A CASE STUDY OF 1.5 GENERATION CHINESE AMERICAN WOMEN’S PERSPECTIVES OF NUTRITION EDUCATION

by

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A Dissertation
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DEDICATION

This dissertation is dedicated to my parents, Claudine and Darnell Howard. Thank you for always loving, supporting, and pushing me. You always knew exactly what I needed and what I was capable of, for this and so much more….I am eternally grateful.
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I am especially grateful, first and foremost, to the Chinese American women who participated in this research. Without their stories this work would not have been possible. Thank you for trusting me and sharing your thoughts—not just with me, but with the world.

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ABSTRACT

A CASE STUDY OF 1.5 GENERATION CHINESE AMERICAN WOMEN’S PERSPECTIVES OF NUTRITION EDUCATION

Diana F. Karczmarczyk, Ph.D.

George Mason University, 2013

Dissertation Chair Dr. Anastasia P. Samaras

The purpose of this study is to explore the perspectives of 1.5 generation (defined as immigrants who enter the United States between the ages of 12 and 15) Chinese American women regarding nutrition education. Although much has been written about the importance of delivering culturally competent nutrition education, insufficient attention has been given to the needs and experiences of this generation of Chinese American women. In addition, there is little disaggregated research on the unique needs and perceptions of Asian American subgroups, including those of Chinese Americans, the largest Asian community in the US. This research is focused specifically on 1.5 Chinese American women to provide an in-depth understanding of their perspectives about nutrition. The qualitative case-study research design uses a Three Tier Structure Approach, designed by the researcher and adapted from the Mears’ (2009) Gateway Approach, entailing an open-ended written narrative followed by two interviews.
organized within a *Three Tier Structure Approach*. In Tier One, in response to a question on beliefs about nutrition in the US, five participants identified and shared a critical incident through an open-ended written narrative. Of those five participants, three then completed Tier Two and Tier Three, which entailed semi-structured face-to-face interviews to further probe their individual perspectives about their experiences with nutrition education, sources of knowledge, messages in their community, eating and food preparation behaviors, and their perspectives on and recommendations for delivery of nutrition education. Although the participants in this study were demographically similar in terms of current age, age at immigration, and place of birth, their experiences with nutrition education in the US varied. In addition, none of the participants reported receiving formal nutrition education from a health-care professional or nutritionist.

Messages participants had received about nutrition education varied and came from family, friends, and the media.

This study adds to the resources currently available to health-care providers, and particularly nutrition educators, which can be used in the development and implementation of culturally competent nutrition education interventions for 1.5 generation Chinese American women. Recommendations for both nutrition educators and health-care professionals are identified to help address the needs of this population. Nutrition educators, for example, should offer culturally appropriate nutrition education to 1.5 generation Chinese American women, offer nutrition education consistently, and use a wide variety of outreach approaches to deliver this education. Recommendations
for health-care professionals include conducting a quality needs analysis with each patient.
CHAPTER 1

Introduction

The United Nations’ Universal Declaration of Human Rights, developed in 1948, states in Article 25 that “everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing, and medical care and necessary social services …” (Universal Declaration of Human Rights, 1948, para. 25). Health disparities are the significant differences in overall health and disease rates among communities based on an individual’s socioeconomic status, gender, age or ethnicity. In 2008, the Commission on the Social Determinants of Health, directed by the World Health Organization (WHO), called on world leaders, as a “matter of social justice” and an “ethical imperative,” to end health inequities in their own countries (p. vii).

In addition, WHO states that “the objective of good health itself is really twofold: the best attainable average level—goodness—and the smallest feasible differences among individuals and groups—fairness” (2000, p. xi). Public health is the “science and practice of protecting and improving the health of a community, as by preventive medicine, health education, control of communicable diseases, application of sanitary measures, and monitoring of environmental hazards” (American Heritage Stedman’s medical dictionary, n.d., para. 1). Clearly, public health protects and improves the health
of communities by developing policies, engaging in research, offering health services to communities, and developing and implementing health education with a health equity focus. Public health components interact to help improve the health of a community, which ultimately improves the health of the individuals in that community. Individuals are also affected by other factors that can have an impact on their health, including knowledge about nutrition, cultural beliefs, finances, and personal behaviors.

The purpose of this study is to explore the perspectives of 1.5 generation (defined as immigrants who enter the United States between the ages of 12 and 15) Chinese American women regarding nutrition education in the US. Yee (2009) states that:

. . .conversations regarding health disparities largely do not include the health challenges plaguing many Asian Americans in this country. If they do arise, it is often mentioned as an afterthought, as token inclusion, or in the rare circumstance when there is an Asian American at the table who is knowledgeable about the issues and speaks up on behalf of this population. Many people, including key policymakers and decision makers, are unaware of the many health issues facing vulnerable segments of this population (p. xiv).

According to Islam, Trinh-Shevrin, and Rey (2009) the term “model minority” has been used to describe Asian Americans since the term was coined by William Peterson in 1966 (p. 5). The term suggests that Asian Americans’ strong family values and work ethic have helped them overcome prejudice and become the antithesis of a “problem minority” (Islam et al., 2009, p. 8). The “model minority” myth may also discount the health needs of Asian Americans. Islam et al. explain that “it is increasingly
imperative that programs and policies place stronger emphasis on understanding the diversity of this community” (2009, p. 15). Furthermore, Kosoko-Lasaki, Cook, and O’Brien explain that when interacting with patients, health-care providers (which can include nutrition educators) often lack knowledge and understanding of the wide variety of influences that shape their patients’ behaviors, such as their cultural beliefs (2009). Therefore, it is important to deliver health education in a way that is culturally appropriate to help patients adequately address barriers to good health (Institute of Medicine, 2002). This study, although limited in scope, has implications for other cultural and ethnic groups because it raises awareness about the perspectives of individuals in the 1.5 generation and the need for culturally appropriate nutrition education. The discussion of the current knowledge base on health disparities later in this chapter highlights the importance of understanding the needs of this 1.5 generation, and specifically, as examined here, the population of Chinese American women. Such understanding can lead to improved cultural competence and an increase in disaggregated data on health issues for this population.

**Cultural Competence and Health**

Health and culture are inextricably linked. Health is often described as the absence of disease. However, health is defined in the Preamble of the WHO Constitution as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (1948, para. 1). This holistic view of health is shaped by individual culture and the surrounding society. Education, income and social status can also greatly influence an individual’s health. Additionally, culture plays a role in how
individuals perceive, diagnose and treat disease, if at all. These perceptions, in turn, can profoundly affect the interaction between health-care provider and patient. Each person is shaped by a set of values, practices, and beliefs. These beliefs are demonstrated through actions, thoughts, and customs.

For health-care providers to have a productive interaction with a patient that results, ultimately, in a good health outcome, they must know how to respond appropriately to a patient’s cultural beliefs and practices as they relate to health and medicine. They must be “culturally competent.” According to the Office of Minority Health (OMH), “cultural and linguistic competence is a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals that enables effective work in cross-cultural situations” (2005, para.1). In an effort to ensure that all patients have an opportunity to attain and maintain good health, the OMH developed 14 national standards on culturally and linguistically appropriate services (CLAS) in 2000 (US Department of Health and Human Services [HHS], 2001) to help health-care organizations work towards cultural and linguistic competence.

**National Standards of CLAS**

According to the OMH, CLAS should serve as a “replacement [for] the patchwork of different definitions and requirements with one universally understood set of guidance” (HHS, 2001, p. xiv), primarily for health-care organizations. In 2000, while a total of 14 CLAS standards were developed, only four were actually required for health-care organizations that receive federal funding (OMH, 2013a). In 2013, an updated list was released designed to “inform, guide, and facilitate practices related to
culturally and linguistically appropriate health services” with a final list of 15 standards (OMH, 2013b, para. 2). Standards for health-care organizations that receive federal funding did not change. (See Appendix A for the complete list.) Despite the enhancement, only the four standards that were included in the original list are focused on the delivery of linguistically appropriate services. The other 11 standards are only recommendations for health-care organizations and leave a void in the enforcement of providing culturally appropriate care. The CLAS standards were developed to help health-care organizations and providers establish a framework for addressing patients’ cultural needs in a culturally competent way through a variety of patient services (HHS, 2001, p. ix) because there was a concern that multiple frameworks and approaches created more disparity. HHS explains that “the aim of the standards is to contribute to the elimination of racial and ethnic health disparities and to improve the health of all Americans” (2001, p. ix). The map on the OMH website shows that since the release of the original CLAS standards at least six states indicate that they have developed legislation requiring cultural competency training for their state health professionals (OMH, 2013). In addition to health-care systems and health-care providers using the CLAS standards to address health inequities effectively, disaggregated research is also needed to understand the unique needs and perceptions of Asian Americans including those of Chinese Americans, the largest Asian community in the US. (Asian American Studies Program, University of Maryland and Organizations of Chinese Americans [OCA], 2008).
Gaps in Research on Asian Americans

Limited health-care research data exist for Asian Americans as a population group (Ghosh, 2003). Islam et al. (2009) explain that despite the changes to the 2000 census that enabled Asian Americans to specifically identify the subgroup with which they identify, such as Chinese, the “majority of federally funded research and state surveys and studies continue to include relatively small Asian American sizes” (p. 11). Therefore, a national gap in data about these communities exists. Ghosh (2009) further explains that “From 1966 to 2000, overall, only 0.01 percent of published research involved Asian Americans and Pacific Islander health directly or tangentially” (p. 81). Research on Asian Americans often focuses on the collective group, ignoring the wide diversity that exists within the community’s subgroups (Islam et al., 2009). As indicated by Yee (2009), Asian Americans have specific health challenges and disparities facing them. Despite national attention on these disparities, the data for these health challenges are limited (Islam et al., 2009). Yee (2009) and Ghosh (2003) further argue that research on specific subgroups of Asian Americans is critical to addressing and ending health disparities. Ghosh (2003) emphasizes that:

Without more data, in 50 years, when AAPIs (Asian American Pacific Islanders) reach 11% of the U.S. population, the medical community will be floundering over how to provide care for this group. If subgroup analyses are not performed, the United States runs the risk of creating a health policy on the entire AAPI population based upon data from a few of its subpopulations (p. 2097).
An additional challenge is that “many Asian immigrants may trace their ethnic heritage to one country but their national origin to another” (Islam et al., 2009, p. 11). This situation compounds the difficulty of identifying participants in research. Islam et al. (2009) argue that not only are there limited research efforts, but also limited health promotion efforts for Asian Americans. Furthermore, research is also inadequate on Asian American immigrants who are part of the 1.5 generation that arrived in the US between the ages of 12 and 15 and who are now adults between the ages of 22 and 30. The 1.5 generation has unique characteristics and needs that have not been adequately captured in research.

1.5 Generation

Terms used to differentiate immigrants can be confusing. According to the definition in Merriam-Webster’s Online Dictionary, for example, the designation *first generation* depends on the place of birth and describes: (1) a person born in the US whose parents were born in another country and (2) a naturalized citizen, born outside of the US. Merriam-Webster’s defines *second generation* as: (1) a person who is a “member of the second generation of a family to be born in the United States” or (2) a person born in the US to “foreign or mixed parentage” (n.d., para.1). The definition of the 1.5 generation also varies in literature and among researchers.

Charles Kim used the term 1.5 generation to describe immigrants because the terms first or second generation did not adequately describe immigrants (such as him) properly. Specifically, Kim coined the Korean term “ilchom ose” within the Korean community to identify immigrants who came to the US during their formative years (as
cited by Danico, 2004, p.1). Min (2007) defines the 1.5 generation as immigrants who enter the United States between the ages of 13 and 17 and possibly later. Alternatively, Oudenhoven (2006) defines this generation as those who immigrate to the US after the age of 12 (or older) and ultimately graduate from U.S. high schools. In contrast, Rumbaut’s (2004) definition encompasses those who immigrated to the United States before the age of 12.

Although there is not consensus on the age of the members of this generation at immigration, researchers generally agree that the 1.5 generation has unique qualities. Min (2007) explains that members of this 1.5 generation are an “in between” generation because they possess knowledge about the culture and language from their native country and the country to which they have immigrated. As Danico (2004) explains:

The 1.5 generation is unique in that they share the basic characteristics of bilingualism and biculturalism and the ability to cross generational and ethnic lines. However, the way in which the 1.5 generation construct their generational and ethnic identity has much to do with where they live and the community that surrounds them (p. 184).

According to Min (2007), the 1.5 generation can empathize with new immigrants with language difficulties because they themselves may have had similar experiences when they immigrated at a young age. Charles Kim affirms that the 1.5 generation (of Koreans), usually composed of young adults in their 20s and 30s are able to “understand Korean culture and Western culture” (cited by Quintanilla, 1996, para.12). Min (2007, para. 6) explains that 1.5 generation adults have a unique perspective when compared to
other immigrants, “1.5-generation adults possess unique things that native-born American adults do not. These are their experiences in their home country and their memories of life there during the early years.”

Kim (2004) points out that others’ perceptions can be challenging for the 1.5 generation. Soo (1999) explains that the Chinese expression “juk sing,” “caught between the top notch of a bamboo stick” is a disparaging term used within the Chinese community to describe US-born Chinese who are seen as “forever caught in the middle” because they are not considered to be “fully American because of their looks, but not totally Chinese because of their American attitudes and their lack of proficiency in the Chinese language” (para.1). Consequently, this generation ends up feeling isolated within the Chinese community. However, this generation was selected for this research because of the chameleon-like behavior of its members, which makes them unique among immigrant groups. Furthermore, it has been predicted that the number of 1.5 generation Chinese Americans will surpass the first generation Chinese American population by the end of 2013 (Research Alert, 2008).

Due to the unique situation and limited research on this community, this study will focus on the 1.5 generation of Chinese Americans. More specifically, this study is an exploration of the perspectives of 1.5 generation Chinese American women regarding nutrition education in the United States.

**Nutrition Education**

In an effort to combat chronic diseases and promote health, nutrition policies and guidelines for healthy eating were developed in the US (HHS, 2012). In 1980, the United
States Department of Agriculture (USDA) and HHS began publishing *Dietary Guidelines for Americans* outlining recommendations for all Americans for healthy eating (Center for Nutrition Policy and Promotion, 2011a). In 1995, the report was released in response to a Congressional mandate, part of Public Law 101-445, Section 3 (7 U.S.C. 5341, the National Nutrition Monitoring and Related Research Act of 1990, Title III), requiring that a report be published every five years with new and updated science (Center for Nutrition Policy and Promotion, 2011a). Some of the key messages for consumers in the 2010 *Dietary Guidelines for Americans* include: (1) eating less meat and more fruits and vegetables; (2) lowering sodium intake in foods; and (3) drinking fewer sugar-sweetened beverages like soda (HHS, 2011). Those *Guidelines* included the now almost iconic image, representing the Choose MyPlate method, of a plate divided into four quadrants, each labeled with a recommended food group (Center for Nutrition Policy and Promotion, 2011b).

However, these policies have generally not provided guidance for addressing the food choices of the various cultural groups in the US with their wide variety of cultural beliefs and practices (American Dietetic Association, 2011). The USDA nutrition guidelines emphasized in the Choose MyPlate method may be considered a “culturally neutral intervention.” Tripp-Reimer, Choi, Kelley, and Enslein (2001) define a culturally neutral intervention as one typically developed by White practitioners and then only implemented with White individuals. Therefore the lack of ethnic diversity in the development and implementation renders the intervention “neutral”, however some may justifiably argue that it was developed specifically for White patients. Examples of how
to deliver nutrition education to ethnic communities, including Asians and specifically Chinese Americans, and tools for doing so have been developed since the 1970s, but they have not been successfully distributed or used by health-care providers (Tripp-Reimer et al., 2001). As a result of their survey of 299 Chinese American participants indicating that a majority (more than 90%) had never been to a nutrition education program, Lv and Cason (2003) hypothesized that culturally appropriate education modules may not be available. In addition, Satia-Abouta, Patterson, Kristal, Teh and Tu emphasize that “health beliefs and dietary practices are not monolithic across all Chinese” (2002, p. 35), stressing the importance of incorporating individualized recommendations into nutrition education efforts.

The Academy of Nutrition and Dietetics (formerly the American Dietetic Association) affirms that policies are in place to ensure professionals in the nutrition field avoid discrimination and offer culturally appropriate services (2011). However, this organization also suggests that a model for “reducing racial and ethnic disparities that clearly defines objectives and strategies would be useful” (p. 448) to assist nutrition professionals in eliminating and addressing health disparities. The current nutrition policies and guidelines leave the interpretation of the materials to local organizations, national nutrition organizations, and health-care providers. This lack of information allows for health disparities and health inequities to occur, particularly for Asian Americans and for subgroups such as Chinese Americans.
Health Issues for Chinese Americans

Chinese Americans are not exempt from chronic diseases, particularly diabetes, obesity, cardiovascular disease, and eating disorders, which the nutrition policies and guidelines in the US are designed to prevent. Hossain, Kawar, and Nahas (2007) explain that about “90% of cases of Type 2 diabetes is attributed to excess weight” (p. 213). A complication due to diabetes is cardiovascular disease, which results in over 17 million deaths globally every year. The rates of obesity in developing countries worldwide were reported to have nearly tripled in 2007 (Hossain et al., 2007).

Obesity and Related Health-Care Issues

Chinese Americans value balance and see food as the great restorer for that balance (Hsu & Yoon, 2007). It is important for Chinese Americans to have foods that taste good because such foods are one way to show love for another person (Hsu & Yoon, 2007). Bhandari and Smith (2000) explain that China has unique nutrition challenges. For example, malnutrition still exists in China as a result of under-nutrition, but over-nutrition also exists as a result of an increased level of food intake. In 2007, obesity was cited as the fifth leading cause of disease in China, just below underweight issues (Hossain et al., 2007). Each end of the spectrum comes with unique health challenges related to heart health.

Obesity is also at epidemic levels in the US. The US Office of the Surgeon General reports that obesity is generally more prevalent among minority groups than among Whites in adult populations (2007). Barnes, Adams, and Powell-Griner (2008) report that, according to data from the 2004–2006 National Health Interview Survey, at
least 25% of Chinese American respondents self-reported that they were either overweight or obese. Barnes et al. (2008) used traditional body mass index (BMI) markers for overweight as greater than or equal to 25 kg/m² and less than 30 kg/m² and obesity was defined as greater than or equal to a BMI of 30 kg/m².

WHO (2004) recognizes that Asian Americans are at an increased risk for type 2 diabetes and cardiovascular disease at a lower BMI. However, due to limited data there are currently no official distinct BMI markers for Asian Americans. WHO suggests that the BMI markers of 23 kg/m² and 27.5 kg/m² should serve as points for “public action” (2004, p. 161). Oza-Frank, Ali, Vaccarino, and Narayan (2009) found that when they used the WHO BMI markers for public action in the Asian American community that “overweight and obesity prevalence were higher in all Asian subgroups” when compared to that of non-Hispanic Whites with type 2 diabetes (p. 1644). In addition, Palaniappan, Wong, Shin, Fortmann, and Lauderdale (2011) found that, despite the availability of other tools for measuring obesity, BMI may be the most cost-effective and simple measurement to use if it can be tailored to specific subpopulations. Some researchers have suggested that Asians may be more biologically prone to diabetes and obesity due to a genetic predisposition to abdominal obesity (Hossain et al., 2007). Specifically, Wang et al. (1994) found that Chinese American women, when compared to Whites, “had more subcutaneous fat than did Whites and had different fat distribution than Whites” (p. 23). This variance in fat distribution may be responsible for the increased risk of certain diseases, such as diabetes.
In a qualitative study conducted by Liou and Bauer (2007) with 40 New Yorkers of Chinese descent, forty-two percent of the participants shared that they believed that obesity was a concern in the Chinese American community (Liou & Bauer, 2007, p. 135). There is increasing evidence that eating disorders may also be an important health concern for Asian American women (Haynie, 2007). In China, women seem to be at an increased risk for eating disorders because researchers believe that the “abnormal social appreciation of beauty has a much stronger impact on them” than on males (“Eating disorders attacking girls in China,” 2008, para. 2). There is limited research on this topic, but Asian American women also face pressure to maintain a thin physique in the US and may be taking steps to limit food intake or purge foods that they have eaten (Haynie, 2007).

In 2010, a major research study conducted in China revealed that China is facing epidemic rates of diabetes (Yang et al., 2010). This study confirmed that approximately one in 10 Chinese has diabetes, a rate that is almost as high as that in the United States (2010). Yang et al. changed history with their research in China showing that over 92 million Chinese have diabetes. Prior to the Yang et al research the International Diabetes Federation (IDF) reported that only an estimated 43 million people in China had diabetes (2010). China, reportedly, has the most adults with diabetes of any nation. In a press release posted on their website, the IDF states: “This [the Yang et al. research] shows that the global burden of diabetes is far larger than previously estimated. It is a wake-up call for governments and policy-makers to take action on diabetes—a major public health problem” (2010, para.1).
Asian Americans tend to have lower rates of obesity than the general U.S. population, but remain at an increased risk for health concerns at a lower BMI (Tanjasiri & Nguyen, 2009). Lee, Brancati, and Yeh (2011) analyzed data from a sample of almost 230,000 individuals, of whom more than 10,000 were identified as Asian American, from the National Health Interview Survey from 1997 until 2005. The authors found that Asian Americans were between two and three times more likely to have type 2 diabetes at a lower BMI than their White counterparts (Lee et al., 2011). Barnes et al. (2008) found that 6% of Chinese Americans self-reported that they have diabetes and more than 5.5% self-report that they have heart disease. Liuo and Contento (2001) explain that very little research has been conducted on Chinese “food beliefs and attitudes pertaining to decreasing heart disease risk and the relationship of these beliefs to behavior” (p. 323). The leading cause of death among people with diabetes is heart disease (American Diabetes Association, 2009).

Baseline health data are important to understanding some of the health needs of Chinese Americans. Furthermore, health disparities also exist specifically for Chinese American women.

**Health Disparities for Women**

There is limited research on the health disparities for Asian American women. Tanjasiri and Nguyen (2009) argue the following:

The lack of studies documenting the health care needs and resources of Asian American and Pacific Islander women continues to create the misconception that women in these communities do not suffer from
illnesses or diseases and therefore do not need public health education programs or allocation of public resources (p. 153).

Conducting research with women is important because, globally, women are generally the caregiver for the household and responsible for preparing and cooking the meals (Tanjasiri & Nguyen, 2009). In addition, women can serve as a role model for others in the home and can play a part in addressing and reducing obesity (Tanjasiri & Nguyen, 2009). In one study of less acculturated Chinese American women, who on average were 52 years old and married with limited English proficiency, the authors concluded that the participants did not know how to interpret food labels and did not use the food guide pyramid (Satia et al., 2000). More such research is needed to fill the many gaps in knowledge about Chinese American women’s perspectives on nutrition education. This study is designed to explore those gaps related to the 1.5 generation of this population.

Statement of Research Problem and Purpose

Every person in the US has the right to quality health care. The growing ethnic diversity in the US means that ensuring this right entails responding to a variety of needs. Chinese Americans are the largest Asian American community in the US and they face serious health issues, such as obesity and type 2 diabetes, which require attention. Obesity rates, as measured by standard BMI markers, among Chinese Americans are serious with one in four Chinese Americans reporting that they are overweight or obese (Barnes et al., 2008). Furthermore, the fact that Asian Americans are at risk for type 2 diabetes at a lower BMI than Whites (WHO, 2004) requires the development of effective
prevention measures, such as nutrition education. Culturally competent nutrition education is necessary to help combat chronic diseases, but currently materials aimed specifically at Chinese Americans are limited. Furthermore, as discussed above, there are significant gaps in research about Chinese Americans’ nutrition.

One such gap is in the area of traditional Chinese medicine, which has “significant influence on health-related practices among the believers” (Kar, Alcalay, & Alex, 2001, p. 95) and is often combined with Western practices, depending on the ailment. In addition, limited data is available on the “extent to which Americans as a whole, or by ethnicity and social class, believe and practice traditional medicine” (Kar et al., 2001, p. 95). Because the 1.5 generation is an in between generation whose members can recall their childhood in China but who are also able to succeed professionally in the US, they have a unique perspective on their experiences in the US. Much has been written about the importance of delivering culturally competent nutrition education. However, little attention has been paid to identifying the needs of the 1.5 generation of Chinese American women, and particularly their views of their needs, which may include, for example, an openness to both traditional and Western medicine. It is critical to obtain information from first person accounts to inform health-care providers and, specifically, nutrition educators about participants’ perspectives that must be considered when developing and implementing culturally competent nutrition education interventions.

**Research Questions**

The following four research questions are addressed in the study:
1. What types of critical incidents have 1.5 generation Chinese American women experienced with nutrition education in the US?

2. What are the sources of knowledge for 1.5 generation Chinese American women on nutrition?

3. What nutrition education messages do 1.5 generation Chinese American women receive on nutrition?

4. Based on the experiences, sources of knowledge, and nutrition education messages, what do 1.5 generation Chinese American women recommend as effective methods in delivering nutrition education to the Chinese American community, and particularly to women?

**Conceptual Framework**

The field of public health has several theories that are used in developing interventions to change behaviors. The conceptual framework for this research is based on public health theories used in developing interventions to change behaviors; the Health Belief Model (Stretcher and Rosenstock, 1997; Rosenstock, Stretcher, & Becker, 1998), ecological perspective (McLeroy Bibeau, Streckler, & Glanz, 1988), Transtheoretical Model of Behavior Change (TTM) (Nash, Reifsnyder, Fabius, & Pracilio, 2011), and the socio-ecological framework (USDA and HHS, 2010).

