deemed to be unhealthy. Soda was identified by 80% of participants as unhealthy. Soda (46.7%) and chocolate milk (50.0%) were reported most often as being 'cool' beverages. Several participants clarified that they did not like the plain taste of white milk and not preferred by friends at school. Six out of ten adolescents stated that energy drinks were unhealthy. Concerning energy drinks, one adolescent male commented that his friends thought energy drinks were cool and would drink them to stay up late and play video games with friends.

When asked about friends eating at school, a 13 yr old female participant shared the following about an 11yr old boy: "He loves food so much. He is fat. He wants more food.' She laughed and made a motion imitating a big stomach. When asked if fat was health, she said, "too fat is bad. Old people get diabetes."

Research Question 3: What role do best friends play in informing food choices among refugee adolescents from Bhutan?

For 75% of the questions, participants gave an identical answer for themselves and their best friend. Participants stated that their friend often selected the same items from the school lunch menu (86.7%) and the only participant who brought a packed lunch from home reported that his best friend did the same. Several participants stated that when they first arrived, other Bhutanese students who became their friends showed them what things were 'good' to get for lunch from the school's cafeteria menu. When asked how often snacks were bought from vending machines or corner stores, 90% reported that they consumed these snacks just as often as their best friend. Half of participants stated that they consumed fast food with friends outside of school. Several participants mentioned how they would hang out with their friends after school at each other's homes and enjoy snacks like Takis, Cheetos, Bombay mix (Indian fried snack food), and chocolate candies. During data collection, friends, including the nominated best friend, frequently showed up at the participant's house before or at the conclusion of the interview.

In Table 5, correspondence analysis of participant and reported behaviors of their best friend found a strong positive linear relationship for fast food consumption (0.739, $p \leq 0.001$) and moderate positive linear relationship for snacks (0.539, $p \leq 0.001$) and sweets (0.384, $p \leq 0.001$). Weak positive linear relationships were found for vegetable (0.034, $p=0.006$), fruit (0.044, $p \leq 0.001$), and milk (0.063, $p=0.941$) consumption patterns.

Chapter Six: Discussion, Conclusions and Recommendations

Summary of Findings

The food related behaviors of adolescent refugees from Bhutan are dynamic and highlight how culture and health intersect. The adolescents in this study demonstrated favorable attitudes toward both traditional Bhutanese foods as well as items more common to the American diet. Food choices and preferences seemed to change with social context. At school, the standard cafeteria meals of pizza and hamburgers were preferred as only one of the participants brought lunch from home. While traditional Bhutanese food was still the primary cuisine at home, American snack items were common at home and families chose to eat fast food at least once a week. Rather than rejecting traditional foods, adolescents seemed to be adding new foods to a long list of foods that they liked, both traditional and 'American.' Foreign-born adolescents may retain traditional food preferences longer than second generation immigrants.(Franzen & Smith, 2009; Gordon-Larsen et al., 2003) While 60% of Bhutanese refugees are Hindu, nearly all participants consumed meat.(Ranard, 2007) Given that this study did not address religion specifically, it is not possible to determine if vegetarianism in this study was related to religion.

Bhutanese adolescents often find best friends who are also Bhutanese or refugee and perceive their diets to be very similar to that of their best friend. Congruent with other studies, adolescents are more likely to eat certain items such as fast food if they perceived their friends would also that item.(Dennison & Shepherd, 1995) In a study based on the Theory of Planned Behavior with Asian

adolescents, positive attitudes and behavioral intention were significantly related to fast food consumption.(Seo et al., 2011) While adolescents made food choices similar to those of their best friend, the adolescents viewed their own diets as being healthier than their best friend. Adolescents may hold misperceptions about their friends' dietary attitudes and behaviors, thinking friends consume fewer fruit and vegetables and more unhealthy snacks than actually consumed.(Lally et al., 2011) Adolescent immigrants perceptions of what their friends eat are influential on food choices and may shape the diet acculturation process.

For Bhutanese adolescents, having friends who are also refugees may ease the sense of culture shock and support retention of more traditional food behaviors. This corresponds with the concept of homophily suggesting that people select friends with similar backgrounds to ease communication and support each other in acculturation-related challenges.(Titzmann & Silbereisen, 2009) While many studies focus on the unhealthy eating behaviors of adolescents, friends also share similarities in more healthful eating behaviors which may include retaining certain aspects of a traditional diet.(Wouters et al., 2010) A recent study by Bruening and colleagues found a significant positive association for breakfast eating, whole grain and dairy intake among adolescents and their best friends.(2012) It may be the case that likeminded refugee friends encourage consumption of snacks and fast food but are also fond of traditional foods and hence less likely discourage their consumption.

The school cafeteria is an important environment as the adolescents food choices are limited by what is offered on the menu and what is socially acceptable to

eat.(Krolner, 2011) Participants in this study energetically commented on the quality of school food and their preferences describing vegetables as 'nasty' and pizza and fried chicken as something to look forward to. Participants stated that they generally like vegetables yet would rarely eat vegetable dishes at school as the method of preparation and presentation were not at all appetizing. Other studies suggest that adolescents may not view vegetables as an essential part of the middle of the day meal or that vegetables are not appropriate to eat at school.(Krolner, 2011; Stead et al., 2011) While adolescents generally have an accurate understanding of nutritious foods and their benefits to the bodies, this study finds that among Bhutanese refugees, as with other adolescent groups, eating vegetables in school is not perceived as 'cool' behavior.(Ross, 1995; Stead et al., 2011) On particularly 'bad' food days in the cafeteria, some of the participants would rather go without lunch or purchase snack items from vending machines. While some participants stated that non-Bhutanese friends might think traditional dishes are "weird," further research is needed to determine if this is largely dictated by the relative 'affordability' of school lunch for refugee families.(Ludvigsen & Scott, 2009)

Conclusions

For adolescents, adopting the eating patterns of the host country may be seen as a way of integration and acceptance.(Renzaho, 2004) The findings of this suggest that refugee adolescents eat a varied diet including Bhutanese food as well as food identified as new or American. Refugee adolescents perceive that their food preferences and behaviors are very similar to those of their friends. These similarities and introduction to new foods through friends and school follows

studies underlining the social importance of food choices to help one 'fit in' with new friend groups. For Bhutanese adolescents who are experiencing rapid cultural change and are searching for their personal identity, food choice serves as a bridge into the American culture and can function as social camouflage.(Ludvigsen & Scott, 2009) People are happier and healthier when they experience a feeling of belonging, and this sense of peer acceptance is associated with stronger mental health in adolescents.(Correa-Velez et al., 2010; Newman, Lohman, & Newman, 2007) One could argue that it is actually good for young people's health – in the sense of their social and emotional well-being- to make food choices which make them feel good about themselves and help them make strong social bonds with others.(Stead et al., 2011)

Strengths and Weaknesses

This study has several weaknesses including the small sample size which restricted the value of statistical analysis. The results in this study are based on self-report, and may be at risk for social desirability bias. The participant's perceptions of their best friend's eating habits could not be triangulated with actual eating habits. The precise serving size and content of food consumed was not recorded and cannot give a detailed account of calories consumed. Children also see changes in their food related attitudes and behaviors after resettlement and further studies may be needed to understand their experiences.(Mulaski-Pokhriyal et al., 2011; Renzaho, 2004) The data is cross-sectional in nature and the temporality of relationships or causality is unable to be determined. Based on these results, it is

unknown whether adolescent refugees choose friends with similar eating habits or whether adolescents are conforming to the eating habits of the best friend.

The participants were associated with resettlement agencies and not randomly selected which may be considered a limitation. Many of the Bhutanese refugee families resettled in Clarkston are relatives and hence the population of Bhutanese in Atlanta may not be representative of all resettled refugees from Bhutan. Likewise, the findings of this study may not be generalized to other nationalities, refugees living in other areas of the United States, or in other resettlement countries. It is possible that all groups of refugee adolescents experience dietary acculturation in a very similar way and all groups would benefit from applications of the findings of this study.

This study is unique in that it focuses on the Bhutanese population which is growing in the US and is understudied.(Kumar et al., 2013) Bhutanese adolescents may share similar cultural background with other Asian immigrants yet have a unique experience of acculturation in America. The study was developed with community members and World Relief staff who are acutely aware of issue faced by refugees upon resettlement. The picture sort method for identifying food related habits and preferences was visually engaging and allowed for rich interaction with the participants as they selected and describes the food and drink items. Participants in this study were given the opportunity to talk about some of the challenges of resettlement and the cultural transitions involved in becoming American.