The Health Belief Model was developed in the 1950s to understand why the tuberculosis screening programs offered through the U.S. Public Health Service were not effective (Hochbaun, 1958). This model was designed to explain a person’s health behaviors in an effort to develop effective strategies to change these behaviors.
According to Stretcher and Rosenstock (1997) and Rosenstock et al. (1998), the model is based on these five constructs: (1) perceived threat, (2) perceived susceptibility/severity, (3) perceived barriers, (4) perceived benefits, and (5) self-efficacy (added in 1998 [Rosenstock et al., 1998]). Together these constructs help health educators understand what cues to action are needed for health promotion.

According to this model, shown in Figure 1, a series of factors may help increase how serious individuals perceive a disease to be (Stretcher and Rosenstock, 1997; Rosenstock et al., 1998). That perception can be altered through education. For example, if the person who has received this education grasps that changing a behavior has more benefits than risks and learns of a cue for action, such as a diagnosis of prediabetes, then a positive behavior change becomes more likely. Another important construct in this model is self-efficacy, typically described as one’s ability to believe in oneself. It is also used to describe an individual’s internal motivation, which is needed to change behavior.

Liuo and Contento (2001) argue that the Health Belief Model has been largely tested for validity and effectiveness on Whites and European Americans and more research needs to be conducted on the validity of this model on Chinese Americans. Despite this lacuna, this model is still one of the most commonly used in health education and health promotion and was, therefore, used in the development of this study.
Most contemporary programs to promote health reflect the need to reinforce education efforts with environmental structures and policies designed to support positive behavior (HHS, National Institutes of Health and National Cancer Institute, 2005). According to the ecological perspective, these five levels of influence affect health behaviors: (1) intrapersonal level, (2) interpersonal level, (3) institutional factors, (4) community factors, and (5) public policy (McLeroy et al., 1988). Each level of influence includes the various factors in an individual’s life that may support or hinder positive behavior. The intrapersonal level of influence is a person’s knowledge, attitudes, and
beliefs. The interpersonal level of influence is a person’s relationships with community members including family, friends, and colleagues (McLeroy et al, 1988; HHS, National Institutes of Health and National Cancer Institute, 2005). Institutional factors of influence include rules at organizations. Community factors of influence include a person’s relationship with community organizations. The public policy level of influence is defined as policies on the local, state, and federal level that impact individuals (McLeroy et al., 1988). If health promotion efforts focused on these various areas of influence, the US could become a place where people live in communities that support healthy behaviors and everyone could find social support among their peers to continue healthy behaviors. This comprehensive approach recognizes that people are influenced by more than just knowledge or educational efforts.

The Transtheoretical Model of Behavior Change (TTM) includes the recognition that “only a minority (less than 20 percent) of a population at risk is prepared to take action at any given time” to change their health behaviors (Nash, et al., 2011, p. 26). The TTM identifies six stages of change, any one of which a person may be in at any given time. These stages include: (1) precontemplation; (2) contemplation; (3) preparation; (4) action; (5) maintenance and (6) termination (Nash et al., 2011). Each stage, as the names suggest, identifies an individual’s mind frame and possible actions that person may or may not take with regard to health behaviors. For example, those in the precontemplation stage may not even be considering a change, while those in the contemplation stage may be considering a change, but not necessarily taking any specific actions to change behaviors (Nash et al., 2011). The goal of a health-care provider is to
have a patient adopt risk reduction behaviors and avoid relapsing into unhealthy habits (Nash et al., 2011). The model also covers factors that can assist in moving a person through the stages, such as: (1) “increased awareness about the causes, consequences, and cures for a particular problem behavior;” (2) eliminating reminders of unhealthy behaviors, such as an ashtray for a smoker; or (3) committing to a health goal and sharing it with friends and family members (Nash et al., 2011, pp. 28–29). This model emphasizes that behavior changes are complex and occur in stages.

The 2010 Dietary Guidelines for Americans (2010 DGA) build on the socio-ecological perspective, offering an explanation of the complexity of making healthy food choices through the Socio-Ecological Framework for Nutrition and Physical Activity Decisions model, which emphasizes that a person’s choice of food and physical exercise are influenced by individual and environmental factors (USDA and HHS, 2010). Further, this framework stresses that individuals are affected by sectors of influence and social and cultural norms and values (USDA and HHS, 2010). Sectors of influence (shown in Figure 2) include the government, public health and health-care systems, and the food and beverage industry (USDA and HHS, 2010).

The obesity crisis in the US has heightened awareness of nutrition. The socio-ecological model includes the notion that the health system may need to rely not only on health-care providers, dieticians, and health educators to deliver information on nutrition education recommendations and guidelines to the public but also, for example on grocery
stores. Grocery stores in the US are now providing nutrition education messages using the USDA recommendations for their consumers.

Suggestions for how to follow the recommended daily guidelines are starting to appear in newspapers and magazines and on television programs and digital media. Places of worship have also started to share nutrition education messages with parishioners in an effort to support a healthy community. It is, therefore, possible for nutrition education messages to come from a wide variety of sources.

This study incorporates the main tenets of the models described. For example, the Health Belief Model includes the idea that a perceived risk may facilitate behavior change. A key to this model is the communication of a message to the patient: what message was communicated, how it was communicated, how it was received, and what impact it may have had on the patient in terms of knowledge, beliefs, attitudes and behaviors. An application of that tenet to this study suggests, for example, that if the knowledge that their ethnic group is susceptible to particular health conditions and that their risk of disease can be lowered by changing or improving dietary behaviors would lead to behavioral change in Chinese Americans, then the aim should be to supply this group with this fundamental knowledge.
Figure 2. Sectors of influence for making food choices according to the Socio-Ecological Framework for Nutrition and Physical Activity Decisions. Health systems include health-care providers, such as doctors, nurses, and Registered Dieticians. Policies include the 2010 Dietary Guidelines for Americans.

The socio-ecological model emphasizes the various ways that individuals are influenced. In terms of nutrition education, the USDA developed national dietary guidelines for Americans. These policies trickle down to the health-care providers, nutrition educators, and health educators, whose responsibility it is to ensure that the messages inherent in these policies are delivered to the target audiences in a culturally and linguistically appropriate manner. This study explores who is actually delivering the nutrition education messages developed by the USDA and who is delivering messages
that may not be in accordance with the USDA recommendations. This study seeks to understand how the messages about nutrition are perceived by Chinese American women.

**Definitions of Key Terms**

The following definitions are provided to establish a consistent collective understanding of the study.

*1.5 generation*—an individual born outside of the US who moved to the US between the ages of 12 and 15.

*AANHPI*—Asian American, Native Hawaiian and Pacific Islander community. (Another commonly used abbreviation is AANHOPI, which includes “other” before Pacific Islander to distinguish from Native Hawaiians. Some community groups use AANHOPI and AANHPI interchangeably.)

*AAPI*—Asian Americans and Pacific Islanders.

*Cultural competence*—“a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals that enables effective work in cross-cultural situations” (OMH, 2005, para. 1).

*Health disparity*—the significant differences in overall health and disease rates among communities based on a person’s socioeconomic status, gender, age or ethnicity.

*First generation Chinese American*—a person of Chinese descent who was born in China and immigrated to the US.

*Nutrition education*—delivery of information about the USDA *Dietary Guidelines for Americans*
Nutrition education message—a message about what is considered to be healthy or appropriate for good health. Messages can come from people or things and can be direct or indirect. They are transmitted via food product labels, promotional materials at restaurants, and educational posters and educational sessions. The messages may not necessarily be aligned with the Dietary Guidelines for Americans.

Choose MyPlate Method—a term describing the recommendations from the 2010 USDA Dietary Guidelines for Americans presented on ChooseMyPlate.gov. The Method’s iconic illustration shows an ideal meal, with half the plate filled with vegetables and fruit, a quarter with protein, and a quarter with grains. The plate is paired with a glass of milk.

Second generation—a person of Chinese descent born in the US to Chinese parent(s).

Summary

This study provides first person accounts from 1.5 generation Chinese American women on their perspectives regarding nutrition education in the US. While there has been much attention on developing culturally appropriate materials for high risk communities, there are limited resources available for Chinese Americans. Furthermore, research to date on 1.5 generation Chinese Americans and, more specifically, 1.5 generation Chinese American women is incomplete. Their unique perspectives are valuable and necessary to help address the health challenges of obesity and other health related concerns in the Chinese American population. This research explored their perspectives of nutrition education in the US to inform health-care providers and, specifically, nutrition educators about perspectives that should be considered when developing and implementing culturally competent nutrition education interventions.
Chapter 2 will examine both the empirical and non-empirical literature pertinent to this study.
CHAPTER 2

Overview

A review of the literature involved searching multiple databases including JSTOR, ProQuest, CINAHL, PsycINFO, Academic Search Complete, and Web of Knowledge, as well as dissertation abstracts and conference papers. Additionally, there was a one-on-one consultation with an Education Liaison Librarian. This chapter is divided into five main sections: (1) a review of the changing demographics of Asian Americans, focusing specifically on the Chinese American population in the US, including housing, language, and education; (2) a review of the health issues related to nutrition in China and in the US; (3) a review of the cultural knowledge and unique perspectives that 1.5 generation Chinese Americans, specifically women, hold; and (4) a synthesis and analysis of research that has focused on the importance of delivering culturally competent health care and education and research on developing and delivering nutrition education to Chinese Americans. The chapter concludes with an identification of the remaining gaps in the literature about 1.5 generation Chinese American women’s perspectives on nutrition education in the US.

Demographics of Asian Americans

The United States is becoming increasingly culturally diverse. Projections indicate that current minority populations, as they are now called, will be in the majority
by the year 2050 (U.S. Census Bureau, 2008). Specifically, non-Hispanic Whites will be in the minority in 2050, comprising less than one-half of the overall U.S. population, and all other ethnic groups will increase in size proportionately. Of the total U.S. population the Hispanic population is expected to triple, the Asian population to double, and the Black population to rise from 14% in 2008 to 15% (U.S. Census Bureau, 2008). In addition, individuals that identify as mixed race are expected to triple by 2050 (U.S. Census Bureau, 2008). From a public health perspective, this population shift will increase the necessity of addressing the current health disparities among many of these populations, specifically with regard to rates of diabetes and heart disease, to avoid catastrophic impacts on the overall health of the U.S. population.

According to the U.S. Department of Commerce (2010), 15.5 million Americans self-identified as Asian American in 2008. Of that group, an estimated 3.62 million people self-identified as being of Chinese descent. The U.S. Department of Commerce also explains that from 2007 to 2008 the Asian population as a whole increased by more than 400,000 people, representing an increase of 2.7%, the largest of any racial group in the United States (2010). Chinese Americans are recognized as the largest Asian community in the United States, constituting “1.2 percent of the entire U.S. population” (OCA, 2008, p. 3). Research indicates that the Chinese American population increased by 28.5 percent between 2000 and 2006. In addition, over 70% of Chinese Americans are citizens of the United States (AAST and OCA, 2008).

There has been a corresponding demographic change in where Chinese Americans reside. Over the past 20 years traditional “ethnic enclaves characterized as
Chinatowns” have declined while there has been an increase in mixed Asiatowns (or ethnoburbs, the two terms are commonly interchanged and refer to a community of varied Asian American ethnic groups where one Asian American ethnic group is in the majority) (AAST and OCA, 2008, p. 3).

According to Purnell (2009), those Chinese Americans who still live in traditional Chinatowns tend to hold on to traditional cultural beliefs and values and “insist that health-care providers respect these values and beliefs with their prescribed interventions” (p. 88). It is also common for Chinese Americans to live in multigenerational households. Chinese American children often live with their parents into their adulthood (often into their 20s and 30s) despite being married and becoming parents themselves.

Education levels vary among Chinese Americans due to immigration status. Among first generation Chinese Americans half attend college while the other half does not complete high school (Americans Asian American Studies Program, University of Maryland & National Council of Chinese Americans [NCCA], 2011). However, 1.5 generation Chinese Americans and beyond are more likely to have a college education and less likely to not have graduated from high school (NCCA, 2011). Due to limited opportunities for higher education in China, Purnell (2009) explains that Chinese Americans immigrate to attend universities and colleges in the United States. Obtaining a higher education is particularly beneficial for the 1.5 generation of Chinese Americans because they tend to be successful in finding employment with salaries that are higher than that of other Chinese Americans (NCCA, 2011).
In addition to this educational diversity, there is an important linguistic and cultural diversity amongst Chinese Americans. Almost 65% of Chinese Americans were born outside of the US, usually in China, Taiwan, Hong Kong, or Macau (NCCA, 2011). Additionally, more than 80% of Chinese Americans speak more than one language at home (OCA, 2008). Despite these differences within the Chinese American community, Chinese Americans share common risks for a number of health issues related to nutrition.

**Health Issues Related to Nutrition**

Chinese Americans face significant health challenges such as obesity, diabetes, and heart disease. In 2004, British Broadcast Corporation (BBC) News reported that the Chinese government had released findings from a health survey of over 270,000 individuals indicating that the obesity rates in China had almost doubled between 1992 and 2002 while malnutrition and nutrition deficiencies decreased. Estimates in the report indicated that approximately 200 million Chinese were overweight and an additional 60 million were obese, comprising a total of almost 30% of the total population (“Chinese concern at obesity surges,” 2004). Wang Laongde, the Chinese Vice Health Minister, stated that “the Chinese population does not have enough awareness and lacks knowledge of what is a reasonable nutrition and diet” (“Chinese concern at obesity surges,” 2004, para. 8). The obesity rates were reported to be higher in cities with more than 10% of adults and almost 10% of youth classified as obese (“Chinese concern at obesity surges”).

In addition to this finding, results of a major research study in China point to epidemic rates of diabetes there. This study confirmed that approximately one in 10 Chinese in China has diabetes, a rate that almost matches the overall rate of diabetes in
the US. Additionally, more than 60% of Chinese with diabetes have not yet been
diagnosed, and urban Chinese are at an increased risk for developing diabetes—at a rate
of 11% compared to 8% for the rural population (Yang et al, 2010). These data mean
that the larger cities in China, where more people live, have a disproportionate number of
cases of diabetes as compared with the rural areas. However, interventions are needed in
rural and urban areas.

According to the 2004–2006 National Health Interview Survey, 6% of Chinese
Americans self-reported that they had diabetes and another almost 6% self-reported that
they had heart disease. Furthermore, at least 25% of Chinese American respondents self-
reported that they were either overweight or obese as measured by traditional BMI
markers (Barnes et al., 2008). Although there are limited disaggregated data on heart
disease among Asian American subgroups, the HHS Office of Women’s Health (2010)
reports that the second leading cause of death among Asian American women is heart
disease.

This subgroup of Asian Americans clearly has significant health concerns needing
attention. The 1.5 generation of Chinese American women, a subgroup of the Chinese
American community, may also have their own set of health issues, which is why their
unique perspectives and needs also require consideration.

1.5 Generation Chinese American Women

According to Islam et al. (2009) the term model minority has been used to
describe Chinese Americans since William Peterson coined it in 1966. The term suggests
that Asian Americans’ strong family values and work ethic have helped them to
overcome prejudice and become the antithesis of a problem minority (Islam et al., 2009). The term is not well received within the literature and among leaders in the Chinese American community because this myth minimizes, for example, the serious health concerns that Asian Americans face. Furthermore, there are divisions in the Chinese American community among the “less acculturated first generation (54.2%) and the more linguistically and socially acculturated 1.5 generation and the ‘second generation and beyond’ ” (OCA, 2008, p. 3). These divisions within the Chinese American community place the 1.5 generation in a unique position, having been born in China and then having moved to the US between the ages of 12 and 15, they experience pressures from outside and within their Chinese American community.

Although there is not consensus on the age of the members of the 1.5 generation at the time of immigration, researchers do generally agree that this generation shares unique qualities. Min (2007) explains that the 1.5 generation is an in-between generation because they possess knowledge about the culture and language of their native country and of the country to which they have immigrated. As Danico (2004) explains:

The 1.5 generation is unique in that they share the basic characteristics of bilingualism and biculturalism and the ability to cross generational and ethnic lines. However, the way in which the 1.5 generation construct their generational and ethnic identity has much to do with where they live and the community that surrounds them (p. 184).

For example, Kim immigrated to the US at the age of 13 from South Korea and identifies herself as a 1.5 generation Korean. She describes her experience as follows:
Even today, we, the 1.5 generation, can just about maneuver our anchor. We hip-hop to Usher with as much enthusiasm as we have for belting out Korean pop songs at a karaoke. We celebrate the lunar Korean Thanksgiving as well as the American one, although our choice of food would most likely be the moon-shaped rice cake instead of turkey. We appreciate Eggs Benedict for brunch, but on hung-over mornings, we cannot do without a bowl of thick ox-bone soup and a plate of fresh kimchi. We are 100 percent American on paper but not quite in our soul. (Kim, S., 2004, para. 9)

Although Suki Kim identifies herself as Korean, the perspectives she shares can also be seen across the 1.5 generation in other groups as well, such as Chinese Americans (Danico, 2004). Given these perspectives among the 1.5 generation, it is important to develop and deliver nutrition education that is culturally appropriate.

**Importance of Delivering Culturally Competent Care and Education**

Health and culture are inextricably linked. Health is often described as the absence of disease. However, WHO defines health in the Preamble of their Constitution as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (Preamble to the Constitution of the World Health Organization, 1948, para. 1). This holistic view of health is shaped by individual culture and the surrounding society. Factors such as education, income, and social status can also greatly influence an individual’s health. Additionally, each person is shaped by a set of values, practices, and beliefs, which are demonstrated through actions, thoughts, and customs. Culture also plays a role in how individuals perceive, diagnose, and treat disease, if at all.
These perceptions can greatly impact the interaction between a health-care provider and a patient.

Delivering care and providing educational information to patients in a culturally appropriate way has many barriers. Health-care providers, as part of the biomedical model, see biomedicine as the correct way to treat disease and expect that patients will follow their directives (Tripp-Reimer et al., 2001). Health-care providers who work with diverse patients cite that minority patients simply do not care about their health, and such indifference explains their low participation rates in screening and preventative services (Tripp-Reimer et al.). The biomedical culture seems convinced that “traditional beliefs should be changed rather than built upon” (Tripp-Reimer et al., p. 14). Tripp-Reimer et al. report that Chinese Americans may, for example, consider that diabetes is a “hot” illness that can be treated with “cold” remedies, beliefs based on the concept of the yin and yang (p.16).

Lay community outreach workers who are not trained health-care providers, registered dieticians, and health educators are often accustomed to delivering culturally appropriate messages to communities because these workers are typically community members who speak the language, know the culture, and can deliver messages in a way that acknowledges the biomedical perspective and the cultural nuances (Tripp-Reimer et al., 2001). Chen (2001) explains that several religions, philosophies, and belief systems affect Chinese individuals’ beliefs about health. It is important to understand these diverse thoughts when providing health care and/or education to Chinese people. For example, Confucianism teaches that the health of elders is influenced by the respect
children show them in recognition of because of their exemplary behaviors. Taoism teaches that health is achieved when there is an alignment with nature (Chen). The concept of yin and yang includes the belief that health is “…harmony between the forces of Yin and Yang within the body and its environment. Illness, in contrast, is an imbalance or disequilibrium of these powerful forces” (Chen, p. 270). Furthermore, Buddhism beliefs place high value on doing good and moral deeds. These actions strengthen an individual’s overall health by facilitating inner peace (Chen). These belief systems all contribute to Chinese Americans holding strong cultural beliefs associated with health.

The term cultural humility is based on the work of Melanie Tervalon and Jann Murray-Garcia and is about “self-reflection and self-critique” (as cited by the California Health Advocates, 2007, para. 7). By incorporating this concept into training on cultural competence for health-care providers, the California Health Advocates suggest that health-care providers can form a relationship with a patient that is based on respect and helps the health-care professional develop health-improvement goals with the patient (2007, para.7). Health-care providers should try to understand their own cultural beliefs and consider how they respond to beliefs that differ from their own; this type of introspective work should be included in effective training (California Health Advocates). Cultural competence is providing care to a client that is developed for them in regards to the client’s culture and therefore a conscious choice for the provider to make as they serve clients (Purnell, 2009).

While some health-care providers acknowledge the need for delivering culturally competent health care, templates for delivering this type of information are not readily
available. For example, the *Guide to Culturally Competent Health Care* states the following in the section about providing care for Chinese patients:

Foods that are considered yin and yang prevent sudden imbalances and indigestion. A balanced diet is considered essential for physical and emotional harmony. Provide special instructions regarding risk factors associated with diets that are high in fats and salt. (Purnell, 2009, p. 96)

However, there is no guidance on what the special instructions are and how they should be delivered. Ideally, such instructions would be in the form of effective and appropriate nutrition education. Effective health education efforts should be developed with an understanding that there are increasing numbers of communities that use a variety of practices for preventative care and treatment of diseases (Eisenberg et al., 1998).

Furthermore, the 2010 *Dietary Guidelines for Americans* prescribe recommended portion sizes and food choices, but “their practical implementation will require cultural adaptation” for Asian Americans (Hsu et al., 2012, p. 1192). Specifically, in some Asian cultures “bowls or multiple plate are used in place of one plate” because food may be shared during the meal (Hsu et al., 2012, p. 1192). Kar et al. (2001) explain that effective health communication recognizes the impact that culture has on personal and collective health behavior and “should be based on a sound understanding of how culture influences health risks in various groups” (p. 81). Health promotion campaigns are more effective when they take into account a target population’s unique cultural and demographic characteristics (Kar et al.). Therefore, research probing the cultural demographics, needs,
and perspectives of individuals within communities, such as that of the Chinese Americans, is clearly needed.

**Nutrition Education for Chinese Americans**

Nutrition education research on Chinese Americans is limited. Therefore, research that includes nutrition education implications as a result of obesity, perceptions of health, and patient satisfaction research are also included in this literature review, even though the research may not focus specifically on Chinese Americans. It is also important to recognize that nutrition education research focusing on Asian Americans and, specifically Chinese Americans, typically identifies participants based on acculturation. The impact of acculturation has been widely studied in the literature. Typically, a well-acculturated individual from an Asian background is defined as someone who speaks less of their traditional language and more English in the home. There is generally a correlation between this characteristic and the amount of time that an individual has resided in the United States. Survey participants are not identified by the age at which they immigrated to the United States. Acculturation is typically determined by language and place of birth.

Wang, Quan, Kanaya, and Fernandez (2011) conducted an analysis of the 2005 and 2007 California Health Interview surveys to determine if there was a correlation between the level of acculturation (determined by how often English is spoken in the home), birthplace, and obesity prevalence for Chinese, Vietnamese, and Korean respondents. Individuals who self-identified as being mixed-race were also included. Wang et al. identified three levels of acculturation in their analysis, each defined by the amount of English spoken in the home and the individual’s birthplace: (1) A bicultural
individual was described either as someone who was born abroad and spoke English well or who was born in the US but who did not report speaking English at home; (2) A traditional participant was defined as someone born abroad who did not report speaking English in the home; and (3) An acculturated participant was defined as a person born in the US who spoke English very well. Presumably 1.5 generation participants would be in the bicultural group, grouped with US-born participants who were not influenced by the cultures of their native country, even though these two groups would likely have very different cultural perspectives. However, the authors had developed their generation labels based on the birth location of the parents if the participant was born in the United States. Wang et al. described first generation participants as those born in Asia, while second generation participants had at least one parent self-identify as being born in Asia, and third generation participants and their parents were born in the US. The results of this research demonstrated that “for both sexes, bicultural respondents were less likely than second generation respondents to be overweight/obese (33.0% vs. 39.1% for men), with particularly large differences for women (12.5 5 vs. 22.0%)” (Wang et al., para. 3). Furthermore, the authors share that “the bicultural group had a low percentage of overweight/obesity compared to the acculturated group, which suggests that loss of heritage culture rather than gain of host culture is a factor in development of overweight/obesity, particularly for women” (Wang et al., para. 2). Specifically, acculturated participants self-reported an increase in soda and French fry consumption and a decrease in physical activity (Wang et al., para. 3.), suggesting that specific nutrition messages are needed.
Chen, Juon, and Lee (2012) examined the relationship between acculturation and BMI among Asian Americans, including 303 Chinese Americans living in Maryland, using the Suinn-Lew Asian Self-Identity Acculturation Scale, height and weight measurements. The participants included Chinese, Korean, and Vietnamese men and women, most of whom were married, had a higher education, were on average 45 years of age, and immigrated at the age of 30, and usually considered themselves Asians rather than Americans. However, among the Chinese participants that considered themselves to be Americans, the authors found an increased BMI. Furthermore, the authors found that younger participants were also at a greater risk for a higher BMI. The authors concluded that further research is needed to understand the phenomenon occurring within these communities and to develop tailored programs to prevent obesity among Asian Americans.

Lv and Cason (2003) surveyed first generation Chinese in Pennsylvania to try to understand the relationship between food consumption and acculturation status and demographics. The 399 study participants included a majority of women (64%), of which 13% where between the ages of 25 and 34 and 5% between the ages of 18 and 24. Thus the younger women comprised less than 20% of the total sample size. Furthermore, the authors indicated that almost 70% of the overall participants immigrated to the US from mainland China ($N = 276$). However, the study does not include information on how many participants were members of the 1.5 generation. Participants cited a belief that Chinese foods were healthier than American foods even though half of the participants reported eating American foods for convenience and cost when dining out.
Participants also stated that, while they had access to Chinese foods at home, eating out allowed them to explore other tastes. The authors reported that there was not a strong direct correlation between participants’ dietary behaviors and the length of time they had lived in the US. The authors also concluded that a majority of the participants (more than 90%) had never been to a nutrition education program. They surmised this might be due to the lack of culturally appropriate education modules for Chinese Americans. The current study recommends further research is needed to better understand why Chinese Americans have not participated in nutrition education programming.