Recommendations

Research

The results of this study have some implications for both research and practice. This study has captured a picture of adolescent eating habits and begun to explore the how friends interact with refugee adolescents and the acculturation process. Further qualitative and validation studies are needed to conceptualize and operationalize measures of social support and peer pressure toward healthy and unhealthy eating to strengthen future studies with adolescents and immigrants. The prevalence, relative importance and explanatory powers of these social interactions must be assessed in future, large scale, quantitative studies. It is important to also understand how refugee adolescent negotiate for different foods within the family and gradually facilitate dietary changes for the entire family. The speed and degree to which diet acculturation occurs may vary depending on the types of friends or the demographics of the school or neighborhood. Future studies could examine differences in acculturation between refugees in primarily white middle class schools versus schools with a large numbers of refugees such as those in DeKalb County. Interactions between home and school availability, taste preferences, time in the US and food consumption should be studied in multivariate analyses.

Public Health Practice

Public health is faced with the challenge of creating environments where adolescents have the opportunity to make healthy choices. Refugee resettlement agencies such as World Relief are the first to welcome refugee families to the US and can facilitate healthy transitions with culturally appropriate support and education.

Specific recommendations for World Relief can be found in Appendix B. Schools can start by offering nutritious meal options that are affordable and appealing.

Health care providers and educators can help refugees and other adolescents develop strategies to deal with social interaction with friends that concern food. For example, health care providers can emphasize to adolescents that making healthful choices can be a sign of their independence, strength, and autonomy. Peer education has been widely used to address risk behaviors and is currently gaining support as effective means of nutrition interventions among adolescents.(Sloane & Zimmer, 1993) For example, garden projects have been successful in shifting adolescent view of vegetables into a more positive direction.(Lautenschlager & Smith, 2007; Robinson-O'Brien, Story, & Heim, 2009) Such interventions can act also as a social gathering for adolescents and their friends connect with natural food sources and begin to welcome healthy foods in their social circles. (Christakis, 2004; Shepherd et al., 2006)

Finally, with the growing prevalence of chronic disease associated with obesity among refugees, immigrants, and the US population as a whole, it will be important to emphasize healthful and culturally-sensitive practices regarding weight maintenance and reduction for children and adolescents. Asian Americans appear to be genetically susceptible to develop abdominal obesity and insulin resistance as the risk of type 2 diabetes among Asians starts at a lower BMI.(Chan et al., 2009) This emphasizes the importance of a healthy diet and physical activity among Bhutanese and other Asian immigrants from an early age.(Mulaski-Pokhriyal et al., 2011)

Policy

While recent legislation regarding immigration and health care should offer refugees a more streamlined path to citizenship and access to health care coverage, specific funding should be allocated for youth nutrition programs to facilitate healthy assimilation. These programs should include both refugee and native born adolescents to allow for cross-cultural exchange and learning as all young people, regardless of immigration status, face many of the same dietary and health risks. Funding should be available to refugee resettlement organizations who offer nutrition education and cultural orientation services to clients, particularly adolescent clients. The new USDA nutrition standards for school meals have the potential to transform breakfast and lunch offered in school to more closely align with the Dietary Guidelines for Americans.(French & Story, 2013) While having higher quality, more nutritious foods and school will make healthy food choices a more feasible option, funding is needed for peer based programs that seek to change food related social norms among children and adolescents.

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Appendices

Appendix A: Figures and Tables

Figure 1: Conceptual framework of diet acculturation among refugee adolescents from Bhutan who are resettled in Clarkston, Georgia

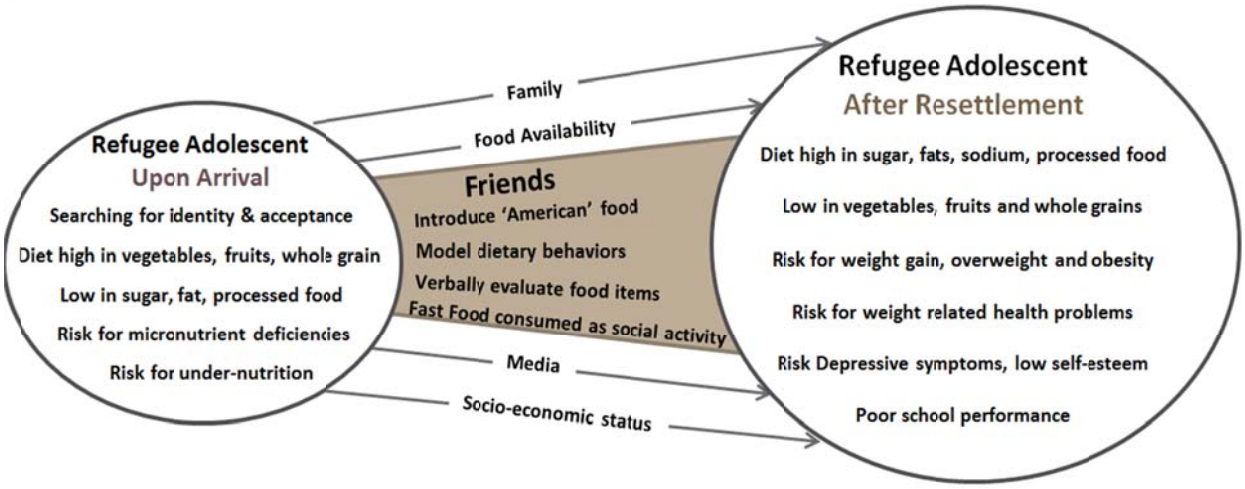

Table 1: Demographic characteristics of refugee adolescent participants from Bhutan and of their best friend as reported by the adolescent participant. *n*=30

	Participant	Best Friend
Demographics	---------- % ----------	
Female	60.0	56.7
Born in Nepal	100.0	93.3
Lived in Camp	100.0	100.0
Time	----------*years*----------	
Age, mean	13.9	13.8
Age, range	9 – 19	7 – 18
Residence in US, mean	1.5	1.8 years
Residence in US, Range	0.5 – 4	0.25 – 4.75

Table 2: Percentages of food consumption and preference responses as self-reported by Bhutanese refugee adolescents and on behalf of best friend. *n*=30

Characteristic	Participant	Best Friend
Type of Diet		
Vegetarian	16.7	16.7
Food preferences		
Liked fast food	86.7	73.3
Liked vegetables	100.0	93.3
Liked energy drinks	13.3	26.7
Preferred home cooked food to fast food	80.0	70.0
Food consumption patterns		
Ate cafeteria food at school	86.2	93.3
Ate fast food weekly	90.0	93.3
Ate fruits and vegetables daily	40.0	43.3
Ate candy daily	83.3	80.0
Drank soda daily	56.6	50.0
Drank milk daily	73.3	93.0
Drank energy drinks daily	0.0	13.3
Food related perceptions		
Made mostly healthy food choices	93.3	96.7
Felt encouraged by best friend to eat healthy foods	63.3	N/A

Table 3: Mean frequencies of food consumption as self-reported by Bhutanese refugee adolescents and on behalf of their best friend**.** *n=30*

Food Consumption	Participant Mean ± standard deviation	Best Friend Mean ± standard deviation
----------Frequency per week----------		
Fast food	2.5 ± 1.9	2.3 ± 1.8
Sweets	8.6 ± 4.2	9.4 ± 4.7
Soda	5.9 ± 3.9	5.1 ± 4.0
----------Frequency per day----------		
Vegetables	2.0 ± 1.1	2.0 ± 1.0
Fruits	1.8 ± 0.9	1.8 ±1.0
Milk	6.4 ± 3.9	7.6 ± 2.8

Table 4: Top three food items identified as America, healthy, unhealthy, or cool by Bhutanese refugee adolescents and proportion of adolescents who selected each food item. *n*=30

Foods & drink items	Proportion of participants
American----------	
Hamburger	0.70
Pizza	0.63
Fried chicken	0.33
Energy drink	0.60
Sports drink	0.53
Soda	0.50
Healthy----------	
Vegetables	0.73
Fruit	0.70
Rice	0.33
Milk	0.80
Water	0.76
Juice	0.43
Unhealthy----------	
Candy	0.77
Chips	0.63
Hamburger	0.30
Soda	0.80
Energy drink	0.60
Tea/coffee	0.30
Cool----------	
Pizza	0.47
Hamburger	0.40
Fried chicken	0.40
Chocolate milk	0.50
Soda	0.47
Water	0.43

Table 5: Correlation analysis of frequency of food consumption among refugee adolescents from Bhutan and as reported by the adolescent for their best friend *n=30*

Variable Name	Correlation	Chi Square	Significance
Vegetables	0.034	23.224	0.006
Fruits	0.044	21.698	<0.001
Sweets	0.384	43.804	<0.001
Snacks	0.571	106.875	<0.001
Soda	0.082	26.839	<0.001
Milk	0.063	0.779	0.941
Fast Food	0.739	55.121	<0.001

Appendix B: Recommendations for Resettlement

World Relief and other organizations that support refugees can facilitate healthy adjustments to life in America during the critical first three months as well as long term resettlement.