Satia et al. (2000) conducted interviews in Mandarin and other Chinese languages with 30 “less acculturated” Chinese American women living in Seattle, Washington to gain an understanding of how they made food choices and what foods they typically consumed (p. 934). The research was designed to gather information that nutrition educators could use to develop culturally appropriate content for Chinese Americans with limited English proficiency. On average, the participants were in their mid-50s, married, and had limited English language skills. The authors found that although participants typically made food choices based on factors such as convenience, cost, and taste, they lacked knowledge about interpreting food labels and did not use the food guide pyramid. Participants also reported that “friends and Chinese newspapers were their primary source of nutrition [information]” (p. 934). Although the research did not address the needs of younger women, it did highlight the fact that Chinese American women are not familiar with nutrition education messages in the United States. Furthermore, the women were not accessing information from health-care providers, suggesting that nutrition
education needs to be incorporated into newspapers, places of worship, and other social institutions where family and friends will also be made aware of the messages.

Liuo and Contento (2001) administered a survey, based on the Health Belief Model, to 600 first generation Chinese Americans to determine if their health behavior was based on the five constructs of the model. Respondents were specifically asked questions about their lifestyles and what could encourage them to change their behaviors. Based on the results of the survey, the authors suggested that audience-appropriate nutrition education messages must be developed for the model to be applicable to Chinese Americans. Specifically, the authors suggested that more acculturated Chinese Americans may benefit from messages addressing time constraints and how to prepare appetizing and healthy meals, while less acculturated Chinese Americans would benefit from messages based on self-efficacy, perceived barriers, and attitudes about healthy eating.

Research aimed at understanding Asian American (but not exclusively Chinese American) perspectives on nutrition has been carried out. Ngo-Metzger et al. (2003), for example, conducted focus groups with Chinese and Vietnamese Americans with limited English skills to examine their perspectives on what quality health care means to them. The authors interviewed 122 participants at four community health centers in Massachusetts. The participants all resided in Boston and included Chinese who had lived in the US on average for 11 years and Vietnamese who had lived in the US on average for seven years. The focus groups covered five main areas: (1) patient experiences with health care, (2) interpersonal communication with health-care providers,
experiences with interpreters, family involvement in health care, and traditional medical practices and beliefs. During one of the focus groups, a Chinese woman shared:

I think how they treat Chinese here [in this clinic] is a very big issue, as is the quality of the medical services. To accept Chinese medicine or not, to combine it with Western medicine or to reject it, really means a lot to us. To let these two cultures of medicine learn from each other and benefit from each other. . . . Even if the doctors here reject Chinese medicine, the patients will still value it in their heart, though many of them would not tell the doctors because they could not. The patients still believe in Chinese medicine (p. 48).

The authors also reported that participants of the focus groups were eager to explain that they preferred trying herbal remedies before seeking a remedy offered by Western medicine or that they supplemented care from a Western-trained health-care provider with traditional remedies. However, the participants were reluctant to discuss these practices with their health-care provider (Ngo-Metzger et al., 2003). Participants recommended that health-care providers be open to communicating about non-Western practices with their patients to foster effective communication and open dialogue. The authors did note that one limitation of the research was that the participants were recent adult immigrants.

Ngo-Metzger, Legedza, and Phillips (2004) conducted a study designed to determine patient satisfaction over the two preceding years in areas such as patient care,
trust, and likelihood of changing doctors. At least 3,200 Whites and over 500 Asian Americans (including Chinese, Asian Indian, Japanese, Vietnamese, and other Asian) participated in 25-minute telephone interviews. Their responses made clear that they were less likely to be counseled on health issues such as smoking, nutrition, and exercise. The authors suggest that physicians may be unaware of specific diseases prevalent in high-risk communities because of the model minority stereotypes associated with these communities. The authors stress that cultural competence for health-care providers should include education on disease prevalence within specific communities along with awareness of the need to respect cross-cultural interactions. The authors noted that the small sample size limited their ability to determine responses based on subgroups and, therefore, this study did not provide data specific to Chinese American or Vietnamese participants.

Liuo and Contento (2001) explain that very little research has been conducted on Chinese “food beliefs and attitudes pertaining to decreasing heart disease risk and the relationship of these beliefs to behavior” (p. 323). Taylor et al. (2007) conducted interviews with Chinese American men and women to understand their heart disease prevention strategies. The participant age range varied, but most were in their mid-40s. The authors found that although participants understood that increased fruit and vegetable consumption could lower the risk of heart disease, they did not eat the recommended five servings per day.

The tenets of the Health Belief Model, the Theory of Planned Behavior, and social ecological models underpin Liou and Bauer’s (2007) research with 40 New
Yorkers of Chinese descent. Their study was designed to understand Chinese Americans’ perceptions of their risk for obesity and their beliefs about obesity prevention. The sample for the qualitative research was purposeful and included healthy Chinese Americans recruited through newspaper ads and flyers posted at various businesses and places of worship as well as volunteers recruited by community leaders. Almost forty-two percent of the participants indicated that they believed that obesity was a concern in the Chinese American community. Slightly more than half of the participants (52%) indicated that they believed the traditional Chinese diet was not just healthy, but also that it provided protection against obesity. Participants reported a general trend of eating a diet based on more American fast food due to the parents’ busy lifestyle. Participants generally believed that eating healthy foods and engaging in physical activity would decrease the risk for obesity. Furthermore, Liou and Bauer stress that the physical work and home environments can have a significant effect on food choices, such as the proximity to low-cost, tasty, healthy food options. The study included a proposed model for the various factors that may affect Chinese Americans’ perception of their risk for becoming obese. The authors suggested cues to action that might encourage healthy practices, but did not identify how to determine appropriate cues for Chinese Americans or how to deliver these cues.

**Limitations in the Literature**

Health disparities are complex and can stem from factors such as access to care, limited language skills, and cost. This complexity means that strategies addressing health disparities must be multidimensional and broad in scope. A single strategy is clearly
insufficient. Broader awareness and a commitment from decision makers, policy leaders, and local leaders to address disparities are critical. Health care providers, including nutrition educators, often lack knowledge and understanding of the wide variety of influences that shape their patients’ behaviors, such as their cultural beliefs (Kosoko-Lasaki et al., 2009).

Traditional Chinese medicine has “significant influence on health-related practices among the believers” (Kar et al., 2001, p. 95) and is often combined with Western practices, depending on the ailment. The challenge to leveraging this influence is the limited data on the “extent to which Americans as a whole, or by ethnicity and social class, believe and practice traditional medicine” (p. 95). Furthermore, data on Chinese Americans are typically not disaggregated to distinguish on generation from another (NCCA, 2011).

Research on nutrition for Chinese Americans is also limited and, based on the literature review, the same holds true for research on 1.5 generation Chinese American women. Most of the studies reviewed did not identify the generational differences among participants. Furthermore, research was not conducted on Chinese American women with an average age between 22 and 30. Similarly, there is a dearth of research on Chinese American women’s perspectives on nutrition. Studies indicate that Chinese Americans do not take advantage of formal nutrition education efforts, do not follow USDA-recommended guidelines for the dietary choices, and do not discuss nutrition with health-care providers. However, research is needed to understand the types of experiences this group has had with nutrition education in the United States.
As nutrition education can be formal or informal, this study will help to identify the sources of nutrition education, particularly for 1.5 generation Chinese Americans who bring with them an understanding of Chinese cultural values, beliefs, and teachings and have likely been exposed to nutrition education in the Unites States. Rather than speculating on the plausibility of one behavior or another, it is important to conduct research that will determine whether or not 1.5 Chinese American women are taking advantage of nutrition education opportunities. Understanding the perspectives of these women is critical to the development of culturally appropriate nutrition education aimed at addressing obesity and other related health issues.

Summary

Chapter 2 provided a review of the changing demographics in the US with a specific focus on Asian Americans, specifically Chinese Americans. The chapter also reviewed the major health challenges related to nutrition in China and the United States as well as providing a discussion of the unique perspectives of the 1.5 generation of Chinese Americans. Furthermore, Chapter 2 presented a review and analysis of the literature on the importance of delivering culturally competent health care and education to Chinese Americans as well as the literature on nutrition education for Chinese Americans. Gaps in the literature were also pointed out. Chapter 3 is a discussion of the methods used in this study.
CHAPTER 3

Introduction

This chapter first presents an outline of the methods used in this study, including the research design, participants, and the procedures for the study. Next, issues concerning validity and delimitations are addressed. Finally, the data sources and the procedures used for the data analysis are discussed.

Research Questions

The four main research questions for this study are as follows:

1. What types of critical incidents have 1.5 generation Chinese American women experienced with nutrition education in the US?
2. What are the sources of knowledge for 1.5 generation Chinese American women on nutrition?
3. What nutrition education messages do 1.5 generation Chinese American women receive on nutrition?
4. Based on their experiences, sources of knowledge, and nutrition education messages, what do 1.5 generation Chinese American women recommend as effective methods in delivering nutrition education to the Chinese American community, and particularly to women?
As displayed in Figure 3, the research questions were designed to lead to an understanding of the perspectives of 1.5 generation Chinese American women based on their experiences with nutrition education. The research questions are visually displayed in the figure to demonstrate how they relate to each other. The bolded terms displayed in each box corresponds to one of the research questions. In the figure, a critical incident plus sources of knowledge deliver nutrition education messages that are received and perceived by the individuals yields information about participants’ perspectives and their recommendations for the delivery of nutrition education to 1.5 generation Chinese American women. In addition, the information from participants’ perspectives and recommendations captures their experiences, beliefs, and behaviors (as shown in the figure and reflected in the research design) to help nutrition educators understand what cues to action are needed for health promotion.

Figure 3. Visual model of research questions and how they relate to each other.
Research Design

The research design for this study used a *Three Tier Structure Approach*, designed by the researcher and adapted from the Mears’ (2009) Gateway Approach that includes an open-ended written narrative followed by two semi-structured interviews. Prior to this study, the researcher conducted a pilot of the prompt for the narrative and the interview questions to solicit feedback from Chinese American women who met the study criteria. The guidance from the participants helped to finalize the instructions and interview guides. In Tier One, participants wrote an open-ended narrative (submitted through an electronic survey) describing a critical incident where their beliefs about nutrition were questioned. Measor (1985) defines a critical incident as a significant event, which impacts an individual’s life. Measor explains that “These events provoke the individual into selecting particular kinds of actions, they in turn lead them in particular directions, and they end up having implications for identity” (p. 63). Participants who lived up to 100 miles away from Fairfax, Virginia (in the Washington, DC metro area) were eligible to be considered for Tier Two and Tier Three of the research. Tier Two was a semi-structured face-to-face interview. Tier Three was a second semi-structured face-to-face interview to further discuss participants’ individual perspectives. The Tier Two interview, adapted from Mears’ work was designed to give participants the opportunity to further reflect on the topic and to provide greater insight on their analysis of the meaning of their own experiences as 1.5 generation Chinese American women.
The qualitative research design used in this study is based on some of the principles, described below, of an intrinsic case study design. Because there is no “comprehensive ‘catalog’ of research designs for case studies” (Yin, 2009, p. 25), it is possible, but not certain, that this design may be new. The qualitative design was chosen to enable research aimed at understanding the perspectives of 1.5 generation Chinese American women without any preconceived hypotheses about these perceptions (Glesne, 2006). Yin (2003) explains that a case study design is most effective in research “when the focus is on a contemporary phenomenon within some real-life context” (p. 1). Hancock and Algozzine (2006) explain that, specifically, in intrinsic case study research, researchers “want to know more about a particular individual, group, event or organization” (p. 32) such as, in this case, understanding the perspectives of generation 1.5 Chinese American women. Furthermore, Hancock and Algozzine explain that, in intrinsic case study research, the goal is not to develop generalizations, but to understand the unique perspectives of the specific subgroup being studied.

This study also used a case study approach with multiple subjects. As such, the multiple case study design chosen most closely resembles a holistic design, known as a Type 3 design, that uses more than a single case in a study to address the research question (Yin, 2009). Yin (2009) explains that an important feature in the cases selected for this type of design are not a product of sampling but are chosen either because they will allow replication of predicted findings or offer alternate findings. Because the focus in this study is on the 1.5 generation community of Chinese American women, the goal was to gain greater understanding of their perspectives, not to support predicted findings, which might differ
from the participants’ actual perspectives. However, multiple cases were used in this study to offer the possibility of arriving at either confirmatory or alternative findings. These findings add to the existing body of research in a way that a unique case could not.

**Participants**

The original intention for this dissertation research was to recruit at least 15 participants through a purposeful selection process, using predetermined criteria, to enable an intense focus on the research questions with the goal of gaining a profound understanding of the perspectives on nutrition of 1.5 generation Chinese American women. Extensive recruitment efforts from February 18, 2013 through July 3, 2013 led to five participants submitting narratives. Of these five, three volunteered to participate in the interviews, resulting in a multiple-case study of the five women, though each participant was treated as a unique case.

Recruitment efforts may have been negatively impacted by changes in the 2000 census. Census information prior to 2000 indicates that the number of Chinese living in the US between 1980 and 1990 climbed from 800,000 to over 1 million, due mostly to the Immigration Act of 1965. In 2000, the census was modified so that individuals could identify with more than one race and this resulted in census numbers for Chinese almost three times higher—from 2,500,000 to 2,800,000—than in the previous decade (Wong, 2006). Although this is certainly a very large pool of people, the defining criteria for participants needed for this research limited the eligibility for participation. Those criteria included that participants were: (1) female; (2) between 22 and 30 years of age during the time of the study; (3) born in mainland China; (4) had migrated to the US from
China (directly) between the ages of 12 and 15. Participants who met the requirements listed above and who lived in the Washington, DC metropolitan area (within 100 miles of Fairfax, VA) and were verbally proficient in English, were eligible for Tiers Two and Three. All research was conducted in English. The requirement to have been born in mainland China was designed to exclude those born in Taiwan because of cultural differences that may exist between mainland China and Taiwan.

Participants who completed Tier One of the research design lived throughout the United States, had varying employment and education status, and had access to the internet. This information was shared by the participants who agreed to the three Tiers. However, participants who only submitted a narrative did not disclose information about their age, age at immigration, and birthplace.

The study’s demographic requirements also specified that participants must be women born in mainland China who immigrated to the US between 12 and 15 years of age and, at the time of the study, between 22 and 30 years of age. The participants here will be referred to as Participant A, Participant B, Participant C, Participant D and Participant E. Participant A did meet these specific requirements. However, when she was six months old her family moved to the US, where she lived until she was five. She commented that “from birth to 5 years old, I absolutely don’t remember anything”. Given these circumstances and the fact that the participant met the demographic criteria for the research and was willing to participate in the research, she was accepted into the study.
When the women submitted their narratives, they confirmed that they met the study criteria. Participants A, C, and D who also completed the interviews in Tiers Two and Three provided additional clarifying information on current age, age at immigration, and place of birth. Participants A, C, and D were all born in a major metropolitan area, immigrated to the US at either 14 or 15 years of age, and were between 23 and 30 years of age at the time of the study. Participants A, C, and D also confirmed that they did not identify as part of the 56 identified minority groups in China. Table 1 provides a summary of the participant demographics detailing the age of the participant at the time of the study, the age at which they immigrated to the U.S. and the participants’ birthplace.

Table 1

Participant Demographics

<table>
<thead>
<tr>
<th>Participant</th>
<th>Age at Interview</th>
<th>Age at Immigration</th>
<th>Birthplace</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>23</td>
<td>14</td>
<td>Shanghai</td>
</tr>
<tr>
<td>B</td>
<td>22–30&lt;sup&gt;a&lt;/sup&gt;</td>
<td>12–15&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Mainland China&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>C</td>
<td>30</td>
<td>15</td>
<td>Beijing</td>
</tr>
<tr>
<td>D</td>
<td>29</td>
<td>15</td>
<td>Shanghai</td>
</tr>
<tr>
<td>E</td>
<td>22–30&lt;sup&gt;a&lt;/sup&gt;</td>
<td>12–15&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Mainland China&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>a</sup>The survey only confirmed that participants met the study criteria. Because Participants B and E did not complete the interviews, some details are unknown.
Recruitment

Trust is extremely important in the Asian community. It is also important in this type of research (Purnell, 2009). Community gatekeepers were, therefore, enlisted to help recruit participants through purposeful sampling (Maxwell, 2012) and snowball sampling (Patton, 2002). These gatekeepers, as defined for this research, are individuals, institutions, or organizations with access to potential participants. In a sense, the gatekeepers served as allies to the researcher, providing introductions to these potential participants.

Given these methods, it was highly unlikely the researcher would already know any of the participants personally. Suh, Kagen, and Strumpf (2009) caution that “Asian participants are unlikely to reveal their opinions unless they know the interviewer personally” (p. 198). Therefore, gatekeepers were helpful not only in identifying participants, but also in establishing a foundation of trust between researcher and participant. By endorsing and recruiting participants for the research, the gatekeepers could help foster the participants’ trust in the researcher and increase the likelihood of their participation. The recruitment for Tier One was primarily conducted through electronic mail (e-mails) to gatekeepers. Gatekeepers were purposefully identified to assist in the recruitment of potential participants. They included professionals and volunteers in organizations such as the Organization for Chinese Americans, the Washington Chinese Language Meetup Group, the American Public Health Association, and the Asia Society. The e-mails sent to these gatekeepers across the country could have resulted in participants who lived in rural, urban, and suburban communities.
Participants were also recruited through newspapers, such as the *Epoch Times*. (See Appendix B for the text used in these messages and ads). Participants who continued to Tiers Two and Three were selected through convenience sampling methods as they had all completed Tier One and had met the geographic requirements of living within 100 miles of Fairfax, Virginia (in the Washington, DC metropolitan area) and being proficient in verbal English communication. Participants who completed Tier One also could serve as gatekeepers for additional participants.

Potential participants living in the Washington, DC metropolitan area were purposefully recruited through a variety of sources to complete Tier One, increasing the likelihood that more participants who are eligible to complete Tiers Two and Three would have previously completed Tier One. Specifically, the following organizations in the Washington, DC metropolitan area were sent recruitment e-mails:

1. **Organization of Chinese Americans (OCA):** The OCA was founded in 1973 with a mission to advance the social, political, and economic well-being of Asian Pacific Americans (OCA, 2012). According to their website, the approximately 80 chapters and affiliates across the United States are guided by a national office in Washington, DC.

2. **Post-Secondary Institutions:** According to the National Center for Education Statistics, there are 25 such institutions in Washington, DC, over 43 in Northern Virginia (within a 50 mile radius of Fairfax, VA), and 82 (within a 50 mile radius of Washington, DC) in Maryland.
3. Chinese Student Association (CSA): This organization is for students enrolled in an institution of higher education. According to the website ChinainUS.com, there are over 100 active CSAs in the United States.

**Procedures**

**Tier One**

Institutional Review Board (IRB) approval at George Mason University for the study was obtained on December 20, 2012. The research included a Three Tier Design. Tier One was delivered in an electronic link submitted through Checkbox Survey, an electronic survey tool that participants accessed through a secure connection at George Mason University. It was composed of four components. The first part included four required multiple choice questions to determine a participant’s eligibility. See Appendix C for the questions included in Tier One. Participants were required to indicate that they had been born in mainland China, immigrated to the US between the ages of 12 and 15, and were currently between 22 and 30 years of age and female. The survey link was programmed to discontinue and thank participants for their interest if they did not meet the eligibility requirements. If the participant indicated that they met the eligibility requirements then they were advanced to the second part of Tier One. Part two asked participants to consider a significant experience that stood out to them where their beliefs about nutrition—specifically, the way that they ate or the types of food that they ate—were questioned. Participants were asked to provide details explaining what had been questioned and how that interaction made them feel, who questioned them, and what the context of the interaction was. The written narrative was an
opportunity to reflect on a personal experience where the role of culture was considered (Samaras, 2011). Participants wrote in English, with no length limit on the submissions.

After part two of Tier One, participants submitted their written responses. Part three of Tier One included an invitation for participants who lived in the Washington, DC metro area to provide contact information so that two face-to-face interviews could be organized. A description of the interviews also explained the compensation of a $25 gift card for participants for each of the two interviews. Each participant could either accept or decline the invitation, after which a screen appeared for the final part of Tier One where participants saw a message thanking them for their participation and offering them an opportunity to enter a drawing for a $50 gift card to Amazon.com. The submissions in part one, two and three were not associated with the information the participants provided in part four. Tier One was designed to take about 15 minutes to complete.

Figure 4. Four components of Tier One.
**Tier Two**

The researcher used the contact information provided in part three of Tier One to contact participants who had expressed an interest in completing the interviews in Tiers Two and Three. To be accepted for Tiers Two and Three the participants had to live in the Washington, DC metropolitan area so that the two face-to-face interviews with the researcher would be logistically feasible. The researcher confirmed the participant’s eligibility (see Appendix D) prior to scheduling the first interview (Tier Two). Participants also reconfirmed that they met the eligibility requirements.

Tier Two was a face-to-face semi-structured interview. Each semi-structured interview was expected to last from 45 minutes to an hour. (See Appendix D for an interview guide). Prior to beginning the interview, the researcher obtained informed consent and prepared the recording devices. The researcher had a copy of the participant’s Tier One response for reference at the Tier Two interview. The interview began with a brief introduction about the interview. At the conclusion of the first interview, participants were briefed on what would occur in the Tier Three interview. (See Appendix D for the script of the Tier One interview). At the conclusion of the first interview the majority of the participants agreed to the second face-to-face interview.

**Tier Three**

The second interview began with a brief introduction. (See Appendix E for the script for the Tier Three interview). The researcher reviewed the participant’s submission from Tier One and a summary of the Tier Two responses along with a memo with suggested prompts for the second interview. The interview guide for the second interview (See in Appendix E)
was not as detailed as the first to allow the researcher greater flexibility in developing customized questions based on Tier Two responses. At the conclusion of each interview, the participant received the gift card compensation.

**Recording**

During the Tier Two and Three interviews, participants were audio-recorded. Such recordings give the researcher the “opportunity to revisit the data to uncover patterns that might not have been apparent in earlier listenings” (Gubrium and Holstein, 2009, p. 35). Two electronic devices were utilized to ensure that the interviews were captured in the event one of the devices failed.

**Compensation**

Each tier included a compensation for participation. In addition, to encourage participation, a drawing for a $50 gift card was held at the conclusion of the research. All participants who had completed Tier One and provided their name and e-mail address were eligible for the gift card compensation. As only two participants entered the drawing, chances for winning were one in two. It is unknown why participation in the drawing was so low. The value of the gift card was comparable to that of cards offered in similar research efforts and not so high as to be considered coercive.

The Tier One research began on December 20, 2012 (upon IRB approval) and continued until five participants had completed Tier One and three of these participants had agreed to and completed Tiers Two and Three. Upon completion of the data collection for the study, the online survey link was closed. Afterwards, one participant was randomly selected through a blind drawing by an individual not associated with the research to receive
the gift card. Codes had been developed for the names submitted for the drawing. The winning participant was notified in via e-mail and was asked to respond with a mailing address. Within seven days of receipt of this information the researcher mailed the gift card to the participant.

**Ethical Issues**

**Informed Consent**

Participants each gave their informed consent for each tier. (See Appendix F for the informed consent form). In addition, the following statement was provided to participants before they began the Tier One survey: “While it is understood that no computer transmission can be perfectly secure, reasonable efforts will be made to protect the confidentiality of your transmission.”

**Confidentiality**

All data in this study were confidential. Before electronically submitting the online written narrative response for Tier One, participants could enter their first name, e-mail and/or phone number to be contacted to schedule an interview. This information was then sent electronically to the researcher through Checkbox Survey, an electronic survey tool located on the College of Education and Human Development server at George Mason University in Fairfax, Virginia and accessed through a secure connection at the Center for the Advancement of Public Health. These names and contact information were stored in a locked cabinet.

In addition, if Tier One participants chose to enter the drawing for the gift card (discussed above) after submitting the written narrative, they provided their first name and e-
mail address through a separate online survey to enter the drawing. The names and e-mails of participants who entered the drawing were not associated with their written narrative response. Furthermore, the participant who was selected in the drawing was contacted via e-mail to provide a mailing address, which was written on the envelope used to mail the gift card. The e-mail was then discarded so that there was no record of the address and the identity of the participant was protected.

In Tiers Two and Three, participants were interviewed in face-to-face semi-structured interviews that were recorded. Each recording was downloaded to a password-protected computer. Each recording was transcribed by the researcher, thus only she was aware of the identity of the participants. The transcription files were also saved on a password-protected computer. The researcher deleted all copies of the recordings thirty days after the transcriptions had been completed.

To avoid associating a participant’s name with the transcribed data, each participant was assigned a code. The codes were also stored on a password-protected computer. All memos written by the researcher included the participant’s code rather than the participant’s actual name. Pseudonyms were developed for each of the participants during the data analysis process and used in the discussion of the study’s findings (Chapter 4). Each of these steps provided additional safeguards of the confidentiality of the participants.