- Continue to provide culturally appropriate food for families upon arrival
- Avoid setting unhealthy eating precedents such as trips to fast food restaurants or offering candy as a reward for good behavior
- Ask families about their food related concerns
- When accompanying adolescents or family members for physical exams, encourage discussion of nutrition and body weight concerns with health care provider
- Incorporate nutrition education into cultural orientation classes for refugee (e.g. time management, food preparation, menu planning and shopping practices)
- Offer interactive workshops for refugee adolescents that address nutrition and allow for discussion of social pressures and cultural identity
- Refer refugee clients to community groups such as neighborhood gardens, cooking classes, and programs that promote active lifestyles

Appendix C: Questionnaire

⇒Hi, my name is _____ and I am a volunteer with World Relief. This is Sarah and she is a nurse and student at Emory University. We would like to learn more about what you and your friends eat here in America. We would like to ask you some questions. You do not have to answer these questions if you do not want to and you can stop the interview at any time. You will not be paid for this but we are happy for your help. It will take less than 30 minutes to answer everything.

Use picture card for questions C1-10 and E1-8. For other questions, **read all the possible responses unless instructed otherwise. Never read the response options DK- does not know or Refused when listed in the questionnaire. Only one response choice is possible unless indicated otherwise. Please circle the number corresponding to the response received. Fill in other as specified. For open ended questions, write down word for word the participants response. More space is provided on last sheet if needed.**

Interview Start Time: _ _:_ _ (Hours : minutes)

X	Gender	1 2	Male Female

Respondent's Background *First let's learn about you.*

A1	How old are you?		_ _ years
A2	What country were you born in?	1 2 88	Bhutan Nepal Other (specify)_____
A3	Did you live in a refugee camp?	1 2 98 99	Yes No DK Refused
A4	What month & year did you arrive in the USA?		_ _ /_ _ _ _ (month/year)

Best Friend Demographics

B1	Is your best friend male or female?	1 Male 2 Female
B2	How old is your best friend here in America?	_ _ years
B3	What country was your best friend born in?	1 Nepal 2 America 88 Other _____
B4	Did your best friend live in a refugee camp?	1 Yes 2 No 98 DK 99 Refused
B5	How long has your best friend lived in America?	_ _ /_ _ _ _ (month/year)
B6	How do you know this friend?	1 School 2 Neighbor 88 Other_____ 98 DK 99 Refused

Respondent's Food Choices

⇒ ***Now let's talk about what you eat and drink. Please look at these pictures of common foods and drinks. Point to which ones you would eat or drink on a typical day at the following times. You can pick more than one item. If there is something you usually eat or drink that is not pictured, please tell us and we will write it in!***

C1-C8: On a typical day what would you eat/drink for ……

C9-C10: What food/drinks would you like to eat/drink more of?

C1, C2 Breakfast		C3, C4 Lunch		C5, C6 Dinner		C7, C8 Snack		C9, C10 Like more of?	
1	Momos	1	Momos	1	Momos	1	Momos	1	Momos
2	Hamburger	2	Hamburger	2	Hamburger	2	Hamburger	2	Hamburger
3	Fruit	3	Fruit	3	Fruit	3	Fruit	3	Fruit
4	Pasta/Noodles	4	Pasta/Noodles	4	Pasta/Noodles	4	Pasta/Noodles	4	Pasta/Noodles
5	Pizza	5	Pizza	5	Pizza	5	Pizza	5	Pizza
6	Vegetables	6	Vegetables	6	Vegetables	6	Vegetables	6	Vegetables
7	Bhutanese food	7	Bhutanese food	7	Bhutanese food	7	Bhutanese food	7	Bhutanese food
8	Candy/Chocolate	8	Candy/Chocolate	8	Candy/Chocolate	8	Candy/Chocolate	8	Candy/Chocolate
9	Rice	9	Rice	9	Rice	9	Rice	9	Rice
10	Chips	10	Chips	10	Chips	10	Chips	10	Chips
11	Donuts/desserts	11	Donuts/desserts	11	Donuts/desserts	11	Donuts/desserts	11	Donuts/desserts
12	Sandwich	12	Sandwich	12	Sandwich	12	Sandwich	12	Sandwich
13	Eggs	13	Eggs	13	Eggs	13	Eggs	13	Eggs
14	School Lunch	14	School Lunch	14	School Lunch	14	School Lunch	14	School Lunch
15	Cereal	15	Cereal	15	Cereal	15	Cereal	15	Cereal
16	Chicken/meat	16	Chicken/meat	16	Chicken/meat	16	Chicken/meat	16	Chicken/meat
88	Other_____	88	Other_____	88	Other_____	88	Other_____	88	Other_____
1	Milk	1	Milk	1	Milk	1	Milk	1	Milk
2	Water	2	Water	2	Water	2	Water	2	Water
3	Energy drink	3	Energy drink	3	Energy drink	3	Energy drink	3	Energy drink
4	Juice	4	Juice	4	Juice	4	Juice	4	Juice
5	Soda	5	Soda	5	Soda	5	Soda	5	Soda
6	Sports drink	6	Sports drink	6	Sports drink	6	Sports drink	6	Sports drink
7	Tea/coffee	7	Tea/coffee	7	Tea/coffee	7	Tea/coffee	7	Tea/coffee
88	Other_____	88	Other_____	88	Other_____	88	Other_____	88	Other_____