**Interview Setting**

The face-to-face interviews were conducted in a private location to help maintain confidentiality. The researcher and the participant chose a location prior to meeting, which was generally a private room in a public library, an office, or a home.
Request for Information

According to Wolgemuth and Donohue (2006), “When the participant opens up to the researcher in ways similar to that of a psychotherapist, revealing deeply personal information, the ethical responsibility of the researcher is called into question” (p. 1027). The researcher for this study is not a psychotherapist or a nutritionist. Furthermore, in prior unpublished pilot research conducted in the spring of 2012 by the researcher with 1.5 generation Chinese American women to pilot questions for this study, participants asked about the standards for nutrition education in the US. Therefore, in this study if participants asked questions about nutrition education, then the researcher advised participants to:

1. Consult their health-care providers for questions about their health and food choices,
2. Contact their health insurance provider to determine eligibility to meet with a registered dietician,
3. Visit the Academy for Nutrition and Dietetics online at http://www.eatright.org/programs/rdfinder/ to find a local registered dietician or nutrition educator, and

Delimitations

This study focused on women between the ages of 22 and 30. It is possible that these women may have had widely varying experiences as a result of their life
circumstances (living at home with parents, being enrolled full-time in college), and that their experiences with nutrition education may have been limited. It was important to remind participants that they may have learned about nutrition in the US from a wide variety of providers and through a wide variety of communication methods (oral, visual, etc.). While 1.5 generation members are typically considered bicultural, it was critical that participants focus on experiences in the US. However, their knowledge of nutrition may also be rooted in traditional Chinese philosophy and reinforced by family in the United States. Having this bicultural background could have created tensions and challenges to personal beliefs that might have been difficult for participants to acknowledge.

During the interviews some participants shared their experiences of adopting nutrition education into their lifestyles. Adoption of U.S. nutrition education may be a result, or action, caused by a cue to action transmitted via learned information. However, their adoption of nutrition education was not the focus of the study.

**Researcher Perspective**

The researcher is personally and professionally curious about the topic of this study. Having been born in Germany and having immigrated to the United States at the age of seven, she is bicultural. She took English as a Second Language (ESL) courses during the year she arrived and spoke only English at home to strengthen her language skills and increase the possibility of later attending and successfully graduating from college. In addition, the researcher was raised in a mixed race home where both German and African American foods and traditions were present. Her parents instilled in her a
deeply held belief that all people deserve to be treated with respect and that every person deserves to live a long and healthy life. These values laid the foundation for a commitment to social justice. Food was also an important part of the researcher’s childhood and German meals, sweets, and desserts her mother prepared were always a special opportunity to enjoy delicious foods. These foods were also an important reminder of her heritage, and although the meals were treated with pride they may not have met current nutrition guidelines.

Prior to her career in public health, she worked in Student Affairs in higher education for nine years where she enhanced her counseling skills working with college students living on campus. As a public health professional, the researcher began teaching undergraduate health courses in 2003. She frequently taught a general personal health course that required students to complete a behavior change project. The objective of the assignment was for students to identify a health behavior that they wanted to improve. One semester, an Asian American female student chose as her behavior switching from white rice to brown rice. The student said she felt brown rice was healthier, but she was taunted by her family for this choice. Her family did not see the value of her preference and questioned why she would eat something different from the rest of the family. The student was insistent that the brown rice was healthier and a sibling also switched to brown rice. This critical incident had an impact on the researcher because it was an example of culture, food, and perceptions. Where did the student get the information that drove her to eat brown rice despite the family’s continued preference for white rice? Why did the student believe that the brown rice was healthier? What motivated the student to continue to eat the brown rice despite her family’s resistance?
She considered that the answers to these questions could be helpful to health-care professionals when working with Asian Americans, and in the case of this research, Chinese Americans.

The researcher worked at the American Diabetes Association (ADA) during the majority of her doctoral program and, during most of this study, she was the Senior Manager for Training and Development at the Center for Information and Community Support. In this position she was responsible for training staff who answered questions from constituents about diabetes and its management through the toll-free telephone number, chat services, mail, and e-mail. In this position the researcher also became familiar with educational materials (brochures, videos, and websites) available for consumers on nutrition as many consumers’ questions were on this topic. As the researcher was simultaneously working towards her PhD and Senior Manager at the Center for Information and Community Support, she began to notice that the materials about nutrition did not address the cultural differences for food choices specifically within the Asian American community. Brochures available to the public included images of plates, not bowls. Foods displayed in the educational materials were typically not combination meals, such as stir-fry dishes, rather they were meals that were divided easily into sections of meat, vegetables and starches. During her last year of employment with the ADA, she was promoted to the Director for Asian American, Native Hawaiian and Pacific Islander (AANHPI) Initiatives and was responsible for developing materials addressing this group’s increased risk for type 2 diabetes.

While the researcher was pursuing her PhD, new census data were released (in 2010) confirming that Chinese Americans were the fastest growing racial group in the US. Since
Chinese Americans are at an increased risk for chronic health conditions, such as diabetes, the need for communicating culturally appropriate nutrition education became that much more important. Thus, a combination of factors drew the researcher to begin exploring the history of Chinese people and their food in the US.

**Potential Biases and Validity Issues**

The researcher is a White, German American. As such, it was important that she “be prepared for the historical, geographical, cultural and ethnic backgrounds of the populations under study” and with an understanding that “cultural awareness of others begins with self-awareness of the researcher” (Suh et al., 2009, p. 195). Therefore, the researcher read multiple books about Chinese Americans throughout her doctoral program on topics such as immigration, cooking practices, and delivering culturally competent health care. To gain insight on current issues facing Chinese Americans, the researcher subscribed to *News China*, a popular magazine printed in the United States. She read *Epoch Times*, a local Chinese newspaper and read online news articles through a variety of international sources. Furthermore, the researcher discussed this study with Chinese American men and women that she knew through her personal and professional network to gain insight on developing rapport during the study with participants. During piloting of this research, participants had stressed how important it was to develop trust and rapport during the interview citing that this would increase comfort among participants and increase the likelihood that they will share their true feelings and provide candid responses. The researcher utilized the pilot research as an opportunity to ask questions that were being considered for Tier Two and Tier Three of this study.
During the study, the researcher received positive feedback about her extensive knowledge about the Chinese American community. The researcher then drew on her personal and professional connections to identify gatekeepers for participant recruitment. In addition, throughout the study the researcher continued to identify resources and services for Chinese Americans that were also, ultimately, identified as gatekeepers for potential participants. In an effort to address personal cultural awareness the researcher completed analytical researcher memos (Kvale, 2009) after each tier and used random member checks and peer review to ensure that the analysis accurately expressed the participants’ perspectives. Suh et al. (2009) explain possible barriers in conducting research with Asians:

> Given a cultural orientation valuing group customs and collective perspectives, most Asians tend to present “desirable” opinions, rather than personal views. In most Asian countries, individuals tend to reflect the thinking of elders or the majority. Normative values and loyalty to the group takes precedence over individual ideas, and are considered essential to cultural discipline (p. 196).

Given this reality, the researcher included a statement about the value of the participant’s personal perspective prior to starting the interviews. (See Appendix D for the statement that the researcher used in Tier Two). The researcher told each participant that the questions did not have a correct answer and that the researcher was looking for them to share their own personal opinions and experiences. The researcher emphasized that it was their unique perspectives as 1.5 generation Chinese American women that were important. This pre-interview information was designed to lay the groundwork for an open dialogue.
The interviews were confidential and held in a private location that was mutually agreed upon by the participant and the researcher. These steps were emphasized to encourage participants to be candid and comfortable in meeting the researcher. There was also the possibility that in the physical surrounding of their choice, these 1.5 generation Chinese American women may have felt more comfortable and confident in sharing their personal beliefs, rather than the views of their elders.

The trustworthiness, also known as the research validity, of the research as recommended by Glesne (2006), was specifically addressed throughout the research design and in the three tiers. Furthermore, as recommended by Creswell (1998), the proposed research used the following strategies to address validity of the research: triangulation, peer review, and member checks. In addition, the researcher explored potential bias, also known as subjectivity (Glesne, 2006), in the research.

**Triangulation**

Using multiple sources of data to understand the perspectives of 1.5 Chinese American women’s perspectives regarding nutrition education in the US increased the strength of the research. Creswell (1998) explains that using various data sources helps the researcher uncover the participants’ unique perspectives. The Three Tier research design guaranteed the researcher multiple data. Furthermore, as Yin explains, “with data triangulation, the potential problems of construct validity also can be addressed because the multiple sources of evidence essentially provide multiple measures of the same phenomenon” (2003, p. 99).
Peer Review

Creswell (1998) suggests that a peer review throughout the research design is critical to “keeps the researcher honest” (p. 202). Therefore, a peer review was incorporated at two points in the study: during development of the interview questions and during data analysis. Three peers were asked to provide feedback on the data collection processes, focusing specifically on the analytical memos and the notes the researcher used to create the Tier Three questions for participants. These interview questions were personalized based on supplemental information from the responses from the preceding Tier. In other words, for example, Tier Three questions are based, in part, on Tier Two responses. (See Appendix E). Additionally, two peers provided feedback during data analysis. This peer review provided feedback to the researcher about questions to include in Tier Three and the data analysis process.

During the peer review of the data analysis, the researcher shared her initial notes on the data analysis, including the open coding and initial themes identified. Based on the two peer feedbacks, some of the initial coding was either collapsed or expanded. For example, the researcher had identified two themes in the experience category: “lack of knowledge in others” and “judgment/feeling judged/body image.” After discussing the themes with the peers, the researcher expanded “lack of knowledge in others” to “lack of knowledge in others and lack of knowledge in self.” The theme of “judgment/feeling judged/body image” was modified to “reaction to the experience” to more accurately describe the theme. Furthermore, the researcher had initially identified five themes in the behavior category. After the peer review, the researcher collapsed the theme of balance
into “diversity/limits in food choices.” Lastly, the researcher had developed seven themes for the “delivery of nutrition education” category. During the peer review process it became apparent that three of the themes—“curiosity,” “corroboration/validity” and “wants to make an informed choice”—were all elements of the decision-making process and were therefore reclassified. After the peer review of the data analysis, one additional interview was conducted. The initial coding was further revised after the collection and analysis of additional.

**Subjectivity**

Food tells a story about a person, though not always explicitly. Wolgemuth & Donohue (2006) share that “storied individuals live storied lives in narrative contexts” (p. 1029). To understand the personal issues that the participants may be experiencing it is important for the researcher to establish a rapport based on trust (Wolgemuth and Donohue, 2006) where the participants understand that they are not being judged for their responses. For this study, that meant clarifying that the desired end result of the interview was to identify what is behind food choices for Chinese Americans. It was also important for the researcher to be aware of and comfortable with her own bias and level of understanding of food choices available to Chinese Americans. Those biases and that knowledge may, according to Wolgemuth and Donohue (2006), be transformed by creating “a space for fully experiencing discomfort, ambiguity, and transformation” (p. 1033). For example, the researcher asked clarifying questions about foods and experiences that participants described. The participants often spontaneously offered multiple examples throughout the interviews to bring context to what they were describing. The participant informed researcher, and this
relationship was helpful to the researcher in understanding the perspectives of the 1.5 generation Chinese Americans. However, because of the Three Tier Structure Approach the researcher had the opportunity to ask questions in Tier Three that clarified information offered in Tier Two. Thus, participant and researcher were able to reflect together on the information exchanged during the Tier Two interview. Participants also came to the second interview with additional information. Participants often said what they thought about the questions and provided more examples relevant to the study. Tier Three was an opportunity to return to information from Tier Two and seek clarification of any ambiguous answers. The data supports that the Three Tier Structure Approach offered the space described by Wolgemuth and Donohue (2006) to support learning and to transform both researcher and participant.

During the interviews it was important for the researcher to establish a rapport with the participants. Glesne (2006) defines rapport as the “quality of your interactions to support your research” (p. 109). Developing rapport with participants established an environment where participants felt comfortable expressing their thoughts to the researcher on a wide variety of topics. Rapport and friendship are not synonymous. Establishing rapport means that trust is established, however, this trust is not contingent on a friendship (Glesne, 2006). The researcher and participant do not need to like one another and do not need to have a desire to interact socially as a result of their interaction. However, Glesne reminds researchers that if the participant and researcher do like one another and a friendship forms, then the work may be more rewarding. For some, this may seem like a fine line, with respect to a professional versus a personal interaction, between individuals. It is important to
recognize the reason for the interaction is to gain an understanding and that the researcher is respectful, trustworthy and maintain confidentiality.

As the participants provided responses, the researcher needed to be aware of her own emotional reactions. According to Glesne (2006), these reactions are an example of the subjective lens every person carries through life. Glesne (2006) encourages researchers not to suppress emotional responses during research, but rather to use these responses to further analyze the data, and to ask more questions. The researcher documented these emotions through memos after each interview, if needed, and then analyzed them in the dataset, as recommended by Corbin and Strauss (2008). This procedure helped increase the transparency of the research and analysis.

The purpose of this research was to understand what messages about nutrition were provided to 1.5 generation Chinese Americans, how they perceived these messages, what gaps may exist in nutrition education for Chinese Americans, and what education targeting their community was effective. Having participants who trust the researcher in the journey is critical for this type of research to be effective, valid, and ethical.

**Data Collected**

The multiple sources of data for this study included: 1) participants’ written critical incident, 2) a face-to-face semi-structured interview during Tier Two, 3) a face-to-face semi-structured interview during Tier Three, and 4) researcher memos. The researcher wrote memos after reading the narrative submission and after each interview and after the first interview included notes providing guidance on questions to ask in the
second interviews. Additionally, memos were written during the analysis of data to document the researcher’s ongoing interpretations.

**Tier One: Written Narrative of Critical Incidents**

The study design included a written narrative in Tier One, responding to an open-ended statement, similar to the most common type of question in a case study design (Yin, 2003). The written response was an opportunity to ask the participants “about the facts of a matter as well as their opinions about events” (p. 90). Furthermore, the incidents that were captured participant experiences with nutrition education. The written narrative directions (provided in Appendix C) included probes for participants to consider when responding. There was no word limit.

Each participant submitted a written narrative that described a critical incident where their food choices were questioned. The submissions provided by the participants varied in the type of experience shared and the length of the submission. The shortest narrative was 57 words, submitted by Participant E who did not complete Tiers Two and Three. The longest narrative was 414 words, submitted by Participant A who completed all three tiers. The varying lengths of the participants’ submissions emphasize the diversity in thought and experience and may also be indicative of their comfort in writing. Table 2 provides a summary of the submission dates and word counts of the narratives.
Table 2

Submission Dates and Length of Participant Narratives

<table>
<thead>
<tr>
<th>Participant</th>
<th>Submission date</th>
<th>Word count</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2/18/2013</td>
<td>414</td>
</tr>
<tr>
<td>B</td>
<td>4/2/2013</td>
<td>256</td>
</tr>
<tr>
<td>C</td>
<td>4/9/2013</td>
<td>115</td>
</tr>
<tr>
<td>D</td>
<td>4/22/2013</td>
<td>118</td>
</tr>
<tr>
<td>E</td>
<td>6/16/2013</td>
<td>57</td>
</tr>
</tbody>
</table>

Tier Two: Semi-structured Interviews

Participants A, C, and D expressed interest in both interviews. Participants B and E declined the interviews. Per the original research protocol, the interviews were to be scheduled at least one week apart to allow participants time to reflect on the questions and to consider additional information they wanted to share about their experience and the questions asked in each category. Table 3 provides a summary of each participant’s interview date and the length of the first and second interview.

Table 3

Length and Date of First and Second Interview, by Participant

<table>
<thead>
<tr>
<th>Participant</th>
<th>First Interview Length/Date</th>
<th>Second Interview Length/Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>46:23 minutes/3-2-2013</td>
<td>38:45 minutes/3-9-2013</td>
</tr>
<tr>
<td>C</td>
<td>41:58 minutes/4-19-2013</td>
<td>84:03 minutes/6-30-2013</td>
</tr>
<tr>
<td>D</td>
<td>30:34 minutes/5-6-2013</td>
<td>50:58 minutes/5-15-2013</td>
</tr>
</tbody>
</table>
All participants had at least a week after the first interview to reflect on their responses and to prepare for the second interview. Participant C left the country for an extended period of time after the first interview, hence the lapse in time between the interviews.

The semi-structured interview format was the primary source of data for the research study. Wengraf (2001) explains that a semi-structured interview is one that has “partially prepared questions that are fully structured by the researcher’s/interviewer’s concerns and initial theoretical framework” (p. xxiii). Participants were asked semi-structured questions based on domains which are referred to as categories in the study. The categories for the first interview were: (1) sources of knowledge; (2) messages; (3) experiences; and (4) behaviors. The second interview was also structured with these same categories, focusing more deeply on each, and the additional domain related to delivery of nutrition education. Each category was related to the four research questions and aligned to corresponding interview questions.

The interview was an opportunity to enable participants to act “as the narrator of experiential knowledge” (Holstein & Gubrium, 1995, p. 30) by sharing responses from a wide variety of sources that address the questions posed to them in a thoughtful manner. Prior to the interview, participants were provided with a general introduction to the research. Holstein and Gubrium (p. 41) describe the introduction to the interview as a “signpost” to guide participants on what to expect during the interview process. The script for the introduction emphasized that there is no such thing as a right or a wrong answer and that the research is really about their own personal perspectives. This second point was critical. During pilot research of the questions for this study that was conducted in spring 2012,
participants shared that stressing this point can empower them to answer openly and honestly. Further, pilot participants indicated that stressing this point in the introduction would encourage deeper reflection from the participants on their responses.

Purnell (2009) explains that it is important to avoid asking questions that can simply be answered with a “yes” or “no” response when interviewing Chinese Americans because they may default to replying with a “yes” to avoid embarrassment and save their pride (p. 89). Furthermore, according to Suh et al, (2009), Asian women are typically modest when asked for their thoughts and may remain silent. To assist in the process of probing, the researcher designed interview guides with probing questions. (See Appendices 4 and 5). These questions were designed to provide critical guidance to the participants. For example, a participant might find the wording of one of the initial questions confusing. The probing questions were designed to “offer . . . pertinent ways of conceptualizing issues and making connections, pertinence being partly defined by the research topic and partly by the substantive horizons of ongoing responses” (Holstein & Gubrium, 1995, p. 39). The interview should be viewed as a purpose-driven conversation between the researcher and the participant and contain structural elements such as interview questions and the overarching research questions (Kvale, 2009). Holstein and Gubrium note that the researcher’s previous experience in counseling diverse individuals is useful in considering how to transition between questions throughout the interview. As a former student affairs professional counseled to college students on a wide variety of topics. As such, the researcher had experience in acknowledging responses by participants, verbally and non-verbally. Yet, asking relevant questions throughout the interview to further uncover a person’s values and
beliefs. This skillset was necessary during the interview to help guide the participants as they considered their personal experiences and in the second interview in respect to discussing the impact of their cultural values and beliefs. These questions were intended to provide suggestions for follow-up to clarify participants’ responses, often through examples (Merriam, 2009). The probing questions could also be used to address any confusion participants may have felt concerning the topic or when asked to consider their perspective on a specific topic. Use of the interview guides varied from interview to interview. For example, in some interviews the researcher was unable to move intentionally from question to question, while in other interviews the conversation naturally moved through multiple questions and topics, leading to deep exploration of some areas.

During the Tier Two interview, the participants were asked directly about the narrative they had written detailing an example of when a belief they held about food was questioned. The purpose of the follow-up question during the interview was to engage the participant in storytelling. Gubrium and Holstein explain that “opportunities and space for storytelling are never automatically achieved” (2009, p. 47). Therefore, it was critical to use probing questions and a conversation-style interview to increase the participant’s comfort in sharing details.

Gubrium and Holstein stress that interviews are more than just a time to collect information. During the interview researchers should observe how participants actually form their responses and what happens when the participant is sharing, such as shifts in body language or tone of voice. This dual function of the interview further emphasized the need for the researcher to write memos capturing these observations.
**Researcher Memos**

After each interview, the researcher wrote notes about how the actual interview process transpired for each participant. Their purpose was to record observations of any emotions participants displayed, of any questions that seemed challenging for the participant, and of any nonverbal cues. Because the interviews were recorded in their entirety the notes were useful in addressing additional elements of the interview, if any. During the study, the researcher used the memos: (1) to document initial thoughts and questions for the participants about the narratives; (2) to identify follow-up questions for the participants about their experiences in the first interview; (3) to summarize the first interview in writing (The researcher shared a verbal summary with participants of the major themes that had arisen in the second interview before asking for additional feedback.); and (4) to document information about the interviews that was not captured in the transcripts. For example, after the first interview with Participant A, the researcher’s memo stated that “Participant was often deep in thought with the questions. She really wanted to be thorough in her answers.”

As recommended by Holstein and Gubrium (1995), these memos were typically written within hours of the interview so that the information was as accurate and complete as possible. Corbin and Strauss (2008) also explain that the researcher can edit the original memo later to provide further information and clarification. In addition, the researcher included details about times in the interview when she, herself, may have reacted emotionally (at times observed by the participant) to the participant’s answers. As Glesnse (2006) explains, “The goal is to explore such feelings to learn what they are
telling you about who you are in relationship to what you are learning and to what you may be keeping yourself from learning” (p. 120). Memos were written during the process of analysis to identify significant points from the interviews.

**Tier Three: Second Semi-Structured Interview**

The participants who completed the Tier Two interview all indicated that they would reflect on the interview in preparation for the Tier Three interview. In fact, Participant A actually returned to the second appointment with a detailed shopping list for her upcoming week’s grocery shopping. She wanted to share sample recipes and provided a visual artifact for the researcher of choices for each meal.

The second interview, conducted at least a week after the first interview was also semi-structured and was as important a component of the research as the first. The questions used in this interview are incomplete. (See Appendix E for the interview questions). The researcher’s actual questions included references to the responses provided in the first interview. The purpose of the second interview, adapted from Mears Gateway Approach (2009), was to provide participants the opportunity to further reflect on their experiences with nutrition education in the US. The researcher hoped to gain insight into participants’ understanding of the impact and significance of their experiences vis-à-vis nutrition in the United States. As Holstein and Gubrium (1995), explained:

Challenged by the interviewer, pointed in promising directions, and at least partially aware of the interpretive terrain at hand, the respondent becomes a kind of researcher in his or her own right, consulting repertoires of experience and orientations, linking fragments into patterns, and offering “theoretically” coherent descriptions, accounts
and explanations. Far from merely reporting a chronicle of what is already present (hidden or obscured as it might be), the respondent actively composes meaning by way of situated, assisted inquiry (p. 29).

**Member Checks**

The opportunity to provide feedback on the draft analysis can increase the accuracy of the analysis and the construct validity of the research (Yin, 2003). Member checks as described by Creswell, 2007) were conducted throughout the research with the three participants who had completed Tiers One, Two, and Three. During Tier Two, participants were able to provide verbal feedback on their written responses and a sampling of the analysis that had been conducted to date as a member check. Those member checks included: 1) providing feedback and clarifying information on the narratives on the critical incidents in response to follow-up questions from the researcher during the first interview, 2) providing feedback and clarifying information on the responses provided in the first interview throughout the second interview, and 3) provide feedback, via e-mail, on a sample of interpretations of the data collected from the three tiers after they had all been concluded. If the researcher and the participant do not agree on the analysis, Yin states that the research is “not finished and that such disagreements must be settled through a search for further evidence” (p. 159). Furthermore, in reviewing the data analysis, participants may remember additional information that can contribute to the data (Yin). After the study, participants agreed with the analysis provided by the researcher and did not provide further information.

During the interviews, participants who were scheduled to complete all three tiers were able to clarify information they had provided in their initial narratives and add any
new insights they may have had since writing the narrative. Furthermore, in the second interview the researcher provided a summary of each topic covered in the first interview prior to asking for clarification and for participants’ views on how their culture had impacted their answer. Summaries proved to be an effective tool throughout the study enabling the researcher to identify key results from the prior interview with the participant. As explained earlier, the summary after the first interview also provided a review for the participant with a long gap between interviews. Participant D e-mailed the researcher prior to the second interview expressing concern that she could not remember the question categories. In response, the researcher e-mailed her the main categories and explained that the first interview would be summarized for her at the start of the second interview. Additionally, the summary of the first interview helped participants realize that they had not thoroughly answered some questions. Participants were then able to do so in the second interview. The researcher also identified additional follow-up questions (in addition to those captured in the memo) for the second interview based on the member check response provided.

Data Analysis

Data analysis is a “systematic approach” to understanding the various sources of data and identifying the responses to the research questions (Glesne, 2006, p. 147). Yin (2003) explains that in the case of research that uses multiple data sources the data analysis should “be based on the pattern of evidence from both the case study and the other methods” (p. 150). A convergence of evidence can occur if data are collected “from multiple sources but aimed at corroborating the same fact or phenomenon” (Yin, p. 99).
Data sources included the written narratives of critical incidents from five participants who completed Tier One of the research design through an anonymous electronic survey and the analytical memos written by the researcher after reading each narrative. (See Figure 5 for a summary of the data sources). Tier Two and Tier Three include the semi-structured interviews with participants. The responses from these interviews and the analytical memos written after each interview were also analyzed. Member checks provided additional details for the researcher to also analyze. Analyzing the data and sorting it into clusters helps the researcher develop a framework for identifying themes (Glesne, 2006).

Yin (2009) explains that the analysis of case study research is “one of the least developed” and actually “depends on an investigator’s own style of rigorous empirical thinking” (p. 127). A separate analysis was conducted for the critical incident category across the five narratives using a constant comparative method described by Creswell (2007). In this method, information collected from the data was compared to the emerging themes within the critical incident category. The data from Tiers Two and Three were then examined for each of the three participants individually and “each individual case [was treated] as a separate case study” (Yin, p. 156). Based on the points identified, a priori categories which aligned with the key elements of the socio-ecological model used by the USDA in the development of the 2010 Dietary Guidelines for Americans (USDA and HHS, 2010), were utilized to inform each research question as they related to participants’:

1. experiences;
2. sources of knowledge;
3. messages;
4. behaviors; and
5. delivery of nutrition education.

The process for analyzing each case was similar in that the researcher read each transcript in its entirety and then made marginal notes. This process helped the
researcher identify the preliminary analysis merging from the data (Glesne, 2006). Chapter 8 provides a summary of all the data.

From the initial review of the interview data, the researcher began to identify the important points within each of the cases, a process known as open coding (Merriam, 2009). These points may or may not have been obvious across each data source. An “experiences” category was developed as it related to the first research question to explore the types of experiences that 1.5 Chinese American women have had with nutrition education in the United States. The “source of knowledge” category was developed for the second research question to identify the sources of knowledge about nutrition for 1.5 generation Chinese American women. The “messages” category was developed for the third research question about the messages that 1.5 generation Chinese American woman receive and perceive about nutrition education. The category of “behaviors” is not linked to a specific research question. The category was developed because of the beliefs and behaviors that 1.5 generation Chinese Americans have that support how they identify, receive, and use information about nutrition. The final category of “delivery of nutrition education” was developed for the last research question to determine the recommendations that 1.5 generation Chinese American women have for nutrition education in the US based on their own experiences, sources of knowledge, and messages that they receive and perceive. The researcher reread all of the materials after all coding had been completed to determine if any additional categories had emerged for each interview and for each participant.

As recommended by Yin (2003), participants were shown a random sample of the initial data analysis for Tiers One, Two, and Three. A second sample of the analysis was also
provided to each participant. In this study, none of the participants expressed disagreement with the data analysis. In this study, the participants did not provide any additional information after reviewing a random sample of the data analysis.

The researcher labeled the important points identified in the transcript of the interviews and then corroborated the participants’ responses with codes that were then translated into a color coding scheme. The color coding scheme was used to visually code responses according to the a priori categories thus allowing the researcher to see if the codes appeared in other data through axial coding (Merriam, 2009). Stake explains that “usually the important meanings will come from reappearance over and over again” (1995, p. 78).

Therefore, the clustering followed by refining, was analyzed to determine if there was a name that best captured the point across the data for the final results. This data clustering process and making “tallies in some intuitive aggregation” across the cases is one way to “reach new meaning across cases” so that “something can be said about them as a class” (1995, p. 74). The final selection of the themes from each of the cases and across the narratives included the answers to the research questions as recommended by Merriam (2009).
Summary

Chapter 3 provided a description of the research design for the study based on the research questions. The chapter also provided details on participant demographics and recruitment and procedures for the study. Specific details on recording the interviews, compensating participants, and protecting confidentiality were addressed. The chapter explored the researcher’s perspective and addressed potential biases and validity issues. Furthermore, the chapter provided information on ethical issues and addressing requests for information on nutrition from participants. Chapter 4 will provide the findings from the five participants who completed Tier One of the study.
CHAPTER 4

Introduction

This chapter provides an outline of the results of the data analysis for Tier One. As described in Chapter 3, five participants submitted a narrative in Tier One through an electronic survey. This chapter provides the findings from the narratives with a focus on themes that emerged in the critical incident category. For this section of the study, each of the participants is identified with a pseudonym. The chapter concludes with a summary of these data.

Findings from Tier One: Critical Incidents

Tier One was designed to explore the first research question of the study: What critical incidents have 1.5 generation Chinese American women experienced with nutrition education? As a part of Tier One, participants wrote a narrative outlining an experience, referred to as a critical incident, where their food choices were questioned by someone. Specifically, participants were to describe an experience about the way that they ate their food, the types of food they ate, and/or the amount of food they ate was questioned. All of the narratives were analyzed in this section through the constant comparative method as described by Creswell (2007). The critical incidents described by the participants are summarized in Table 4. For this section of the study each participant was provided a pseudonym; Participant A is referred to as Anna, Participant B as Betty, Participant C as Casey, Participant D as Dorothy, and Participant E as Ellen. Each of the
participants was given a Western name in accordance with the common practice among 1.5 generation Chinese Americans of assuming a Western name in addition to their birth name. All of the participants who completed the Three Tiers provided a Western name to the researcher. These names have been changed to protect the identity of the participants.

Table 4

Summary of Each Participant’s Narrative

<table>
<thead>
<tr>
<th>Participant</th>
<th>Narrative Summary of Critical Incident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anna</td>
<td>Anna was approached by a family friend who commented to her that she did not have to worry about eating an additional piece of cake because of her weight.</td>
</tr>
<tr>
<td>Betty</td>
<td>Betty was approached by people around her about her decision to eat a combination of brown and white rice, specifically asking her about benefits for the various types of brown rice.</td>
</tr>
<tr>
<td>Casey</td>
<td>Casey saw and read comments in the media about how eating French fries is unhealthy.</td>
</tr>
<tr>
<td>Dorothy</td>
<td>Dorothy’s personal trainer instructed her to not eat carbs to lose weight.</td>
</tr>
<tr>
<td>Ellen</td>
<td>During meal times Ellen’s family usually tells her to eat certain foods to stay trim.</td>
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</table>

Across the critical incidents described in the narratives several themes emerged. These themes included: (1) a lack of knowledge among others; (2) lack of knowledge in self;
and (3) reactions to the experiences. These themes were generated through the actual narratives themselves and not from the interviews. Additional information that Anna, Casey, and Dorothy provided in the interviews was analyzed as part of one of the other categories of the study and discussed in later chapters.

Other’s Lack of Knowledge

A common theme that emerged from the written narratives is the participants’ perception that others tend to have a general lack of knowledge about nutrition. Almost all of the participants indicated that they had received messages about their weight in different ways. Anna was reminded that she could eat another helping of cake because of her weight, placing her in an awkward position of justifying her choice not to eat a second slice as a choice based on health, not weight. Dorothy was instructed to stop eating carbs to lose weight by a personal trainer and Ellen was reminded “at most meal times by family members” about which foods to eat to stay thin. What emerged from these messages was the theme of others’ lack of knowledge about nutrition. For example, Anna realized later in life that the woman who had told her that she could eat that additional piece of cake because of her slim weight was most likely dealing with her own body image and that the comment was not about Anna’s choice after all. Because the woman may have been trying to make Anna feel guilty about her choices, Anna thought that the woman was actually trying to transfer her own weight insecurities to her. Anna thought that making her feel guilty was due to the woman’s desire to likely want to eat cake herself but that she shouldn’t due to her own weight. Therefore, Anna should not consume the cake either.
Betty made a choice to start eating brown rice with her white rice as a result of messages promoted in her city. However, she found herself being questioned by others about specific details about brown rice that she herself did not even know. These included “the difference between the wide variety of brown rice out there and their benefits.” Again, this line of questioning could also imply a lack of knowledge among others about why brown rice is actually a healthier choice. There also appeared to be a lack of confidence among others in the nutrition information about rice provided throughout the community. It was as though Betty was asked not only to justify her own actions, but also to convince others that they too should consume brown rice.

Dorothy’s personal trainer instructed her to stop eating carbs to lose weight, but Dorothy questioned the “one size fits all” approach and wondered how much the trainer actually understood her “needs.” A significant concern for her was that since eating rice is a part of her culture, not eating it would be difficult. Did the trainer not know this? Last, Ellen described that her family often guided her food choices at meal times, stressing the importance of staying thin despite Ellen’s own knowledge about nutrition. This guidance from family members over the years seems to indicate her family’s lack of knowledge about nutrition since the messages were always about staying thin and not about nutrition or health. Ellen also described herself as not being “overweight” and so her family apparently lacked knowledge about general health as it relates to nutrition.

**Participants’ Lack of Knowledge About Self**

While it was much more common for participants to see others’ lack of knowledge about nutrition, there were indications that the participants lacked knowledge about
nutrition as well. For example, Casey showed a lack of knowledge of the impact of eating the fries that she was consuming regularly. In addition, despite Dorothy’s hesitation about the advice from her personal trainer to stop eating carbs to lose weight, she questioned herself and did stop eating rice “because the trainer emphasized it again”. This reaction implied that Dorothy lacked knowledge about nutrition and how the body uses different foods.

**Reactions to Experiences of Being Questioned About Food Choices**

Another theme that emerged from the written narratives was the participants’ reactions to the incident they each had recounted. Most participants reacted optimistically. For instance, Ellen said that she did not take the comments about staying thin “seriously” because she said she is “not at all overweight.” Anna recognized later in life that comments made to her, perhaps to make her feel guilty about her weight, were likely the result of other people’s insecurities. And Betty shared that she was actually “motivated” by the questions that people posed to her about eating brown rice, and she was also thankful that her family adopted the practice. Dorothy had a mixed reaction. She was both doubtful about her personal trainer’s advice and curious. Casey described feeling “terrible” about her “health, weight and nutrition.” So, while most reactions were ultimately positive, the participants all needed confidence, knowledge, and a sense of self-awareness to respond in such a positive way. This ability to respond positively when weight and personal eating habits are questioned on a routine basis is not an attribute that all women possess.
Overall Findings for Tier One

Five participants provided narratives about critical incidents involving others questioning their food choices. Specifically, all of the participants were asked to share an experience when the way that they ate, the types of food they ate, and/or the amount of food they ate were questioned. The following themes were identified in those critical incidents: (1) a lack of knowledge in others; (2) lack of knowledge in self; and (3) reactions to the experiences. The participants described being put in a position where they felt called upon to justify their behaviors with regard to food or to convince others that their choice was correct. Participants also showed a lack of knowledge about the impact of consuming specific food items, such as French fries, on their health. Despite others questioning of their behaviors, the participants typically reacted positively to these experiences of being questioned about their food choices, displaying confidence, knowledge, and self-awareness.

Summary

Chapter 4 provided the findings categorized as critical incidents from the experiences the five participants had described in their narratives for Tier One. Specifically, the chapter provided a discussion of the themes identified in the narratives using a constant comparative analysis technique. Of the five participants that completed Tier One, three continued in the study and completed Tiers Two and Three. In the next three chapters, each of these three participants will be individually presented as a case, beginning with Anna.
CHAPTER 5

Introduction

In this chapter the findings from Participant A, known as Anna, are provided. The chapter includes a presentation of Anna’s case, noting specific demographic information and the critical incident described in her narrative, which includes Anna’s explanations of her perspectives. These perspectives are related to the study’s five categories of: (1) experiences; (2) sources of knowledge; (3) messages; (4) behaviors; and (5) delivery of nutrition education, drawn from her interviews in Tier Two and Tier Three. The chapter concludes with a summary of Anna’s perspectives and her recommendations.

The Case of Anna

Experiences

Anna was born in Shanghai, China and immigrated to the US at the age of 14. She was 23 years of age at the time of the interview. Anna and her family moved to North Carolina where she attended a boarding school. Meals were served buffet style and offered a wide variety of choices. Anna recalled feeling pressured when making food choices, having to decide between healthier options or sweets that were also available. She knew the difference between healthy foods and unhealthy foods because of the advice that her family gave her about foods during her childhood and because her family physically limited her access to and intake of sweets. She described the foods that she
encountered in the American school as those that you “should eat” versus foods you “want to eat.” In her narrative Anna stressed the tension created by the challenge of trying to resist the plethora of unhealthy choices available. Anna explained that when she was younger she often ate a greater quantity of foods than she was accustomed to just to fit in. One winter she was approached by a family friend who commented that she should eat a second slice of cake without worrying about the impact as her small figure could accommodate an extra dessert without consequences. After reflecting on that experience, Anna described in her narrative recognizing that it was likely that the woman herself had body-image issues. However, at the time Anna felt quite uncomfortable and tried to explain to the woman that she just wanted to eat in a healthy fashion. Anna’s choice not to eat the extra slice of cake was not a weight-related issue for her but that she wanted to make a choice based on her understanding of overall health. However, she said that the pressure from these types of comments about her body size made her consider whether she should “prove a point and eat that cake so they won’t keep saying things.” This tension between fitting in by eating in an unhealthy fashion or by consuming an abundance of foods contrasted with her beliefs about and values related to balanced eating and limiting sweets as taught to her by her parents. Anna shared in the first interview that at the time of the study, she still receiving comments about her body and foods that she could eat even from her peers “from time to time.” Anna also clarified that when it came to making food choices she was not focused on health from the ages of 14 to 18. At the time of the interviews, she was “firm” in what she believed about her own nutrition needs. She affirmed that she was no longer affected by statements such as the
one about eating cake as she had been when she was younger. Anna’s responses imply that she believed that foods had an impact on her body, even if she was not gaining weight. Further, she chose to eat smaller portions because she had been taught about the value of maintaining balance and, for her, weight was a way to gauge this balance.

Anna’s commitment to maintaining a healthy balance in her food choices was reiterated in the interviews and through her actions when she arrived at the second interview with recipes printed out for the researcher to see along with that week’s grocery shopping list. Anna explained that she felt she made a personal transition after her arrival in the US, as documented in her second interview:

At one point in life, definitely I only had the Chinese hat on. And when I came to the US it was balancing trying to retain the Chinese values and embracing the new side of the American culture. So, now it pretty much is a hybrid that I would adopt both.

This dual perspective as a Chinese and as an American is not uncommon among the 1.5 generation, as outlined in Chapter 2. During the study, Anna remarked that it was important for her to provide correct information and even used her phone’s Internet connection to verify information during the interview itself, thus displaying her effort and commitment to providing accurate information as well as her reliance on the Internet for nutrition information.

**Sources of Knowledge**

The sources of knowledge Anna identified included family, friends, the Internet, and documentaries about nutrition. Interestingly, Anna indicated that neither a nutritionist
nor a health-care provider had ever talked with her about nutrition. From her sources of knowledge, several themes emerged, including: (1) importance of trust and not feeling judged; and (2) the family role in developing cultural values about food.

**Importance of Trust and Not Feeling Judged**

An element Anna consistently stressed was that information about nutrition needed to come from a trusted source. Since friends and family were cited as primary sources for information, Anna highlighted a friendship that had developed in high school, when she arrived in the US, and which she still maintained. She shared:

> We were roommates for almost three years. And we really, really bonded. She was able to share her American culture with me and I was able to show her my Chinese side. It was pretty much a bonding experience that enabled that trust between the two of us.

Furthermore, Anna described a nonjudgmental relationship. She said her friend “is open-minded. She listens to my side. She isn’t really freaked out by how odd some of the Chinese culture can be.” While the friendship was rooted in trust, Anna’s confidence in her friend’s input on nutrition was probably enhanced by the fact that her friend was attending medical school in the US.

**Family Role in Developing Cultural Values about Food**

Anna explained that her family had always transmitted beliefs about nutrition to her, as part of their culture. Clearly, then, not only did Ann need a trustworthy source of information about nutrition, but sharing nutrition information was a family cultural value.
Growing up my family had always promoted healthy eating, making sure that I eat my fruits and vegetables all the time. And they kind of had me shy away from the processed foods and the sweets. Telling me, “Oh that is really bad for your teeth and you should stay away from that.” So, it is just growing up that they really taught me what I should and shouldn’t eat.

Her family’s practice of instilling values and beliefs about food to her as a child in the United States implied that this same sort of speaking about food and nutrition was a part of her life in China as well.

Messages

Anna was asked about messages about nutrition that she was aware of in her community. She described both direct and indirect messages. Direct messages included the food guide pyramid in school, while indirect messages included, for example, cultural and social expectations expressed through the food options that were made available.

Limited Direct Messages

Anna shared that she was aware of direct messages in her community that are provided in a magazine developed by a grocery store (Wegman’s) where she shops regularly. However, she did not read the magazine or any of the recipes that the store provided, nor could she give a specific reason for not doing so. Although, she was not able to give examples from this resource, she did recognize that there were direct messages about nutrition in the magazine based on the cover. Anna also explained that she had learned about the food guide pyramid in U.S. schools, but had limited recollection of the specific parameters. For example, Anna said, “I know a little bit about
the food pyramid. I know that the grains are on the most bottom part. Fruits and veggies are the next level up. And meat…and I don’t remember the rest.” Although her memory of direct messages was vague, she was able to share much more about indirect messages.

**Indirect Messages Through Available Food Options**

Most of the examples of messages Anna described were indirect, meaning that they were not explicitly spoken but rather communicated through social norms. For example, Anna explained that her “family always promoted healthy eating, making sure that I eat my fruits and vegetables all the time.” By providing these foods, the family reinforced the message of healthy eating. Additionally, in general, sweets were limited. This lack of availability promoted consumption of other foods, such as vegetables, instead.

Her family situation was in stark contrast to what Anna experienced when she began attending boarding school at age 15. Every Friday at the school quickly became known as “Fry-Day” because everything was fried. She said, “That was a little shocking to me thinking—wow—what a wonderful way to promote healthy eating”. However, as an adult she attended a Chinese Community Church and shared a different experience:

I kind of find it interesting that after our meal we would always have fruit. Like we would always have a plate of oranges and I guess that would kind of be an equivalent of dessert in the US. So, instead of having dessert, we would have oranges or apples or bananas cut up. Thus, availability would seem to promote consumption, be it of fresh fruit or of the foods served on “Fry-days.”
Behaviors

In the next section of interview questions, Anna was asked to identify and describe her meal-planning techniques, explaining how she decided what foods to eat and how the food was prepared and served. Within this category several themes emerged during the analysis of Anna’s responses: (1) American and Chinese cooking and eating preferences; (2) use of chopsticks and forks; (3) reading of food labels; and (4) food preparation practices influenced by cultural beliefs.

American and Chinese Cooking and Eating Preferences

When Anna was asked to describe a meal she would prepare for a group, she indicated that such meals were usually more complex and varied than what she prepared for herself and included an Asian (usually Chinese) dish. Anna described her behaviors:

When I cook for myself, I tend to focus more on simple foods, which describes American foods a lot. Salads, pastas, a lot of baked products that you would put in the oven. Relatively simple and easy. Those are the foods that I would cook if I was by myself. But if I were to invite a group of friends over then, for some reason, I tend to lean toward the Chinese food.

So, Anna readily and comfortably prepared two types of meals, those that could be described as American and those that could be described as Chinese, a typical practice for the 1.5 generation as noted in Chapter 2.

Use of Chopsticks and Forks

While Anna shared that she ate foods that were American and Chinese, she also noted that she consumed Asian dishes with chopsticks but used a fork for other foods.
Anna explained that, for her, eating rice from a bowl was just “easier” because, according to her, the bowl could be used to help “shove [the rice] in your mouth.” What foods had been prepared and who was eating would also impact how the food was served. A meal for a group usually consisted of multiple foods served buffet style, while Anna indicated when she ate alone, she generally ate from a bowl. These dual cooking and eating preferences reflect the customs and traditions of both American and Chinese practices, a dichotomy typical of the 1.5 generation.

**Reading Food Labels**

Anna described healthy eating as eating practices that included the concept of balance. For example, Anna shared that healthy eating “doesn’t necessarily mean cutting out certain types of food. It is just that you eat everything and anything in moderation.” When making food choices, Anna said that she read labels on food products for the ingredients and nutrition information. Anna also consciously planned her meals and deliberately thought through her food choices. However, while Anna read food labels, she did not actually measure her food. Reading food labels was not a practice that her parents taught her, but she finds herself making decisions based on the information provided in the schools.

**Food Preparation Practices Influenced by Cultural Beliefs**

Anna stressed the topic of food preparation, citing the time required to prepare typical Chinese meals. Cutting a variety of foods into bite-sized pieces takes a considerable amount of time but, as Anna explained, can also be a way to control portion size (i.e., a quantity of bite-sized pieces of chicken that ends up weighing less than the
typical 6-ounce serving of chicken). In addition, one common practice she explained, that is influenced by Chinese beliefs, is the cleaning of foods, particularly meats. For example, Anna said that in Chinese cooking, after foods are brought home from the market and/or butcher, it is customary to “let everything sit in water to kind of let the germs and what not out of [them].” Throughout this explanation Anna did not mention any concerns related to possible transmission of bacteria to the kitchen during this process. Rather, the focus was on removing harmful contaminants in the blood of the meats so as to avoid ingesting them.

**Delivery of Nutrition Education**

The category of the delivery of nutrition education was introduced at the conclusion of the first interview to encourage participants to reflect on their thoughts about the topic during the time between the interviews and to be prepared to discuss it during the second interview. This category included questions about what would change their minds about the types of foods that they were eating and how they would want to have nutrition education provided to them. These questions were designed to elicit recommendations about the delivery of nutrition education to 1.5 Chinese American women. In the data analysis of this category, the researcher included participant responses from other categories of the interview pertinent to this topic. Within this category several themes emerged. In Anna’s case, these included: (1) unique physical needs; (2) the decision-making process (including a sense of curiosity and the desire to make an informed choice); and (3) gaps in knowledge.
Unique Physical Needs

When asked about how she would want to be approached about the topic of nutrition, Anna repeatedly stated that she wanted to be treated as an individual with specific and unique needs as a Chinese American woman and to be provided with personalized education. Anna believed that there were physical and, potentially, genetic differences that have an impact on the Chinese American community, which then result in unique nutrition needs. Anna stressed possible metabolic differences:

I think that our bodies are just made differently. Like maybe Chinese people are able to tolerate more carbohydrate, starch, things like that, then maybe Americans [can]. . . . And Americans are not able to tolerate other aspects that Chinese people are able to. It is just different bodies and maybe shouldn’t apply… a point that every person is different.

Decision-Making Process

Anna identified several themes that were a part of her decision-making process for identifying, receiving, believing in, and seeking nutrition education. These themes included: (1) curiosity; and (2) wanting to make an informed choice.

Curiosity. Anna was curious to learn more about the foods that she ate. Specifically, she was interested in the ingredients, including chemicals, in foods that that were part of her diet, which explains why she read food labels. Furthermore, she explained that although a health-care professional had never talked with her about nutrition, she was interested in getting information that applied specifically to her.
**Making an informed choice.** Anna also saw value in making informed choices about the foods she ate. For example, she said that if a close relative, such as her grandmother, was diagnosed with diabetes then she would “most certainly be more cautious” of her food choices. This viewpoint implies that Anna placed a value on using additional information to guide her food choices.

**Gaps in Knowledge**

Participants were asked what they would like to learn about with regard to nutrition. Anna indicated that she was interested in “learning how to balance what you need to eat every day” in terms of “portion sizes.” Furthermore, she said she wanted to “learn how specific foods are good for specific parts of the body.” Recalling her mother’s words of wisdom about carrots being good for eye health, she realized that she did not have a similar extensive knowledge about other foods.

**Overall Findings for Anna**

Anna is a 1.5 Chinese American woman who cooks her own meals and actively seeks out information about nutrition. She trusts her family and friends and uses the Internet to confirm information about nutrition. Most messages about nutrition that she is aware of are indirect messages that promote both healthy and unhealthy foods. Anna eats both Chinese and American meals, which is typical for a member of the 1.5 generation. She values a personalized approach to her health and questions a one size fits all approach. She sincerely believes that there are physical differences that make her unique and believes that health-care professionals and nutritionists need to recognize these differences when communicating with her. Anna would like to learn more about
nutrition, specifically on topics such as portion sizes and the specific health benefits of certain foods.

Summary

Chapter 5 provided the findings for Anna. Specifically, the chapter gave a description of Anna’s experiences and her perspectives as explained in her narrative and her two interviews. Furthermore, the chapter provided the relevant themes for Anna in these categories: (1) experiences; (2) sources of knowledge; (3) messages; (4) behaviors; and (5) delivery of nutrition education. Chapter 6 provides the analysis of findings for Participant C, with the pseudonym of Casey.
CHAPTER 6

Introduction

This chapter covers the findings for Participant C, also known as Casey, who completed all three tiers of the study. First, Casey’s experiences and perspectives with respect to nutrition are presented. Next, the themes for the categories of: (1) experiences; (2) sources of knowledge; (3) messages; (4) behaviors; and (5) delivery of nutrition education drawn from Casey’s Tier Two and Three interviews are identified. The chapter closes with a summary of Casey’s perspectives and her recommendations.

The Case of Casey

Experiences

Casey was born in Beijing, China and immigrated to the US at the age of 15. She was 30 years of age at the time of the interview. Casey and her father arrived first in the US, followed six months later by her mother. Casey said she typically did not pack a lunch, but rather ate school food regularly in high school. While she described the foods as tasting good, she also expressed concern that they were not healthy. Casey described healthy eating as “Basically anything low carb, low sugar, low calorie” and explained that this was something that she learned growing up, mostly from her mother’s cooking. Therefore, she knew at the time from what she had been taught that the foods served in the schools were not healthy. However, she ate at school anyway as this was an inexpensive way to get a prepared lunch daily.
In her narrative, Casey described her love for French fries and how she had not eaten them in China, but started eating them regularly in the US when she started high school. She realized that there were messages online and on television about how unhealthy fries were and this made her feel “terrible” about her “health, weight, and nutrition.” Her reaction was due to learning from the messages that she saw and read because the fries were in direct conflict with the definition of healthy eating that she had been taught in China. Casey also said, “I am 90% sure that in China we never talked that much about eating healthy.” Rather, she thought that the concept of healthy eating was communicated through a cooking style where less oil was used and, instead of sweets “a lot of vegetables” were prepared. She conveyed in her first interview that healthy eating was a habit and a way of life from her earliest memories of childhood. In fact, Casey recalled eating foods, such as rice, in China and not being concerned about their nutritional impact. However, after coming to the US, the list of unhealthy foods that she was aware of had grown exponentially. Between the first and second interviews Casey had returned to China to spend time with family and get married to her fiancé who was from Taiwan and also a Chinese American. She returned with a different perspective of China, expressing that the Chinese living in China now are consuming more unhealthy foods as could be seen by the large number of fast food restaurants.