C11	Why do you want to eat or drink more?	1	Taste
		2	Health
		3	Social norm
		88	Other_____
		98	DK
		99	Refused
C12	Why don't you eat or drink more?	1	Money
		2	Health
		3	Parents
		88	Other_____
		98	DK
		99	Refused

Food and Friend Review

⇒ Now we are going to ask you a series of question. First answer it for yourself. How you eat and drink and what you like. Then we will ask you to answer the question for your friend, what you think they like. You may not know exactly what your friend eats and drinks but please give us your best guess.

#	Question	C	Participant (*You*)	C	Friend (*Your Friend*)
D1	Are you vegetarian? Is your friend a vegetarian?	1 2 98 99	Yes No DK Refused	1 2 98 99	Yes No DK Refused
D2	Do ___ like to eat fast food?	1 2 98 99	Yes No DK Refused	1 2 98 99	Yes No DK Refused
D3	How often do __ eat fast food?	1 2 3 4 5 6 98 99	Everyday Few times a week Once a week Once a month Rarely Never DK Refused	1 2 3 4 5 6 98 99	Everyday Few times a week Once a week Once a month Rarely Never DK Refused
D4	Who do you eat fast food with?	1 2 3 88 98 99	Friends Family By myself Other_____ DK Refused		
D5	Do ___ like to eat vegetables?	1 2 98 99	Yes No DK Refused	1 2 98 99	Yes No DK Refused
D6	How many times during the day do __ eat vegetables?	1 2 3 4 5 6 98 99	5 or more 3-4 times 1-2 times Less than 1 a day Rarely Never DK Refused	1 2 3 4 5 6 98 99	5 or more 3-4 times 1-2 times Less than 1 a day Rarely Never DK Refused
D7	How many times during the day do __ eat fruit?	1 2 3 4 5 6 98 99	5 or more 3-4 times 1-2 times Less than 1 a day Rarely Never DK Refused	1 2 3 4 5 6 98 99	5 or more 3-4 times 1-2 times Less than 1 a day Rarely Never DK Refused
D8	How often do ___ eat desserts and candy?	1 2 3 4 5 6 98 99	2or more a day Once a day A few a week Once a week Rarely Never DK Refused	1 2 3 4 5 6 98 99	2or more a day Once a day A few a week Once a week Rarely Never DK Refused

D9	How often do __ drink soda?	1	2or more a day	1	2or more a day
		2	Once a day	2	Once a day
		3	A few a week	3	A few a week
		4	Once a week	4	Once a week
		5	Rarely	5	Rarely
		6	Never	6	Never
		98	DK	98	DK
		99	Refused	99	Refused
D10	Do __ like energy drinks?	1	Yes	1	Yes
		2	No	2	No
		98	DK	98	DK
		99	Refused	99	Refused
D11	How often do __ drink energy drinks?	1	2or more a day	1	2or more a day
		2	Once a day	2	Once a day
		3	A few a week	3	A few a week
		4	Once a week	4	Once a week
		5	Rarely	5	Rarely
		6	Never	6	Never
		98	DK	98	DK
		99	Refused	99	Refused
D12	How often do __ drink milk?	1	2or more a day	1	2or more a day
		2	Once a day	2	Once a day
		3	A few a week	3	A few a week
		4	Once a week	4	Once a week
		5	Rarely	5	Rarely
		6	Never	6	Never
		98	DK	98	DK
		99	Refused	99	Refused
D13	How often do you buy snacks or drinks from a vending machine or store?	1	2or more a day	1	2or more a day
		2	Once a day	2	Once a day
		3	A few a week	3	A few a week
		4	Once a week	4	Once a week
		5	Rarely	5	Rarely
		6	Never	6	Never
		98	DK	98	DK
		99	Refused	99	Refused
D14	What do __ usually eat for lunch at school?	1	Cafeteria Food	1	Cafeteria Food
		2	Fast food	2	Fast food
		3	Vending machine	3	Vending machine
		4	Food from home	4	Food from home
		88	Other_____	88	Other_____
		98	DK	98	DK
		99	Refused	99	Refused
D15	Imagine that it is time to eat and there is food from your favorite fast food restaurant or Bhutanese food cooked at home. What would __ choose?	1	Fast Food	1	Fast Food
		2	Home cooked	2	Home cooked
		88	Other_____	88	Other_____
		98	DK	98	DK
		99	Refused	99	Refused