Messages about foods, nutrition, and weight were all available to Casey online. Specifically, Casey shared that she sought out videos on YouTube for nutrition information and routinely used Google to confirm other nutrition information that she was exposed to as well. In addition, Casey explained that because she could be easily
influenced by her peers, she wanted access to accurate information to be better informed. Casey pointed out that even doctors sometimes post information online about nutrition, implying that this information could be valid and credible. The amount of content available made her feel that “you could become your own nutritionist”, decreasing the need for and her desire to seek out information from a health-care professional or a nutritionist. Casey did not routinely cook her own meals. Growing up she had relied on her mother and then, as an adult, her fiancé to cook her meals. Casey married her fiancé during the study. In Casey’s second interview she explained if she did start to cook her own meals that she would like “guidelines” that told her “what is tasty and healthy,” suggesting gaps in her own knowledge about nutrition meals.

A key issue and passion Casey identified was her desire to know more about nutrition to make educated choices since she was “getting older” and she planned to “concentrate” on her overall diet. Casey was also aware of conflicting messages about nutrition, such as the messages about rice being “basically sugar.” As a result of her father’s diabetes and her knowledge of the risk for diabetes among Chinese, Casey decreased her own consumption of rice. However, she was concerned because she also believed that “You are supposed to have a little bit of everything” in your diet. Therefore, the messages communicated to her challenged what she believed and knew about nutrition. Healthy aging and maintaining a diet to accommodate a possible change in her body’s metabolism was a significant concern for Casey and drove her to continue seeking nutrition-related information. During the interviews, Casey affirmed that she was actively trying to lose weight.
Sources of Knowledge

For sources of knowledge for her nutrition information about her nutrition information, Casey cited the use of family, friends, television shows, documentaries, and the Internet, specifically videos on YouTube. Casey also indicated that neither a nutritionist nor a health-care provider of any type had ever talked with her about nutrition. Several themes emerged from her sources of knowledge, including: 1) the value of trust, 2) the role of cultural values, and 3) the value of observations from personal experimentation.

Value of Trust

When Casey described her sources of knowledge she explained that her mother played a role in her beliefs about eating and that she ate her mother’s cooking without really consciously thinking about it. This unquestioning attitude emphasized the trust in their relationship. She also indicated that she trusted her fiancé, citing that he “has a good standard of what is healthy.”

Additionally, she identified trust as an important element in her approach to nutrition because of the rampant mistrust in China, particularly related to contaminated foods in China which resulted in severe illness and even death. Casey shared concerns about deceptive food labeling practices and unsafe food sold in China, emphasizing her desire for trustworthiness in information and products. Casey shared “you can’t really trust anyone” in China, therefore trust is critical for her in the US. In addition, Casey also identified Google as a primary method of obtaining information about nutrition. She explained that “Google tells you everything.” She found this wealth of available
information trustworthy when compared to the situation in China where information was often not fully disclosed to consumers. She also believed that information she found online was usually more accurate and specific than advice from friends.

**Role of Cultural Values**

Casey also shared that family members researched nutrition information and shared it with her as well, even in her adulthood. For example, Casey’s mother had always told her to eat breakfast and that, as she approached the age of 30, she needed to do more exercise. Casey explained that her mother literally “takes notes on what is good” advice that she hears in the media to share with her. Casey did not recall actually speaking about food and nutrition growing up. Rather, it was just a part of her family’s life to consume a wide variety of vegetables and use fewer less oil than what is typical in American cooking. So, for Casey, it seemed like a natural progression to switch from brown to white rice, as it enabled her to continue to eat a mainstay of Chinese cuisine, yet practice healthier eating habits.

**Value in Observations From Personal Experimentation**

Casey described examples of her own self-awareness with regard to her body and, specifically, reactions in her body to certain foods, which have informed her knowledge. For example, she knew that when she ate fried foods she got pimples on her face. Also, when Casey went to China between the first and second interviews, she purposely did not limit her food choices and found that she actually lost weight despite eating whatever she wanted. This curiosity about how foods affect the body lead Casey to value personal experimentation with foods, whether her own experiments or those of others. Casey
identified YouTube videos as a source of knowledge because she was able to view the personal stories told by others. She shared, “It is just random people, but then they sound like experts [laughs] and you just watch that.” Despite the YouTube video authors’ lack of credentials, learning from their personal experiments was also of great value to Casey and provided her information to use in making her food choices.

**Messages**

Casey was asked to describe messages about nutrition that she was aware of in her community. Overall, the messages that Casey described were direct messages that included, for example, a Chinese saying about food. Casey had fewer examples of indirect messages.

**Direct Cultural Messages**

A significant direct message that Casey shared was a Chinese saying that had recently affected her decisions, as a woman who had recently turned 30 years old, about food. The saying is:

> Before the age of 30 you get your gifts from your parents—like your natural gifts. But after 30 it is depending on yourself. No matter what the natural gifts you get from your parents, after you pass 30 if you don’t do anything you will lose all that.

This message resonated with Casey because of her age. She could also see it consistently reflected in the behavior of her circle of women friends, who were always following the latest weight-loss fad. She described “turning points” that occur in people’s lives where they recognize that they are almost 30 and then may begin to make
different food choices. However, Casey also shared that she was not as concerned about health at her current age as some of her friends seemed to be. Casey anticipated being concerned when she was 40 or 50 years old, unless her metabolism suddenly stopped and she suddenly gained weight. The concern about gaining weight was typical among her peers. In short, Casey felt pressure to live a lifestyle where personal responsibility for health was accepted and practiced. However, she also believed that her behavior in her 20s and 30s might not have an effect on her risk for chronic disease. As a result, her interest in nutrition seemed to be mainly focused on weight management.

**Indirect Messages Through Food Availability**

Fewer of the messages Casey described were indirect. For example, she explained that in China the cooking and eating of healthy meals were not discussed. Rather, healthy cooking and eating practices were just a way of life. Casey said during the first interview that when she was younger and living in China, she simply ate what was provided to her. She also expressed concern about the stark differences between her food choices in China compared to those available to her in the US, specifically in high school. Casey recalled pizza, fries, and chocolate milk being readily available to her and to her peers for lunch. Looking back, she also recalled that “Everybody gained weight,” usually an average of 10 pounds. Casey knew that the foods were not healthy because of what she had learned about nutrition in the US, but also recognized that pizza, fries, and chocolate milk were the foods readily available to her and to her peers in the United States. So, the indirect message about food and nutrition, as conveyed via the ready availability of unhealthy foods, was in direct conflict with what she had learned in China.
This discrepancy was of great concern to Casey who said that in the US, “kids are not educated at all about nutrition.” Therefore, Casey sought out information and was more aware of the direct and indirect messages about food and nutrition around her.

**Behaviors**

There were several emerging themes for Casey in the behaviors category with regard to her food planning techniques, her methods of preparing and serving food, and her process for determining what foods to eat, including: (1) preference for variety in foods; (2) balance; and (3) principles concerning food consumption.

**Preference for Variety in Foods**

Casey had only recently started cooking and had a difficult time identifying the cooking tools that she used. She was still learning about cooking but used what she described as “simple tools.” She described the meals she ate alone as being tasty yet healthy. For example, sometimes the meal would include a salad with cold vegetables and salad dressing, even though cold vegetables were not typical of Chinese cuisine, where vegetables are generally stir fried. Although Casey preferred cooked vegetables, she explained that she ate these cold salads because she had “always heard that raw vegetables are better than cooked ones.” In addition, Casey did not typically cook her own meals so the variety of meals that she knew how to prepare was limited. However, when Casey was asked to describe a meal she might prepare for a group, she explained that such meals were generally complex, varied, and Asian (usually Chinese) prepared with assistance from her fiancé. While Casey mentioned a self-described passion for losing weight at the time of the study, she also shared that when cooking for others she
would offer multiple meats and add more oil, for example, to make the food “taste good.” Casey expressed that a goal was to impress the group. So, while Casey did not prepare the majority of her own meals, she did consume meals that were, according to her, American or Chinese. She typically ate her Asian dishes with chopsticks and used a fork for other foods. This dichotomy in eating preferences, reflecting the customs and traditions of both American and Chinese practices, is typical of the 1.5 generation as described in Chapter 2. However, Casey also said that she enjoyed a wide variety in foods and, unlike her mother, she could “totally live without Chinese food now.”

**Balance**

Casey also described that healthy eating included a concept of balance, specifically, no foods should be entirely eliminated from the diet—a healthy diet should include a little bit of all foods—and moderation was advisable. As a person of Chinese ethnicity, Casey was already concerned about her risk for diabetes and therefore she limited her intake of rice, but she explained that “you are not supposed to really cut it out. You are supposed to have a little bit of everything.” As a result, she consumed a small amount of rice daily. Clearly, her eating behaviors were impacted by nutrition messages despite the inconsistency amongst them.

Furthermore, the concept of balance was emphasized in her plan to focus more on her diet as she aged since she preferred not to work out, resulting in a desired weight. By focusing on her diet now, she would be age at a weight that did not necessitate further action to control later in life. She also reflected on her personal schedule and disclosed skipping breakfast occasionally, typically due to a lack of time before leaving for work in
the morning. However, she diligently strove to include at least one daily serving of fruit into her routine although she was conscious of and conflicted by its high sugar content.

**Food Consumption Principles**

In terms of making food choices, Casey indicated that she did look at food labels, predominately for caloric information. However, her choices were not typically dictated by the number of calories in a food item. She did express shock over the number of calories in some of the foods she typically ate. Although, she would still consume food despite being high in calories, Casey also shared beliefs about food that guided her food choices, such as always consuming a food in its original form if possible. As an example, she would limit her intake of fat free milk, citing concerns that the process of removing fat would actually make the milk unhealthy. In addition, she avoided artificial sweeteners, citing a concern that they caused cancer.

**Delivery of Nutrition Education**

Within this category there were several themes that emerged in Casey’s case. They included: (1) doubt about speaking to a nutritionist; (2) the decision-making process (which includes a sense of curiosity, corroboration strengthening the validity of the information provided, and the desire to make an informed choice); (3) desire to have personalized conversations; and (4) gaps in knowledge. Each theme is presented with examples from Casey’s interviews.

**Doubtful About Speaking to a Nutritionist**

Trust was cited as a key element when Casey discussed her sources of knowledge, so it was not surprising that trust would need to be evident in any future sources of
knowledge. Casey explained that despite the fact her level of trust was, generally, higher in the US, she described almost an instinct, or gut reaction, of not trusting when initially approached with ideas by anyone outside of her family and close friends. However, she did trust that her food was safe and indicated that she would generally trust a well-trained professional who was knowledgeable about her unique needs. But doubt still remained. Furthermore, Casey felt that she could really be her own nutritionist because of her access to so much nutrition information. Her challenge with making healthy food choices was due to a lack of knowledge as much as to a lack of self-discipline. However, she did say that if she could find discounted nutrition education services she would be interested in using them.

**Decision-Making Process**

Several themes were identified as part of Casey’s decision-making process for identifying, receiving, believing, and seeking nutrition education. These themes included: (1) curiosity; (2) corroboration strengthening validity; (3) wanting to make informed choices; and (4) wanting to have personalized conversations.

**Curiosity.** Casey was very curious to learn more about how her body was affected by the foods she ate. This curiosity encompassed more than just what foods she should eat to lose weight. She was curious about why Chinese living in China are so thin despite their rice intake and why Chinese living in the US can find it so difficult to lose weight. She asked herself, could the weight difference be due to lifestyle differences, for example, that Chinese in China generally walked more than Chinese in the US? She
wanted to know how she could be healthy as she aged. Lastly, she wanted to know what was tasty and healthy according to a nutritionist.

**Corroboration strengthening validity.** Casey truly valued information that was corroborated elsewhere. She would not rely on the guidance of a health-care professional or nutritionist alone. Casey needed guidance to be corroborated by a family member or friend. It was important for Casey to know that someone else had used the recommendations and could speak to the results they had experienced. Responses to personal experiments, such as those she found on YouTube video clips, were valuable sources of validation for Casey. For her, the more the guidance, advice, or information was corroborated, the greater its validity. This meant that for Casey to put faith in public health messages about nutrition, the messages had to be consistent wherever and however they were presented.

**Wants to make an informed choice.** Casey expressed concern about the lack of education about nutrition for youth in the US as she recalled the wide array of food choices available in college. She expressed sincere passion and commitment for providing her future children with information about nutrition at an early age. In college she remembered the cafeteria as a place with “veggies and fruits all over” and that the staff really “promoted healthy foods” to the students. Casey expressed a desire for information from a health-care professional or a nutritionist that applied specifically to her lifestyle based on what she ate, her activity levels, and what her lifestyle had been in China. She wanted a holistic response that would offer her a solution based on all these
criteria, but that did not have an extreme approach. Casey valued information that she felt she could apply to her life.

**Wants to have personalized conversations.** Casey indicated that she had never had a conversation about nutrition with a health-care professional or nutritionist. As an example, Casey explained that she had recently had a medical appointment with a gynecologist who did not ask any questions about nutrition but simply weighed her and noted the weight in her chart. Casey felt that this could have been an opportunity to discuss nutrition and that if she were to become pregnant that this health-care provider could also speak with her about maintaining a healthy weight during pregnancy. Casey indicated that she felt it was important for health-care professionals to communicate with her to understand her needs and background.

**Gaps in Knowledge**

When asked what she would like to learn about nutrition, Casey said she wanted to know how to prepare healthy, tasty meals, particularly when she began to prepare meals regularly. Her interest in tasty and healthy foods may be linked to her childhood when she was, she reported, a picky eater. Her mother was able to identify and prepare healthy foods that she enjoyed. If she learned to prepare meals that were both healthy and tasty for her family, she would be re-creating a positive experience with nutrition from her childhood in China.

**Overall Findings for Casey**

Casey is a 1.5 Chinese American woman who had turned 30 years old at the time of the interview. She does not cook most of her own meals. She has relied on her
mother’s cooking when she lived at home, and, currently, she relies on her husband to cook for her. At the time of the study she was actively trying to lose weight despite her lean build. Casey did not provide details on how much weight she wanted to lose or where she fell on the BMI scale. She only expressed her concern about unhealthy weight gain in high school and from eating fries. She trusts her family and friends and uses the Internet to confirm information about nutrition. Corroboration of nutrition information is extremely valuable to her and offers her an opportunity to obtain accurate information to clarify the varied information provided by her friends and family. Most of the messages about nutrition that she has heard or seen are direct messages that both promote taking responsibility for food choices, as she is an adult, and provoke thought on how her actions now may affect her health later in life. Casey eats both Chinese and American meals, but indicated that if she never ate another Chinese meal that would be alright with her. She enjoys a variety of foods and taste is a key factor for her when she makes food choices. She thinks a personalized approach to her health based on her background and current lifestyle would be valuable. Casey would like to learn more about preparing meals that are both healthy and tasty.

Summary

Chapter 6 provided the findings for Casey. Specifically, the chapter offered a portrait of Casey’s experiences and her perspectives drawn from the narrative that she had submitted and her two interviews. Furthermore, the chapter provided the themes that emerged from Casey’s perspectives that fit into these categories: (1) experiences; (2) sources of knowledge; (3) messages: (4) behaviors; and (5) delivery of nutrition
education. Chapter 7 provides the analysis of findings for Participant D, with the pseudonym of Dorothy.
CHAPTER 7

Introduction

In this chapter, the findings from Participant D, known as Dorothy, who completed all three tiers of the study, are provided. First, Dorothy’s case is presented, capturing her experiences and perspectives as they relate to the study. Next, the themes for the categories of: (1) experiences; (2) sources of knowledge; (3) messages; (4) behaviors; and (5) delivery of nutrition education drawn from Dorothy’s interviews and narrative are identified. The chapter closes with a summary of Dorothy’s perspectives and recommendations.

The Case of Dorothy

Experiences

Dorothy was born in Shanghai, China and immigrated to the US at the age of 15. She was 29 years of age at the time of the interview. Dorothy described herself as a “half American,” that is, “half American, half Chinese.” Dorothy’s description of healthy eating was based on lessons she had been taught on the food guide pyramid in the US and in China. Dorothy described healthy eating in her first interview as “the right portion” and the “right amount of vitamins.” She recalled that in China the emphasis was on weight loss, not nutrition as it is in the United States. Dorothy was interested in finding a nutritionist, in the near future, and valued the concept of a personalized approach from a health-care professional for her own health. She expressed interest in learning more
about nutrition, in part, because she was getting older. In her narrative, she shared an experience she had with a personal trainer who had explained to her that to lose weight she should “eat no carbs at all.” While normally Dorothy trusted the advice of this professional because she knew she had completed a nutrition course for her certification as a trainer, in this instance she questioned her credibility. She did find herself following the guidance only to find that eliminating rice did not impact her weight loss at all. Furthermore, Dorothy’s sense of curiosity led her to experiment with foods, such as ice cream, to see the impact that they had on her body. Dorothy explained in the first interview that “There are a lot of things out there about nutrition and I feel like the media that is out there that educates people—that tells people how to eat healthy—is mostly wrong.” Dorothy expressed sincere interest and curiosity in learning information about nutrition that applied to her specifically. She knew where her weight fell on the BMI scale and monitored it carefully. She also knew that because she weighed under 110 pounds, she was ineligible to donate blood in the United States. Being within a few pounds of that weight had made her nervous in the past. However, this concern over her weight was something even her own friends did not understand. She said they called her “crazy.” In contrast, Dorothy also explained that, as a Chinese American, she was aware that messages within the Chinese American community about being thin and losing weight were rampant and resulted in “pressure” to be thin. Dorothy explained in the second interview that “being thin is what I have learned to do.”

Dorothy lived with her mother, a cancer survivor, who prepared the meals in the home for both of them since Dorothy stated that she “can’t cook” and did not “do too
much grocery shopping.” However, she was curious about nutrition and wanted to learn, but stated that she would need an abundance of information to believe any advice about nutrition and remained cautious about messages that promoted a one-size-fits-all remedy.

Sources of Knowledge

The sources of knowledge Dorothy identified included television commercials, documentaries, family, television shows from China, YouTube videos on the Internet, books, blogs, and the Chinese Twitter. In addition, like Anna and Casey, Dorothy indicated that neither a nutritionist nor a health-care provider of any type had ever talked with her about nutrition. Two main themes emerged from her sources of knowledge: (1) importance of trust and food safety; and (2) observations based on personal experimentation.

Importance of Trust and Food Safety

Trust was important to Dorothy because of the mistrust common in China, particularly with foods, because of incidents that had resulted in severe illness and even death. Dorothy also spoke about deceptive labeling practices and unsafe food sold in China, thus reinforcing her desire for trustworthiness in information and products. Dorothy referred to the FDA throughout her interviews as being the sole source for information from the U.S. government about nutrition. Perhaps this reference to the FDA was made because she was concerned more about the safety of her foods than the nutrition recommendations for foods. However, Dorothy did not refer directly to the USDA when speaking about food guidelines in the United States. Dorothy may not have been aware that the FDA is responsible for food safety and not food guidelines and may
assume that the FDA is responsible for both food safety and food guidelines. Dorothy may also be more concerned with food safety than food guidelines.

**Observations From Personal Experimentation**

Dorothy described examples of her own self-awareness in a discussion of how her body reacted to certain foods. Curiosity also leads Dorothy to do some personal experimentation as a source of information about food. From these experiments, Dorothy learned about her body’s responses to various foods and then used these observations to make other food choices. As an example, Dorothy shared that she and her mother began eating organic meats after her mother was diagnosed with cancer. She shared how her curiosity was affected by food choices:

I realized when I switched from regular meat to organic meat—when I taste the regular meat—I can taste the difference now. That and just little things that change in my life and I notice the change too in myself. That makes me even more curious.

After the first interview had been completed, during a conversation with the researcher about her deep-rooted curiosity, Dorothy remembered that there was a time when she had eaten Häagen-Dazs ice cream, which she considered to be an unhealthy food, every day for three months to see how the fat affected her body and how would her body respond to this excess fat in her diet. During the second interview, the researcher asked her to elaborate on that experiment and her personal observations:

I was really experimenting because my weight had stabilized . . . and it has not. . .had not gone up or down. So, I was just testing to see if fat was a factor for
my dieting, for being where I am with my weight. So, I tried Häagen-Dazs for a straight three months, every day. I would eat one after dinner before I would sleep, like around 9 and 10 o’clock usually when I [was] watching TV and I did not gain a pound.

When Dorothy was asked what she had learned from that experience, she responded:

Häagen-Dazs also has a really high level of sugar. And I obviously eat that before I sleep and I think one reason is that between that period of time I slept more, I went to bed earlier, and I would have better digestion or circulation, whatever you want to call it. I heard of that term before, but I never really had a chance to. . .you know. . .experimented [sic] so I guess the Häagen-Dazs part—my body completely absorbed it and it was fine. So, that is one thing that I learned.

As this example shows, this type of behavior of experimentation can be a source of knowledge about nutrition. Dorothy decided to eat, what she had identified as a high fat ice cream option, and discovered that she did not gain any weight and, in fact, slept better. This finding showed her that her body could absorb the fats in such a way that her weight was not affected. When asked what made her stop the experiment, she responded by saying “I was tired of it” and then laughed.

Messages

When Dorothy was asked to share messages about nutrition in her community she usually described messages that were indirect, which included cultural and social expectations for Chinese women to be thin. Dorothy did provide a few examples of direct messages as well.
Limited Direct Messages

Dorothy clarified that she learned about the food guide pyramid in China and in the US, but that the two countries focused on very different aspects of food with respect to food choices. She shared that in China “everybody was talking about losing weight, but there was no talking about nutrition really,” in the US she noticed a greater emphasis on nutrition, typically in the media.

In addition, Dorothy shared that between the first and the second interview she had again watched a Chinese television show online while in the US. She explained that the premise of the show was that “they talk about being healthy or what you can eat that is low calorie; it can help you stay thin.” Furthermore, the specific episode that she had watched also identified specific vegetables, “such as celery, spinach and some kind of tomato” that “will interact with your body that helps you absorb more sunlight. Therefore, you get darker easier.” The show was emphasizing that pale skin was considered beautiful in China so specific vegetables were to be avoided. She thought the message about the vegetables was interesting because she viewed it as something that “doesn’t necessarily harm my body, but it would do something else for my body.” She had observed that having a tan was something Americans generally liked and valued. The Chinese messages about food that Dorothy had retained were about being thin and beautiful, not about being healthy.

Indirect Messages Reinforcing Pressure to Be Thin

The pressure to be thin was a prominent indirect message that Dorothy described. Dorothy explained:
Everybody thinks being thin is such a great thing. So, everybody likes to be that. And everybody is losing weight. For a girl, it is forever homework. You always need to be skinny. That is just the thing. I have never stopped hearing it from people or anything.

She went on to emphasize that “Even as a young child…even. It is just the one thing you know—you can’t be fat.” This emphasis on body size was highlighted for Dorothy by clothing sizes in the United States. She shared, “I am a size medium over there [in China], but here double zero fits big on me. It is just how it is.” Dorothy recalled reports of a celebrity featured in the media who did not eat any carbohydrates (referred to as carbs), specifically rice, only steamed vegetables. She further explained that the reason the celebrity ate this way was because “People know… carbs are transformed into sugar…fat.” The norm of thinness, for Dorothy, was further emphasized by the lack of plus-sized models in China. She explained:

I would still say being thin is what I have learned to do. I don’t think….they never taught, you know, being who you are is the thing to do. They never emphasize that. So, if you want to stay skinny you have got to be small. Look at all these models, everybody is small. I think that is pretty much what I learned here too. But here, people could do more things. There are plus-sized models [in the US]. There are no plus-sized models in China at all, like I have never seen one, like ever.

Therefore, the messages about thinness were associated with messages about eating. To maintain such a thin weight would mean meeting social expectations and aligning oneself
with the accepted definition of female beauty. Dorothy did not mention eating disorders or disordered eating when discussing this pressure to be thin.

**Behaviors**

Dorothy was asked to identify and describe in the interviews her behaviors in terms of food planning techniques, her methods of preparing and serving food, and her process for determining what foods to eat. Within this category several themes emerged, including: (1) health as a factor in meals; (2) use of chopsticks and forks; (3) principles on consuming foods; and (4) food preparation practices influenced by cultural beliefs.

**Health as a Factor in Meals**

Dorothy, who lived with her mother, who does the majority of the cooking in the home, explained; “I eat whatever is there” because she knew and trusted that her mother’s cooking was healthy. When eating alone, Dorothy ate meals she described as either American or Chinese. However, when Dorothy described a meal she prepared for a group, it was usually was a lot more complex, varied, and included an Asian (usually Chinese) dish. Dorothy expressed that she would provide a variety of foods for company, served buffet style to impress the group. However, she would not forgo health even for these meals for guests. She described offering a dessert, but only water instead of soda. She might offer juice, but not apple juice, citing concerns about its sugar content.

**Use of Chopsticks and Forks**

Dorothy explained that her choice of fork or chopsticks depended on the food she was eating. Dorothy tended to eat more Asian meals, specifically Chinese ones, likely due to her mother’s cooking, and so she usually ate with chopsticks. This dichotomy in
eating preferences for both American and Chinese foods is typical of the 1.5 generation as described in Chapter 2.

**Food Consumption Principles**

Dorothy described healthy eating as consuming a variety of foods that included a concept of balance. However, she also had her own specific guidelines, or principles for food choices. For example, she believed that fruits, such as bananas, although high in carbohydrates should not be removed from a meal plan. In addition, Dorothy described typically eating fruit after dinner every night, a habit she had developed in childhood. She had, however, recently stopped eating rice at dinner. During lunch she typically had been eating a frozen entrée, but she had recently stopped eating processed foods as well, so she gave up the frozen entrées. For lunch she also frequented a local restaurant near her workplace. Her meal choices varied quite a bit from day to day. Dorothy also mentioned getting home too late sometimes to eat dinner. So, the number of meals she consumed daily might also vary. Dorothy was aware of menu labeling offered by restaurants that included nutrition information. In restaurants she looked for vegetarian options if no low-calorie food options were available. She noted that menu labeling was generally not available in Asian restaurants.

**Food Preparation Practices Influenced by Cultural Beliefs**

As noted above Dorothy did not cook much of her own food, but was aware of her mother’s cooking practices. For example, Dorothy emphasized that when her mother cooked meat she would “let the blood drain out first. And then you eat it that way, so, you know. It is not as much—I call it dirty stuff that you eat. So, she does that now. She
soaks it in water and all the blood comes out.” Dorothy, like Anna who had also discussed letting blood drain from the meat before preparation, did not discuss concerns over possible transmission of bacteria to the kitchen during this process of cleaning meat. The focus was solely on removing the contaminants in the blood.

**Delivery of Nutrition Education**

Dorothy’s discussion of what would change her mind about the types of foods that she was eating and how she would want to have nutrition education provided to her falls into the delivery of nutrition education category. In the data analysis of this category, the researcher included pertinent data from other categories of the interviews with Dorothy. Several themes emerged from Dorothy’s perspective that belong in this category, including: (1) the unique physical needs identified for Chinese Americans; (2) being doubtful of general recommendations; (3) the decision-making process (which includes a sense of curiosity and the desire to make an informed choice); (4) wanting to be respected; and (5) gaps in knowledge.

**Unique Physical Needs**

Dorothy expressed a desire to be treated as an individual with specific and unique needs as a Chinese American woman and to be provided with personalized nutrition education. She was critical of her personal trainer’s general guidance to eliminate carbohydrates from her diet as she felt this information was not specific to her and her needs. The trainer seemed to be unaware of the cultural and personal reasons Dorothy had for including carbohydrates in her diet. Dorothy also believed that there were physical and, potentially, genetic differences that differentiate the Chinese community.
from other ethnic groups and that result in unique nutrition needs. For example, Dorothy shared:

I feel like I was born to eat carbs. I digest carbs a lot better than a lot of other people probably, genetically. I still have that doubt, you know, before I know what my body can take. Like I said, I want to go to a nutritionist and really know.

Dorothy stressed the idea that something was different in this community. Furthermore, she felt these differences could account for their lean body types and ability to eat a variety of foods without gaining weight, as exemplified in her three-month ice-cream-eating experiment (discussed in the sources of knowledge category). Of course, Dorothy’s findings vis-à-vis the ice cream may not be applicable to anyone else, regardless of the ethnic group. Finally, Dorothy also suggested that health-care providers and nutrition educators should consider tailoring messages to focus on beauty and not health, since “people care about how they look.”

**Doubtful of General Recommendations**

While Dorothy explained that her level of trust in nutrition recommendations was, generally, higher in the US, she also described almost an instinct, or gut reaction, of not trusting when approached with ideas. However, she did believe that food was safe in the US and would, in general, trust a well-trained professional knowledgeable about her unique needs. She did explain her doubts about nutrition recommendations that reflect a one-size-fits-all approach. She questioned the accuracy of this type of information and stressed that wanted information that was right for her.
Decision-Making Process

Two main themes emerged from Dorothy’s perspectives with regard to her decision-making process for identifying, receiving, believing and seeking nutrition education: (1) curiosity; and (2) wanting to make an informed choice.

Curiosity. Dorothy described herself as someone who was curious to learn more about how the foods she ate affected her body. She explained that she sought information in an effort to “understand [her] body.” She wanted to understand topics such as insulin levels and how they were affected by diet. Curiosity guided her personal experimentation with foods and her drive to learn more about her body, and thus, ultimately some of her behaviors. Furthermore, her initial response to information about nutrition, such as the recommendation from her personal trainer to stop eating carbs to lose weight, fueled her curiosity about foods even further. In the second interview, Dorothy also recounted a conversation she had had with her mother about their thoughts on why Chinese living in China were so much thinner than those in the United States. They started to wonder if the environment in China could actually be protecting residents from weight gain, despite high levels of pollution.

Wants to make an informed choice. Dorothy emphasized her desire to really “understand” her body and to know more about her insulin levels, for example, not because she thought she might be diagnosed with diabetes, but because she simply “want[ed] to know the information.” Due to the overload of information available to consumers about food and nutrition, Dorothy further explained:
I think it is important that people know how our bodies absorb everything and how these companies make these things for us to take. Like, what kind of side effect we could have or how important it is for us to know these things so people can make their own choices.

Dorothy was the only participant who indicated that she was interested in communicating directly with a nutritionist because she wanted to “really know,” specifically, “what my body can take” so she could make informed choices about her nutrition.

**Wants to be respected.** Dorothy was hesitant about speaking to a professional about nutrition because when she talked to her friends about losing weight they told her that she was “crazy,” because she was already thin. Dorothy wanted to speak to someone openly and honestly about nutrition who would not judge her and who would respect her personal needs and lifestyle. She needed to be able to share her questions and concerns with someone that took her seriously and shared a mutual understanding about maintaining weight within the BMI guidelines.

**Gaps in Knowledge**

In response to a question about what she would like to learn about nutrition, Dorothy expressed interest in learning more about how specific ingredients, such as sodium, affect the body. She was particularly interested in sodium because it is in soy sauce. Dorothy also explained that she felt her mother had knowledge about food qualities that she herself did not. For example, Dorothy shared a story in the second interview about her mother’s ability to determine, by sniffing Chinese vinegars, “the ones made from chemicals and the ones made from rice.” This observation alarmed Dorothy
because she realized that she could not tell one vinegar from another and might, thus, mistakenly purchase vinegar made with chemicals. Furthermore, Dorothy believed that “health-care providers should know” which types of foods might be processed with potentially harmful substances because “this kind of information is important to people” who consume these products.

**Overall Findings for Dorothy**

Dorothy is a 1.5 Chinese American woman who identifies herself as half-American and half-Chinese. Dorothy’s mother cooks a majority of her meals. She trusts her family and friends and uses personal experimentation to learn information about nutrition. Most messages about nutrition of which she is aware are indirect messages that promote thinness rather than health. Dorothy will eat both Chinese and American meals, but tends to eat mostly Chinese meals since her mother is the primary cook in the home. She is interested in speaking with a nutritionist in the near future because she is genuinely curious about her own body with regard to nutrition. She values a personalized approach to her health based on her background and current lifestyle. Dorothy would like to learn more about ingredients, such as sodium, in foods she consumes and how these ingredients may affect her.

**Summary**

Chapter 7 provided a discussion of the findings for Dorothy. Specifically, the chapter covered her experiences and perspectives that surfaced in her narrative and her two interviews. Furthermore, the chapter included a discussion of the themes that emerged for Dorothy with regard to these categories: (1) experiences; (2) sources of
knowledge; (3) messages; (4) behaviors; and (5) delivery of nutrition education. Chapter 8 offers a conclusion of the study and responses to each of the research questions.
CHAPTER 8

Conclusions

This chapter provides an overview of the study’s findings, followed by a discussion of how these findings relate to the conceptual framework introduced in Chapter 1, along with an explanation of how the study informed each of the research questions. The limitations of the study are considered, and a discussion of the implications and recommendations for programs, policies, training and further research on nutrition education for 1.5 generation Chinese American women is presented.

Overview of Findings

This study explored the perspectives among 1.5 generation Chinese American women regarding nutrition education in the United States. It is important to understand the perspectives of these women because Asian Americans, including Chinese Americans, are at an increased risk for chronic diseases such as Type 2 diabetes at a lower BMI than their White counterpart (WHO, 2004). Furthermore, at least 25% of Chinese Americans report being either overweight or obese (Barnes et al, 2008). It is critical to discover if nutrition education in the United States is in accordance with USDA recommendations. Using the case-study method and the Three Tier Approach, the study contributes to what is currently understood about nutrition education, to the Health Belief Model, and to the socio-ecological sectors of influence on an individual’s food choices.
Specifically, the research explored: (1) critical incidents; (2) experiences; (3) sources of knowledge; (4) messages; (5) behaviors; and (6) delivery of nutrition education among 1.5 generation Chinese American women.

As described in Chapter 1, the focus of this study is based on the main tenets of two theoretical models about health. The first, the Health Belief Model, suggests that if people perceive a health risk, this perception may facilitate their positive behavior change. If the model is correct, then the goal of nutrition education with respect to 1.5 Chinese American women should be for health-care professionals to be prepared to: 1) provide this group with information about health conditions particular to them, as an ethnic group; and (2) support the change of behavior that should occur, according to the model, as a result of this information. A key to this model is considering what messages are communicated, to whom the messages are communicated, how they are communicated, how they are received, and what impact the messages may have had on the target audience in terms of knowledge, beliefs, attitudes, and behaviors. The second model presented, the socio-ecological model (see Figure 2), was used in the development of the *Dietary Guidelines for Americans*. It emphasizes the various ways that individuals are influenced to choose foods. The model is composed of four concentric circles, representing the levels of influence on individuals in their food choices. At the center of the model is the individual with his or her knowledge and beliefs about making food choices. The next circle of influence is an individual’s cultural values, which can include cultural practices and traditions in terms of making food choices. The next circle of influence is health systems, which, in this model, include health-care providers, such as
doctors, nurses, and nutrition educators (USDA and HHS, 2010). The outer circle of influence is policies, which include the *2010 Dietary Guidelines for Americans* (USDA and HHS, 2010). These guidelines could be shared with the health system in a culturally appropriate way to influence how individuals make food choices.

This model also calls attention to what messages are communicated to individuals, to whom the messages are communicated, how they are communicated, how they are received, and what impact the messages may have on 1.5 generation Chinese American women in terms of their knowledge, beliefs, attitudes, and behaviors. Accordingly, messages should be delivered to this population of women in a culturally and linguistically appropriate manner to impact their behaviors related to nutrition effectively. This study provided an in-depth exploration through three case studies using a Three Tiered Approach, which revealed their experiences with nutrition education, identified who was actually delivering the nutrition education messages, what those messages were, and what influence the messages had, if any, on individual behaviors.

The data were first analyzed across the five participants who completed Tier One using a constant comparative method (Creswell, 2007) to identify themes for the critical incident category. Next, an intrinsic case study method (Hancock & Algozzine, 2006) was used for each of the three participants who completed all three tiers. Analysis for the cases was framed according to the categories selected for the study, which aligned with the key elements of the socio-ecological model used by the USDA in the development of the *2010 Dietary Guidelines for Americans* (USDA and HHS, 2010). The key elements of the study’s categories in Tiers Two and Three included: (1) experiences; (2) sources of
knowledge; (3) messages; (4) behaviors; and (5) delivery of nutrition education. The results of this research are an aggregate of the data that are intended to contribute to a new body of research that can inform nutrition educators, including health-care professionals, about 1.5 generation Chinese American women’s thoughts on how effective culturally competent nutrition education can be communicated to this high-risk community. The study was not developed to provide results that are generalizable to the Chinese American community. These results are relevant to the unique needs of the 1.5 generation. The Chinese American community is not the sole community with a 1.5 generation. Individuals of the 1.5 generation can also be a part of other populations emblematic of a larger issue among populations. Furthermore, the unique needs of this specific group were evident in this study’s findings.

The analysis of the full data set was ongoing and hermetic. Upon review of all the data analysis from the narratives of the critical incidents and then from each case, it was possible to address the research questions. The research questions addresses in the study included:

1. What types of critical incidents have 1.5 generation Chinese American women experienced with nutrition education in the United States?
2. What are the sources of knowledge for 1.5 generation Chinese American women on nutrition?
3. What nutrition education messages do 1.5 generation Chinese American women receive on nutrition?
4. Based on the experiences, sources of knowledge, and nutrition education messages, what do 1.5 generation Chinese American women recommend as effective methods in delivering nutrition education to the Chinese American community, and particularly to women?

Data used to answer the first question included all five participants’ critical incidents with nutrition education. In each case, it was not the norm for these 1.5 generation Chinese American women to have conversations with health-care professionals and nutritionists. Instead, information about nutrition was obtained from the community, and in a wide variety of ways, such as from their peers and family members. The participants in this study were largely questioned about their food choices by their friends or family. These questions highlighted a lack of nutrition knowledge from others. The experience of being approached regarding their food choices often resulted in a curiosity to learn more about themselves. They would then find themselves looking for sources of knowledge outside of family and friends.

The second research question explored these participants’ sources of knowledge. For information about nutrition, they turned to friends, family, the Internet, documentaries professionals (i.e., a personal trainer), television shows, YouTube videos, blogs, and observations from personal experimentation. Furthermore, these sources of knowledge were typically identified as trustworthy, except in the case of a personal trainer who offered general one size fits all recommendations. Participants indicated that as part of the cultural values in this community, family members often teach the children differences between healthy and unhealthy foods. Although the definitions of healthy eating provided by all the
participants varied (as indicated in Table 5), each participant was able to identify the source of this knowledge.

Table 5

*Participants’ Definitions of Healthy Eating*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anna</td>
<td>Maintaining a balance of foods</td>
</tr>
<tr>
<td>Casey</td>
<td>Eating low-carb, low-sugar, and low-calorie foods</td>
</tr>
<tr>
<td>Dorothy</td>
<td>Consuming an appropriate portion and the right vitamins</td>
</tr>
</tbody>
</table>

Messages from the sources of knowledge could be either direct or indirect. Direct messages included, for example, instruction about the food guide pyramid or a Chinese saying about taking responsibility for personal health at the age of 30. Indirect messages included, among others, cultural and social expectations of Chinese women. For example, the expectation that Chinese women should be thin is an indirect message. This generation of Chinese American woman is exposed to varied sources of knowledge. However, none of the participants identified health systems and policies as one of their sources. They did receive formal information about nutrition education at school in the United States and in China. However, after completing high school in the US and learning about the food guide pyramid, participants indicated that they had not encountered any other formal nutrition education opportunities where they could learn the recommended guidelines developed by the USDA. This information on sources implies that it is important to consider additional and subsequent routes for
communicating updated nutrition education, such as the Choose MyPlate method, to 1.5 generation individuals as they age.

The fourth research question addressed what methods 1.5 generation Chinese American women consider effective in delivering nutrition education to the Chinese American community, particularly to women, based on the messages themselves and their experiences with nutrition education in the United States. It is important to recognize that 1.5 Chinese American women have unique needs, both physically and culturally. They may be cautious, even doubtful, when initially approached with information about nutrition education. However, they are curious and want information to make informed choices about their food and nutrition. It is critical to provide an abundance of information and examples of personal stories from other Chinese Americans who have benefitted from similar guidance to demonstrate validity of the nutrition education. The 1.5 generation Chinese American women do have specific questions about their own bodies and want to be treated with respect by a health-care provider or nutritionist when discussing nutrition, despite the fact that many are on the low side of their weight range.

Although limited disaggregated studies on Chinese Americans exist, the results of this study align with key findings of prior studies. For example, Satia et al., (2000) also reported that friends were a source of information on nutrition for Chinese American women. However the participants in that study were Chinese American women in their mid-50s with limited English proficiency living in Seattle, Washington. Satia et al. (2000) also reported that Chinese American women were not getting information from their health-care providers on nutrition, and Ngo-Metzger et al. (2004) found that Asian
Americans, including Chinese Americans, were not being offered nutrition counseling. Therefore, this study corroborates prior studies’ findings that Chinese Americans simply are not being offered nutrition education.

In this study, participants indicated that they would like health-care professionals to be knowledgeable about their unique physical needs and able to discuss these with them. Ngo-Metzger et al., (2004) stated that physicians may just not be aware of specific diseases prevalent in this population, such as obesity, and, for example, an elevated risk for Type 2 diabetes. Lack of knowledge about disease prevalence within communities limits their ability to interact with patients. Furthermore, Ngo-Metzger et al. (2003) also found that Chinese Americans want their health-care providers to be knowledgeable about non-Western beliefs and practices and offer an environment where open communication can occur. This study has found specific information that 1.5 Chinese American women believe makes them unique and, additionally, provides some information on what this population thinks a health-care provider or nutritionist should know to develop culturally appropriate messages on nutrition for them.

This study’s uniqueness lies in its reliance on participants to derive their own recommendations for the delivery of nutrition education. Liou and Bauer (2007) identified factors that can encourage healthy practices, but did not spell out how to deliver messages and what types of messaging would be effective for Chinese Americans. Satia et al. (2000) suggested delivering nutrition education messages via newspapers, places of worship, and other social institutions to increases awareness among Chinese Americans on nutrition. In this study, participants did not discuss
newspapers as a source of information, but identified other sources. This new information should be considered in the development of outreach efforts.

The recommendations of the participants in this study may help to bridge the gap between the individual and the healthcare system that exists for 1.5 Chinese American women in terms of the sectors of influence. The 1.5 generation Chinese American women do not receive nutrition education and do not know the recommendations based off the Dietary Guidelines for Americans. These guidelines also include a policy component in the socio-ecological model used by the USDA in the development of the 2010 Dietary Guidelines for Americans (USDA and HHS, 2010). Therefore, an important step in identifying the nutrition education needs of 1.5 generation Chinese American women is to ensure that nutrition educators and health-care professionals hear the recommendations of this group. These perspectives is information that is critical to the development of culturally appropriate materials.

**Study Boundaries**

This study had limitations in the areas of participant recruitment, cross-cultural and participant demographics, and validity.

**Recruitment**

Due to the specific demographic criteria for the study, locating participants proved difficult. Over a period of seven months, the researcher sent over 350 e-mails to a variety of individuals and organizations including, but not limited to, newspaper editors, places of worship, community organizations, clinics, young professional organizations, and institutions of higher education. One of the community organizations even translated the
recruitment information into Chinese and then included it in a local newsletter. Recruitment was also conducted in various locations in the D.C. metropolitan area, including popular Chinese bakeries, grocery stores, and restaurants. Although many people expressed interest in participating, most had to be excluded as they did not meet all of the demographic criteria, specifically the age at immigration and current age. Even though the researcher had identified effective gatekeepers to Chinese Americans, the restrictive demographics made recruitment challenging.

Furthermore, the demographic requirements did not address socioeconomic status (SES) because it may have further limited who could participate in the study. However, it may be useful to know the SES of participants as it may impact their food related behaviors. Nonetheless, five participants did complete Tier One of the study and of those five, three participants completed Tiers Two and Three. Their input is an important contribution to the literature on the perspectives of 1.5 generation Chinese American women on nutrition education in the United States.

**Cross-Cultural Research**

Another challenge to recruitment was the fact that the researcher is a White, European-American, clearly an outsider with respect to the Chinese American community (Purnell, 2009). Trust is a critical element in this type of research. During the recruitment process, the researcher was asked to discuss the expected benefits of the research with the Chinese American community and how the data would be used. Not only were the researcher’s perspective and background different from those of the participants, but the participants, also, were not homogeneous with respect to their
perspectives and backgrounds. They did, however, have some similarities. Given these similarities and differences, although the researcher provided a transparent account of the data to be collected, how it would be used, and how it could be valuable to the participants, it is possible that the cross-cultural factor could have been a limitation. Additionally, although member checks were used to confirm the data provided in the study, the data analysis was subject to possible cultural bias in the researcher’s interpretations of the participants’ perspectives.

**Participant Demographics**

While participants may have met the study criteria, they may have also lived in other places during other times of their lives that were not captured in the demographic requirement. All the participants who volunteered for the study were born in urban areas of China (Shanghai or Beijing). Participants born in a rural part of China would likely have had different perspectives. Furthermore, the women that participated in all three tiers of the study expressed a genuine interest in learning about nutrition. Their attitude may not be reflective of all Chinese American women who meet the study demographics. Moreover, the women who chose to participate could have been drawn to the study by a pre-existing interest in this topic of nutrition education. They may have chosen to participate so they could share their thoughts on nutrition. It is also possible that the participants in the study may also have had an interest in the topic prompting their participation. Furthermore, participants may have faced the challenge of recalling formal nutrition education they received as children in China or after moving to the US, particularly if it had not been meaningful or significant to them. Finally, all the
participants in the study expressed concern about their inability to recall specific pieces of information from their childhood, yet expressed their desire to provide accurate answers. Again, the questions may have touched on topics they did not pay particular attention to when they were children, as they likely just followed the guidance of their parents. Nonetheless, they had some memory of the information so it must have stood out for them in some critical manner.

**Validity**

The original intention for the study was to recruit 15 participants that met all the demographic criteria. However, a total of five participants volunteered for Tier One of the study and three participants volunteered for Tiers Two and Three, therefore limiting the research to a smaller sample size than anticipated. Due to this smaller sample size, a cross analysis of the data was not appropriate. Without this additional analysis, the discussion of comparisons of experiences is limited.

**Implications**

The results of the research are intended to help further develop a body of research that can inform nutrition educators, including health-care professionals, about how 1.5 generation Chinese American women believe that effective culturally competent nutrition education can be communicated to this high risk community. The study was not developed to provide results that are generalizable to the Chinese American community. However, its focus on uncovering the unique needs of a particular population is transferable to other studies. The findings in this study are emblematic of a larger issue. Different populations have special nutrition needs, which need to be addressed through appropriate nutrition education. The
unique needs of this specific group were evident in the findings. For example, the participants raised the concept of healthy aging. However, they felt they could delay focusing on this issue until later in life, possibly 10 to 20 years in the future. Clearly, they were unaware of how current health behaviors can affect health later in life. This disconnect suggests a need for health-care professionals to educate patients on this point. These nutrition education messages are critical to this high-risk community in general, but also specifically to the women of childbearing age who may one day raise a family and pass on their nutrition knowledge to their children. Furthermore, it is important to consider their nutrition knowledge and behaviors prior to conception and during their pregnancy.

In addition, the women in this study reported receiving messages about food from childhood that focused on losing weight for the sake of beauty, not for health. It is quite possible that these women have never received messages about their need to maximize their health and maintain an appropriately low BMI to protect against chronic disease. Again, this lack of information implies a disconnect between the need for knowledge on nutrition and health and the content of current messages. This gap in knowledge also suggests that their family members, particularly their parents, may not have received or may not be currently receiving nutrition education either. Health-care professionals may want to think about how to share culturally appropriate messages with this community. Furthermore, they should consider what nutrition messages these participants have received in the past and use that information to develop suitable messages for 1.5 generation Chinese American women and their families.
Recommendations

The results of this study are useful to nutrition educators and health-care professionals. Four major recommendations, in addition to recommendations for future research, are identified as a result of the findings of the study. The recommendations are based on a synthesis of the data collected from the participants and analyzed by the researcher. The three recommendations developed specifically for nutrition educators are that these professionals should: (1) offer culturally appropriate nutrition education to the 1.5 generation Chinese American women; (2) offer this education consistently; and (3) use a wide variety of outreach approaches to deliver nutrition education. Each recommendation would be strengthened through collaboration between nutrition educators and health-care professionals as they are all in the health systems sector of influence according to the ecological model described previously. The recommendations identify individuals served by nutrition educators and health-care professionals as patients, however not all individuals with whom a nutrition educator engages are their patients. A nutrition educator or health-care professional may interact with an individual that they do not formally serve in a traditional client relationship. Therefore, the recommendations may also apply to individuals who engage with a nutrition educator generally such as in a community fair or classroom.

Recommendation 1: Nutrition Educators Should Offer Culturally Appropriate Nutrition Education to 1.5 Generation Chinese American Women

This study provides the varied perspectives of five 1.5 generation Chinese American women on nutrition education. The findings of this study indicate that the women of this generation make both Chinese and American food choices. Depending on the food, 1.5
Chinese American women eat with either forks or chopsticks, emphasizing that messages geared to these women should be tailored accordingly. In addition, the women indicated that messages often linked food with the need to be thin rather than eating in a nutritious manner. Those who immigrate to the US can receive messages about nutrition that conflict with their cultural values and beliefs about food and practices. The findings presented here emphasize that nutrition education for 1.5 generation Chinese American women needs to be personalized with respect to their food preferences, cultural values, and bicultural needs. Specifically, the education should not only be informative, but also motivational. Furthermore, the images of foods and tools used to eat the foods, such as forks and chopsticks, used in these messages should reflect this group’s diversity in food choices, including food preparation and types of foods consumed.

This recommendation is not limited to 1.5 generation Chinese American women. The concept that specifically tailored nutrition education is needed is applicable to the 1.5 generations of all cultural and ethnic groups. It is also important to consider that the participants in this study lived in China 10 to 15 years ago and much has changed in China since then. Therefore, future 1.5 generation immigrants from China, and from other countries, may have new perspectives. This constant evolution further emphasizes the need to develop appropriate nutrition education and keep it current.