⇒ For the following questions, let's go back to the pictures. Please point to which food and drink items go with each question. You can pick more than one.

E1-E2 What are American?		E3-E4 What are healthy?		E5 – E6 What are not healthy?		E7 –E8 Which are cool?	
1	Momos	1	Momos	1	Momos	1	Momos
2	Hamburger	2	Hamburger	2	Hamburger	2	Hamburger
3	Fruit	3	Fruit	3	Fruit	3	Fruit
4	Pasta/Noodles	4	Pasta/Noodles	4	Pasta/Noodles	4	Pasta/Noodles
5	Pizza	5	Pizza	5	Pizza	5	Pizza
6	Vegetables	6	Vegetables	6	Vegetables	6	Vegetables
7	Bhutanese food	7	Bhutanese food	7	Bhutanese food	7	Bhutanese food
8	Candy/Chocolate	8	Candy/Chocolate	8	Candy/Chocolate	8	Candy/Chocolate
9	Rice	9	Rice	9	Rice	9	Rice
10	Chips	10	Chips	10	Chips	10	Chips
11	Donuts/desserts	11	Donuts/desserts	11	Donuts/desserts	11	Donuts/desserts
12	Sandwich	12	Sandwich	12	Sandwich	12	Sandwich
13	Eggs	13	Eggs	13	Eggs	13	Eggs
14	School Lunch	14	School Lunch	14	School Lunch	14	School Lunch
15	Cereal	15	Cereal	15	Cereal	15	Cereal
16	Chicken/meat	16	Chicken/meat	16	Chicken/meat	16	Chicken/meat
88	Other_____	88	Other_____	88	Other_____	88	Other_____
1	Milk	1	Milk	1	Milk	1	Milk
2	Water	2	Water	2	Water	2	Water
3	Energy drink	3	Energy drink	3	Energy drink	3	Energy drink
4	Juice	4	Juice	4	Juice	4	Juice
5	Soda	5	Soda	5	Soda	5	Soda
6	Sports drink	6	Sports drink	6	Sports drink	6	Sports drink
7	Tea/coffee	7	Tea/coffee	7	Tea/coffee	7	Tea/coffee
88	Other_____	88	Other_____	88	Other_____	88	Other_____

#	Question	C	Participant (*You*)	C	Friend (*Your Friend*)
E9	Do ___ eat more health or more unhealthy?	1 2 98 99	Healthy Unhealthy DK Refused	1 2 98 99	Healthy Unhealthy DK Refused
E10	Does your best friend encourage you to eat more healthy?	1 2 98 99	Yes No DK Refused		
E11	Do you eat different food here in America than in your country? What and Why?	98 99	DK Refused		
E12	What can we teach Bhutanese kids to help them be healthy and happy here in America?	98 99	DK Refused		

⇒ Do you have any questions? Do you want to tell us anything else? Thank you for helping us!

End Time: _ _:_ _ (Hours : minutes)

Appendix D: Selected Field Notes

Tuesday, April 9th

Mandira and I entered the apartment which was carefully decorated with draped crate paper that resembled bellowing fabric or a tent. Several pictures were hung on the white wall of Asian men and women, some with bhindis and saris, others dressed in western clothing. There were also two paintings of Jesus above the couch. Bouquets of brightly colored silk flower sat on the small end table and were draped over picture frames. The floor was covered with large reed-like mats of bright green or red design. The apartment was very cold, little if any heat. There were 5 women sitting about the main room, two on the couches, three on the floor. They had several layers of clothing on, one of the older women was wearing a traditional wrap skirt. No one was wearing socks and the thought of bare feet on this cold floor made me shiver! The women speak to each other freely. One younger woman talks with Mandira who tells her about this study and why we would like to speak with her daughter. It does not seem like Mandira has meet this family before. The daughter comes down from the second floor and Mandira talks to her in Nepali. Once the girl smiles and looks at me, I introduce myself and ask how comfortable she is in English. Mandira reads through the consent form with the mother while I discuss the study with the daughter in English. Both agree on participation and the consent form is signed. A young toddler comes out of the back room and sits with the participant until the mother picks up the young child and goes to sit with the other women in the larger room. The young girl is quiet but cooperative during the survey. Offers only short responses to open-ended questions. Completes the questionnaire with me in English, only 2 words needing further explanation in Nepali: Advice and vegetarian. Once we finished the questionnaire, the grandmother made us a hot beverage, couldn't really tell if it was tea or coffee, tasted like both, clove smell, very sweet but small amount maybe 4-6oz.