**Recommendation 2: Nutrition Education Should Be Offered Consistently**

Findings from this study indicate that participants lacked information about the general guidelines for nutrition in the US. Although, some were curious about the role of nutritionists, they did not know that these professionals can provide personalized
recommendations based on lifestyle, cultural practices, taste preferences, and medical needs. The role of the nutritionist should be explained to the 1.5 generation. Participants were also not aware of the USDA’s Choose MyPlate method and described conflicts in nutrition messages they have received. Participants described seeking nutrition information from sources with limited professional expertise in nutrition. Therefore, a culturally appropriate education on nutrition could help to increase the knowledge about the Dietary Guidelines recommendations for Americans. When discussing nutrition, it is important to identify resources available to individuals, their family members, and their communities. Furthermore, if nutrition education is consistently available, the intended audience for this education may begin to understand that these resources are credible and turn to them regularly for information and support.

Promoting healthy communities relies on using consistent messaging about food and nutrition. Participants will benefit from the information nutrition educators and health-care professionals can provide on the role of the nutritionist and the services these professionals offer. Professional organizations that represent nutritionists which may also offer certification for nutritionists, need to identify effective methods for advertising the health benefits of working with a nutritionist. To ensure continuity in nutrition messages communities would benefit if health educators worked with nutritionists and the health-care community as a whole to strengthen the messages and identify opportunities to engage with diverse communities. Community leaders could also contribute to this effort by continuing to develop and provide environments that promote nutrition and nutrition education.
This study implies that it is important for health-care professionals and nutritionists, in particular, to listen to their patients to learn about and understand their unique needs. Such a needs analysis is critical in determining what challenges the patient client faces so that the practitioner can offer specific and tailored feedback. Simply providing guidance without listening to the patient may result in one-size-fits-all messages that do not address a patient’s specific and unique concerns. Furthermore, this study demonstrated that two individuals of the same current age, who immigrated at the same age, and who share an immigration and racial/ethnic background, do not necessarily have the same perspectives, belief systems, or eating patterns. Therefore, health-care system policies should specify that nutrition education be consistently offered and that nutrition educators who have been trained to deliver culturally appropriate nutrition education be available and accessible.

Recommendation 3: Nutrition Educators Should Use a Wide Variety of Outreach Approaches to Deliver Nutrition Education

The participants in this study were not aware of the Choose MyPlate method. However, they were familiar with the food guide pyramid, which has not been formally in use since 2010. This state of affairs suggests that the USDA’s messages about the Choose MyPlate method are missing this community. More outreach should be implemented across communities to ensure that the Choose MyPlate messages are being sent and received. In this study, media, especially YouTube, was a significant source of knowledge for participants. However, many of the videos were not made by professionals in the field of nutrition. The videos were made by ordinary individuals who wanted to share their stories online. At present, as there are no requirements concerning the accuracy of the nutrition education
content posted on YouTube, it is quite possible that incorrect, and possibly harmful, information is being shared with viewers. Since none of the participants in this study were familiar with the USDA Choose MyPlate method, it might be helpful to make videos available to the public, including, of course, the Chinese American community. Such videos could explain this method, provide examples of meals, and share the personal stories of individuals who have achieved some type of success with their health through using this method. The videos would explain upfront the role of the USDA in nutrition education and indicate that the material had been produced in collaboration with the USDA, following USDA recommended guidelines. As new technology becomes accessible, it is important to take advantage of the variety of approaches available, such as tele-medicine, to deliver nutrition education to 1.5 generation Chinese American women.

**Suggestions for Further Research**

As a result of this study, several recommendations for further research are warranted. First, additional research involving more 1.5 Chinese American women participants is needed to build on the findings of this study to further understand this group’s perspectives on nutrition education. Due to the recruitment challenges for this study, future researchers may want to consider widening the definition of the 1.5 generation to include individuals who arrived in the US prior to the age of 12. For recruitment efforts, researchers may consider offering financial incentives to gatekeepers and to the participants to increase participation. Nutrition educators would further benefit from additional research examining how socioeconomic status affects the 1.5 generation’s perceptions of nutrition education in the United States. Interviewing participants from a wide range of income levels about their
experiences of with nutrition education may unveil further discoveries. Nutrition educators would benefit from exploring the knowledge of nutrition of women from other cultural groups. Furthermore, it may be valuable to determine if USDA nutrition education messages are reaching women between the ages of 18 to 22 and 30 to 45 to understand if knowledge about nutrition education is limited among women of specific age ranges. In addition, future research can assess how nutrition education efforts coordinated with the USDA messages are perceived by participants. The results would help inform educators about the extent to which these messages have an impact on healthy eating. Finally, it might also be beneficial to nutrition educators to focus on specific meals consumed by 1.5 generation Chinese Americans to assess their nutrition content. Data about food consumed could help determine if the American and Chinese meals members of this generation prepare in the home meet USDA nutrition guidelines.

Summary

Chapter 8 provided the final conclusions of the study. The chapter first provided an overview of the study’s findings and examined each of the study’s research questions. In addition, the chapter addressed the limitations and presented implications of the study. The chapter also provided recommendations from the study’s findings and discussed further research in nutrition education.
APPENDIX A

National Standards on Culturally and Linguistically Appropriate Services (CLAS)

Principal Standard:
1. Provide effective, equitable, understandable, and respectful quality care and services that are responsive to diverse cultural health beliefs and practices, preferred languages, health literacy, and other communication needs.

Governance, Leadership, and Workforce:
2. Advance and sustain organizational governance and leadership that promotes CLAS and health equity through policy, practices, and allocated resources.
3. Recruit, promote, and support a culturally and linguistically diverse governance, leadership, and workforce that are responsive to the population in the service area.
4. Educate and train governance, leadership, and workforce in culturally and linguistically appropriate policies and practices on an ongoing basis.

Communication and Language Assistance:
5. Offer language assistance to individuals who have limited English proficiency and/or other communication needs, at no cost to them, to facilitate timely access to all health care and services.
6. Inform all individuals of the availability of language assistance services clearly and in their preferred language, verbally and in writing.
7. Ensure the competence of individuals providing language assistance, recognizing that the use of untrained individuals and/or minors as interpreters should be avoided.
8. Provide easy-to-understand print and multimedia materials and signage in the languages commonly used by the populations in the service area.

Engagement, Continuous Improvement, and Accountability:
9. Establish culturally and linguistically appropriate goals, policies, and management accountability, and infuse them throughout the organization’s planning and operations.
10. Conduct ongoing assessments of the organization’s CLAS-related activities and integrate CLAS-related measures into measurement and continuous quality improvement activities.
11. Collect and maintain accurate and reliable demographic data to monitor and evaluate the impact of CLAS on health equity and outcomes and to inform service delivery.
12. Conduct regular assessments of community health assets and needs and use the results to plan and implement services that respond to the cultural and linguistic diversity of populations in the service area.

13. Partner with the community to design, implement, and evaluate policies, practices, and services to ensure cultural and linguistic appropriateness.

14. Create conflict and grievance resolution processes that are culturally and linguistically appropriate to identify, prevent, and resolve conflicts or complaints.

15. Communicate the organization’s progress in implementing and sustaining CLAS to all stakeholders, constituents, and the general public

Citation:
APPENDIX B

Recruitment E-Mails and Ads

Email to send to gatekeepers that the researcher knows:

Hi (insert name),

I hope that this email finds you well. As you know, I have been working on my dissertation research over the past few months. I am now ready to start recruiting! I can really use your help. I am interested in speaking with participants that meet the following criteria:

- A woman born in mainland China
- Immigrated to the US between the ages of 12 and 15
- Currently between 22 and 30 years of age

Is there anyone that you know that may meet these criteria? If so, could you email them this link?

http://healthy.gmu.edu/Nutrition-Education-Perspectives.aspx

There are two parts of the survey. In part one, participants will be asked to verify that they meet the research criteria. In part Two, they will be asked to share an experience they have had with regard to nutrition. Responses must be written in English. This survey should take no more than 15 minutes. Upon completion of this survey participants can be entered into a drawing for a $50 Amazon.com gift card.

Participants who live in the DC metro area (up to 100 miles away from Fairfax, VA) will be invited to participate in two face-to-face interviews in a convenient location to further discuss their thoughts and experience with this topic. I will drive to meet the participant in a location that is convenient for them. As compensation, participants who complete the Two interviews will receive a $25 Amazon.com gift card for the first interview and an additional $25 Amazon.com gift card for the second interview, for a total of $50 (in Amazon.com gift cards), after each interview has been completed.
Thank you for your help in this research. Please feel free to pass this on to others that may be eligible and interested in helping.

Thanks!

Diana

Email to send to gatekeepers that the researcher does NOT know:

Hi (name of contact),

I received your name from (name of referee). I am a Doctoral candidate at George Mason University. I am currently conducting research to explore the perceptions of Chinese American women regarding nutrition education in the US. I am currently recruiting participants to complete an online questionnaire (that includes a written narrative). Do you know anyone that meets the following criteria?

- A woman born in mainland China
- Immigrated to the US between the ages of 12 and 15
- Currently between 22 and 30 years of age

Is there anyone that you know that may meet these criteria? If so, could you email them this link:

http://healthy.gmu.edu/Nutrition-Education-Perspectives.aspx

There are two parts of the survey. In part One, participants will be asked to verify that they meet the research criteria. In part Two, they will be asked to share an experience they have had with regard to nutrition. This survey should take no more than 15 minutes. Responses must be provided in English throughout the study. Upon completion of this survey participants can choose to be entered into a drawing for a $50 Amazon.com gift card.

Participants who live in the DC metro area (up to 100 miles away from Fairfax, VA) will be invited to participate in two face-to-face interviews in a convenient location to further discuss their thoughts and experience with this topic. I will drive to meet the participant in a location that is convenient for them. As compensation, participants who complete the Two interviews will receive a $25 Amazon.com gift card for the first interview and an additional $25 Amazon.com gift card for the second interview, for a total of $50 (in Amazon.com gift cards), after each interview has been completed.
Thank you for your help in this research. Please feel free to pass this on to others that may be eligible and interested in helping.

Thanks!

Diana Karczmarczyk

Email to send to potential participants:

Good day (name of possible participant),

My name is Diana Karczmarczyk. I am PhD student at George Mason University. I am currently conducting research to explore the perceptions of Chinese American women regarding nutrition education in the US. I am currently recruiting participants to complete an online questionnaire (that includes a written narrative).

If you are a woman who was born in mainland China, immigrated to the US between the ages of 12 and 15 and are currently between 22 and 30 years of age, please consider completing the following brief survey:

http://healthy.gmu.edu/Nutrition-Education-Perspectives.aspx

There are two main parts of the survey. In part One, you will be asked to verify that you meet the research criteria. In part Two, you will be asked to share an experience you have had with regard to nutrition. This survey should take no more than 15 minutes. Responses must be provided in English throughout the study. Upon completion of this survey you can enter into a drawing for a $50 Amazon.com gift card.

If you live in the DC metro area (up to 100 miles away from Fairfax, VA) you will be invited to participate in two face-to-face interviews in a convenient location to further discuss their thoughts and experience with this topic. I will drive to meet you in a location that is convenient for you.

As compensation, participants who complete the Two interviews will receive a $25 Amazon.com gift card for the first interview and an additional $25 Amazon.com gift card for the second interview, for a total of $50 (in Amazon.com gift cards), after each interview has been completed.

Thank you for your help in this research. Please feel free to pass this on to others that may be eligible and interested in helping.
Best,

Diana Karczmarczyk

Newspaper ad text:

A PhD student at George Mason University is recruiting Chinese American women for a study about nutrition education in the US. If you:

- Were born in mainland China and
- Moved to the US between the ages of 12 and 15 and are
- Currently between 22 and 30 years of age

Please visit http://healthy.gmu.edu/Nutrition-Education-Perspectives.aspx to participate in the research. By participating you can enter a drawing for a $50 gift card to Amazon.com. Participants who live in the DC metro area can participate in 2 follow up interviews and receive two $25 Amazon.com gift cards.
APPENDIX C

Written Narrative

The written narrative was part of Tier One of the proposed research design. The questions were available for all participants to answer online using Checkbox. Participants were asked to answer demographic questions to determine their eligibility and were then provided the following writing prompt. All responses were required to be written in English.

Prior to beginning Tier One, the participant was provided with the informed consent document. Participants were also informed that "While it is understood that no computer transmission can be perfectly secure, reasonable efforts will be made to protect the confidentiality of your transmission."

Written Narrative

Directions: The purpose of this study is to better understand the perspectives of Chinese American women living in the US about nutrition education. There are four parts to this survey. Part one will determine your eligibility to participate in the research. Part Two is an opportunity for you to write about a specific experience that you have had. Part Three is an invitation for participants who live in the Washington, DC metro area to participate in two interviews. Part four is an invitation to enter a drawing for a $50 Amazon.com gift card.

Part One:
Please answer the following questions.
1. Were you born in mainland China?
   Yes
   No

(Participants must answer YES to be eligible to participate)

2. Did you immigrate to the US between the ages of 12 and 15?
   Yes
   No
(Participants must answer YES to be eligible to participate)

3. What is your gender?

   Male
   Female

(Participants must answer FEMALE to be eligible to participate)

4. Are you currently at least 22 years old and no older than 30 years old?

   Yes
   No

(Participants must answer YES to be eligible to participate)

Programming Note: Participants who do not meet the criteria for the study will receive the following message and will not be able to proceed with part Two:

*Thank you for taking the time to complete the survey. At this time, the research is limited to women who were born in China and moved to the US between the ages of 12 and 15. All participants must be between 22 and 30 years of age. If you feel you have received this message in error, please contact Diana Karczmarczyk via email at dkarczma@gmu.edu. Thank you*

**Part Two:**
Think back on a time when you had an experience that stands out for you when the way that you eat your food, the types of food that you ate and/or the amount of food that you ate were questioned.
Please write about this experience and consider discussing the following:

- What was questioned? What was the issue about?
- How did this experience happen?
- Was it a person that questioned you? Was it a family member or friend?
- Did you get questioned by something that you read or saw (maybe on TV)?
- Where did it take place? Was it in a private setting or were you out in public?
- How did this make you feel?
- How did you respond?

**Part Three:**
If you live in the DC metro area (up to 100 miles away from Fairfax, VA) and are interested in being contacted for an interview to further discuss your thoughts and experience with this topic please provide your first name and a contact phone number.
and/or email address below. All interviews will be conducted in English. If you agree to an interview please note that the interview will be conducted at a location that is convenient for you. In addition, due to the amount of information that is being collected in this research there will be two interviews scheduled with each person. Each interview is expected to last between 45 minutes to One hour and will be recorded.

Participants who are interviewed will receive a $25 Amazon.com gift card for the first interview and a $25 Amazon.com gift card for the second interview, for a total of $50 in Amazon.com gift cards, after each interview has been completed. The interviews will be scheduled between 1-2 weeks apart from each other.

Your responses will be strictly confidential and your name will never be associated with your answers.

A box for name and contact information will be provided.

(The user will complete the survey by hitting submit and the following message will appear)

Thank you for your help and completing this survey. To thank you for your contribution you are eligible to enter a drawing for a $50 gift card to Amazon.com. Please provide your first name and email below.

If you are selected to receive the gift card then you will be contacted via email. You will be asked to provide a mailing address and an Amazon.com gift card for the amount of $50 will be mailed to you. Good luck!
APPENDIX D

Semi-Structured Interview Guide for First Interview

Researcher script directed at the participant prior to the start of the interview:

Thank you for agreeing to the first of two interviews. This interview will last about 45 minutes to an hour. In this first interview we will discuss several areas with regard to nutrition education such as how you know information about nutrition, the types of messages you receive about nutrition and your own personal behaviors with regard to nutrition. I am very interested in knowing your perspectives as a Chinese American woman.

Section One: Demographic questions
1. What part of China were you born in? North? South? Urban? Rural?
2. Are you currently between the ages of 22 and 30?
3. Have you lived in the US between 10 and 15 years?
4. When did you immigrate to the US? How old were you?
5. Are you a part of the 56 identified minority groups in China?

Section Two: Source of knowledge
1. What does “healthy eating” mean to you? How do you know this?
2. Where have you learned what you know about food and nutrition in the US and in China?
3. What comes to mind when you hear about “unhealthy foods”? (Probe idea: Would they be the same in the US and in China? How do you know this?)
4. Suppose you had questions about making food choices to improve your health, who would you talk to? Why? (Probe idea: For example, who would you talk to if you wanted to eat food to give you more energy?)

Section Three: Messages
1. Are there messages about how to make food choices in your community? (Probe idea: For example, in your grocery store, school, and places of worship have you seen posters or recipe demonstrations)
2. What are the messages? (Probe idea: Are the messages about how to prepare the food? Are the messages about what foods to buy?)
3. Who provides these messages? (Probe idea: Who is responsible for sharing the message?)
Section Four: Experiences

1. As a person who lived in China and then in the US - what challenges, if any, have you had in making food choices? If so, what are they? (Probe idea: Why did you have challenges?)

2. (After reviewing highlights or reading directly from the narrative to the participant). Can you tell me more about this experience? (Probe idea: Was there tension during this incident? What do you believe caused that tension? How did it make you feel that your belief was questioned? How would you prefer that someone share ideas with you about food that may in contradictory to your beliefs?)

3. Have you ever talked with a health care provider or a nutritionist in the US about food/nutrition? Tell me about that experience (why did you go? how did it go?) (Probe idea: Was it a positive or a negative experience? What would you tell them now that you wish they knew when working with you?)

4. Do you see a need to talk to a nutritionist or health care provider about making food choices? (Probe idea: What would encourage/make/motivate you to talk to them?)

Section Five: Behaviors

1. What are important things for you to consider when making food choices? (Probe idea: Why is that important to you? Do these considerations change for you depending on circumstances? Like what? How do you they change? Do you plan out your meals for the day/week? Do you prepare your own foods? Are there certain principles you keep in mind when deciding on what you will be eating on a daily/weekly basis?)

2. Who prepares the foods that you eat?

3. If you were to make a healthy meal for yourself to eat what would you make and why? (Probe idea: Is that a meal you typically eat?).

4. If you were to make a healthy meal for a group of you and two of your friends/family to eat together what would you make and why? (Probe idea: Is that a meal you typically eat?).

5. What cooking tools would you use in making and eating the meal? Why? (Probe idea: Do you use pots? What kind? Do you use chopsticks? Do you use forks? Do you use plates, bowls, both?)

6. What would influence you to change the way that you eat? For example, would a family member who advised by their doctor due to an illness, a personal illness or a public health warning prompt you to change the way that you eat?

Script to be read to participant at the conclusion of the interview:

Thank you so much for your help today. Your perspectives on these questions are extremely helpful. During the second interview, we will talk about the impact that your cultural background had on how you answered each question in the first interviews. I will
also have some follow up questions from our previous conversation. I will end with asking you about your thoughts on how to best deliver information about nutrition to Chinese American women.

The participant and researcher should schedule the second interview before departing.
APPENDIX E

Semi-Structured Interview Guide for Second Interview

Researcher script directed at the participant prior to the start of the interview:

In the first interview we focused on several key areas with regard to nutrition education such as your sources of knowledge about nutrition, the types of messages you receive about nutrition and your own personal behaviors with regard to nutrition. In this interview, I wanted us to talk about the impact that your cultural background had on how you answered each those questions. I will also have some follow up questions from our previous conversation. I will end with asking you about your thoughts on how to best deliver information about nutrition to Chinese American women.

Review of Topic: Source of knowledge
1. (Review what was discussed in the first interview about sources of knowledge). As someone who is Chinese American, how do you think your personal background impacted your answers to the questions that were asked? (Probe idea: Think about your cultural background. Do you think being raised in a home in China and then moving to the US impacts how you know what you know about nutrition?).
2. What things would you like to learn more about with regard to food and nutrition?

Review of Topic: Messages
1. (Review what was discussed in the first interview about messages). Based on what you shared with me about this topic, have you noticed any additional messages about nutrition or making food choices that you wanted to share with me? What were the messages, where were they and who communicated them and how?

Review of Topic: Experiences
1. (Review what was discussed in the first interview about experiences). As someone who has lived in the US and China for about an equal amount of time, do you think that the experiences that you have had in the US would have occurred in China? Would they be the same? Would they differ?
2. Looking back to the experiences that you described, how do you feel about them? (Probe idea: Have you reevaluated your thoughts on your experiences? Do you see them as positive or negative? Have the impacted your beliefs about nutrition? If so, how?)
**Review of Topic: Behaviors**

1. (Review what was discussed in the first interview about experiences). How do you think your personal background impacted your answers to the questions that were asked? *(Probe idea: Think about your cultural background. Do you think being raised in a home in China and then moving to the US impacts your behaviors with regard to nutrition?)*

**Topic Six: Delivery of nutrition education**

1. What is important for a health care provider in the US to know about your Chinese American background when talking to you about nutrition? *(Probe idea: A health care provider could include your medical doctor, nurse, nutritionist)*
APPENDIX F

Informed Consent Document

TITLE: A Case Study of 1.5 Generation Chinese American Women’s Perspectives of Nutrition Education

INFORMED CONSENT FORM

RESEARCH PROCEDURES
This research is being conducted to explore the perspectives of 1.5 generation Chinese American women regarding nutrition education in the US. If you agree to participate, you will be asked to complete an open-ended narrative to be submitted online. This is expected to take no more than 15 minutes of your time. After you complete the written narrative and live in the DC metro area, then you will be invited to participate in 2 face-to-face interviews. The first interview will be conducted within one month of submitting the electronic survey. The second interview will take place at least a week after the first interview. All responses must be provided in English.

Each interview is expected to last 45 minutes to 1 hour and will be conducted in a convenient location for you. During the first interview, you will be asked to provide more feedback on your written narrative submission, discuss several areas with regard to nutrition education such as how you know information about nutrition, the types of messages you receive about nutrition and your own personal behaviors with regard to nutrition. During the second interview, we will talk about the impact that your cultural background had on how you answered each question in the first interviews. I will also have some follow up questions from our previous conversation. I will end with asking you about your thoughts on how to best deliver information about nutrition to Chinese American women.

RISKS
There are no foreseeable risks for participating in this research.

BENEFITS
There are no benefits to you as a participant other than to further research in understanding the perspectives of 1.5 generation Chinese American women regarding nutrition education in the US.

CONFIDENTIALITY
The data in this study will be confidential. The research design includes Three Tiers. Tier
One includes an online submission of a written narrative. After completing the written narrative, participants who live within 50-100 miles of Fairfax, VA (in the DC metro area) and are can submit their first name, email and/or phone number to be contacted to schedule two interviews. This data will be submitted to the researcher through Checkbox. The survey will be password protected. The email account that will be used for all communication for the survey is the University issued email address for the researcher. The email account is protected with a password. In Tier One; all participants can enter a drawing for a $50 gift card to Amazon.com. The names and emails of participants who enter the drawing (and who did not provide their name for an interview) will never have their name associated with their written narrative. The selected participant of the $50 gift card will be contacted via email and asked to provide a mailing address. That mailing address will never be stored and only written on the envelope that will be mailed out. Participants who do provide their name and express an interest in being interviewed will have their first name associated with their written narrative so that the participant and researcher can discuss the submission in the face-to-face interviews.

In the Second and Third Tier of the research design, participants will be interviewed in a face-to-face semi-structured interview. All interviews will be recorded using two different recording tools. The purpose of the two tools is to ensure that the data is captured. Each recording will be downloaded to a password protected computer. Each recording will be transcribed. Each file will be saved on a password protected computer and any paper materials will be placed in a locked cabinet. All recordings will be deleted within 30 days of completed transcriptions.

A participant’s name will not be associated with the written and transcribed data. Each participant will be given a code. The codes will be stored in a locked cabinet.

**PARTICIPATION**

Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide not to participate or if you withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party.

Participants who complete the written narrative are eligible for a drawing for a $50 gift card to Amazon.com. Participants must provide their first name and email address after the written narrative has been submitted through Checkbox to enter the drawing. The drawing will occur within one month of the completion of the research. The researcher will mail the $50 gift card to the selected participant of the drawing.

Participants who agree and are selected to participate in the two interviews will receive a $25 Amazon.com gift card for the first interview and a $25 Amazon.com gift card for the second interview (for a combined total of $50 in Amazon.com gift cards). The gift cards will be provided to participants after each interview has been completed.
CONTACT
This research is being conducted by Diana Karczmarczyk at George Mason University. She may be reached at 336-210-8331 or dkarczma@gmu.edu for questions or to report a research-related problem. You may also contact Dr. Anastasia P. Samaras at George Mason University. She may be reached at 703-993-8154 or asamaras@gmu.edu for questions or to report a research-related problem. You may contact the George Mason University Office of Research Integrity & Assurance at 703-993-4121 if you have questions or comments regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research.

CONSENT
I have read this form and agree to participate in this study.

Version date: 6.10.13
REFERENCES


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Diana F. Karczmarczyk was born in Germany and immigrated to the US at age 7. She attended Virginia Polytechnic Institute and State University, where she received her Bachelor of Arts in Interdisciplinary Studies with concentrations in Biology, Sociology, and Health Education in 1998. She went on to receive her Master of Public Health degree with a focus on Community Health Education from the University of North Carolina at Greensboro in 2003. Her research interests are varied within the fields of education and public health education including self-study, cross-cultural communication, health disparities, sexual health and men’s health.