The women continued to converse with each other. One of the younger ladies had a book and seemed to be leading a discussion. Mandira later explained to me that these women were gathering for Bible study and prayer. They sang a common Christian hymn in their language, clapping along. Mandira tell me that during their out-loud prayer time, her and I were mentioned as a disturbance and that the women would not lose focus because of our presence. Mandira tells me that she is a Christian but did not join in the singing or prayer as she did not know these women or entirely agree with their teachings. She stated that many families were Hindu back in Bhutan but have adopted various aspects of Christianity here in America. Mandira also shared that this group of women seemed socially atypical to her as the last names of each of the women and the participant represented

different castes. She states that usually, people tend to socialize with others from similar castes or tribes. Mandira states that traditionally it would be socially taboo to socialize with certain castes but here in America these rules are blurring slowly. The young girl who participated in the study did not seem involved with the bible study as she was upstairs before and returned their after the survey was completed. I talked with her briefly about how school was going and what she liked here in America. She was shy to speak but smiled.

Thursday, April 11th

Today we visited a family that Mandira was acquainted with. She had told me a week or two earlier about their family drama. We talked with the mother and got consent the night before since she would be working the next day when we had time to complete the survey. We spoke with the eldest daughter, 16 years old. Her English was functional; she was also shy but warmed up as the interview progressed. Her younger sisters were also in the house, 2 came downstairs to say hello and then ran back upstairs to watch a movie. Our participant, the oldest sister stated that she would be responsible for cooking dinner since her mother would not return until late. She stated that when she first came to America, she did not like all the greasy American food like French fries and pizza as she would only eat Bhutanese food for many months. She says that now she likes these foods more because she has to eat them at school. Eating pizza or noodles at school tastes better than some of the vegetable and meat they offer even though it is more 'healthy.' She shared that her and her sisters really like to eat chips and candy. Their mom says it's not good for them but will sometimes buy it for them. She says most of her friends at school drink soda all the time but her family not as much. She says that she still cooks only Nepali foods when she is responsible for dinner. She says that all Nepali vegetables and ingredients can be found in Clarkston but they may be expensive and they taste different somehow.

Tuesday, April 16th

Today we had time for 6 interviews with two girls and four boys who all lived in the same apartment complex. We had our first withdrawal from the study as a 13 year old boy got 2/3 of the way through the study and then told us he was bored and would rather go play outside. He seemed 'antsy' and was resistant to some questions at the beginning. He kept asking Mandira in Nepal, 'Why these questions? Why does she need to know that? I don't know? Let me go.'

When asked about friends eating at school, a 13 yr old female participant shares the following about an 11yr old boy 'He loves food so much. He is fat. He wants more food.' She laughs and makes a motion imitating a big stomach. When asked if fat was bad or good she says 'Too fat is bad. Old people get diabetes.' When asked to explain more about diabetes, she said she has heard of it but doesn't know what it is. After the survey, she ran into the kitchen while we talked with her mother. She brought back 3 juice boxes, giving one to me, Mandira and drinking one herself.

Another 17 year old girl stated 'I'm too skinny, I don't like skinny. Having fat is good. I wish to have fat. Fat looks good, not really fat….fat is healthy.' After the questionnaire we talked about Indian movies and her posters of famous Indian actors and actresses up on the wall.

A 12 year old boy was asked after the survey if it was good or bad to be fat. They boy could not articulate why fat was bad and did not seem to associate fat with unhealthy.

Another 11yr old boy stated 'Fat hits the door. Gets stuck in the door.' (*laughs)* When asked why he doesn't drink energy drinks he states "Drinking energy drinks not good for kids, it will make it hurt (*motions drinking and tightens fist on chest while making a grimacing face and shaking his head)* Not good for me." Afterwards I asked him to guess how many fruits and vegetables kids should eat per day, he guessed one vegetable and one fruit. He seemed surprised and nodded his head when I told him kids should eat at least 5 servings of fruits and veggies per day.