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Linguistic Acculturation and Food Behaviors  
among Mexican-Origin Populations

A dissertation submitted in partial satisfaction  
of the requirements for the degree  
Doctor of Philosophy in Public Health

by

Brent Alan Langellier

2013



## ABSTRACT OF THE DISSERTATION

Acculturation and Food Behaviors among Mexican-Origin Populations

by

Brent Alan Langellier

Doctor of Philosophy in Public Health

University of California, Los Angeles, 2013

Professor Deborah C. Glik, Chair

In this dissertation, I seek to examine changes in diet and other food behaviors that take place within and across generations of Mexican immigrants in the U.S. I present four studies, each of which addresses a set of common hypotheses. My first hypothesis is that well-documented shifts in diet that occur as Mexican immigrants spend time in the U.S and become more acculturated may represent just one aspect of a broader shift in food behaviors. I use data from the 2005-2010 National Health and Nutrition Examination Survey (NHANES) and survey data that were collected as part of a community intervention study in East Los Angeles, California (East L.A. Community Survey) to examine the relationship between linguistic acculturation and a variety of food purchasing, preparation, and consumption behaviors among Mexican Americans. I present evidence of a broad shift in food behaviors as Mexican Americans acculturate, characterized by decreased home meal preparation and increased reliance on prepared and processed foods from restaurants and other food sources.

My second hypothesis is that not all changes in food behaviors that occur within and across immigrant generations are the result of exposure to and adoption of U.S. culture, and thus should not be thought of as ‘dietary acculturation.’ Rather, I argue that much of the change in food behaviors that occurs among Mexican immigrants and their offspring may result from shifts in social characteristics such as income, education, and urban exposure. For example, many immigrants migrate from rural areas in Mexico to large urban areas in the U.S., and educational attainment and socioeconomic status improve quickly among immigrants and their offspring. I argue that these important social factors would affect food behaviors in any country, and thus it is important to differentiate between their influence and shifts in food behaviors caused by exposure to and adoption of U.S. culture.

I investigate my second hypothesis using data from adult participants in the 2006 Encuesta Nacional de Salud y Nutrición (National Health and Nutrition Study), a large population-based study conducted in Mexico. I examine patterns in food behaviors among Mexican adults, finding that food spending and consumption of foods prepared outside of the home increase dramatically with income, education, and urban versus rural residence. Thus, my findings suggest that many of the social differences between more-acculturated Mexican Americans from their less-acculturated counterparts would result in large social gradients in food behaviors within the Mexican population, even in the absence of exposure to and adoption of U.S. culture. I also examine my second hypothesis using data from the 2005-2010 NHANES and the East L.A. Community Survey. I assess whether any observed relationship between linguistic acculturation and food behaviors is explained by income, education, and other sociodemographic differences between more- and less-acculturated Mexican Americans. My findings suggest that much of the relationship between linguistic acculturation and food behaviors is explained by these other social factors, and thus not all changes in food behaviors that occur within and across immigrant generations should be labeled as ‘dietary acculturation.’

The dissertation of Brent Alan Langellier is approved

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I dedicate this dissertation to my friends, family, and mentors, who provided me with the support, encouragement, and laughter necessary to get through (and enjoy) graduate school.

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1. Chaparro MP, **Langellier BA**, Kim LP, Whaley SE. Predictors of accurate maternal perception of their preschool child's weight status among Hispanic WIC participants. *Obesity*. 2011 Oct;19(10):2026-30. PMID: No federal funding for this study.
2. **Langellier BA**, Chaparro MP, Whaley SE. Social and institutional factors that affect breastfeeding duration among WIC participants in Los Angeles County, California. *Maternal and Child Health Journal*. 2012 Dec; 16(9): 1887-1895. PMID: No federal funding for this study.
3. **Langellier BA**, Garza JR, Glik D, Prelip ML, Brookmeyer R, Roberts CK, Peters A, Ortega AN. Immigration disparities in cardiovascular disease risk factor awareness. *Journal of Immigrant and Minority Health*. 2012 Dec; 14(6): 918-925. PMID: PMC Journal - In Process.
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10. Sharif MZ, Rizzo S, Prelip ML, Glik D, Belin TR, Garza JR, **Langellier BA**, Massey PM, Ortega AN. Nutritional literacy among Latinos: nutrition facts label utilization and comprehension. *Journal of Nutrition Education and Behavior*. In revisions.

## **Chapter 1: Introduction**

In this dissertation, I address the topic of dietary acculturation within the Mexican-origin population from the perspective of someone who is not a nutritionist or food researcher. For most researchers, the study of dietary acculturation has primarily consisted of documenting changes in food and nutrient consumption as an immigrant group acculturates, or adopts the cultural patterns and practices of their host society. As a health disparities researcher, I am more interested in understanding how and why these changes might occur. Thus, I view the world through a different lens, with less focus on nutritional endpoints such as nutrient composition or caloric intake, and more emphasis on food behaviors that are further upstream in the causal chain, such as food purchasing and preparation. I also attempt to examine some of the psychosocial and subjective factors that may affect food purchasing, preparation, and consumption, such as attitudes, beliefs, and values that affect food choices as well as perceived barriers to healthy meal preparation.

This dissertation consists of four empirical studies that examine patterns in food behaviors within Mexican and Mexican-origin populations. The studies use three different data sources collected among three unique populations; however, there are a few common threads that tie each study together. First, each study can help us understand patterns in food purchasing, preparation, and consumption within Mexican-origin populations and provide insight into how and why diets may change as Mexicans and Mexican Americans are exposed to different social and cultural contexts. Second, the papers address a common set of hypotheses to help elucidate the relationship between linguistic acculturation and food behaviors. My first hypothesis, similar to previous research, is that the food behaviors of more-acculturated Mexican Americans are likely to differ from those of their less-acculturated counterparts. In contrast to previous studies, which have primarily focused on shifts in diet within and across



Mexican generations, much of my effort is concentrated on food purchasing and preparation. I examine whether more-acculturated Mexican Americans shop at different food outlets, purchase different types of food, prepare their own meals with greater or lesser frequency, and demonstrate increased or decreased reliance on processed and prepared food items. Furthermore, I use unique data from a nationally-representative survey of Mexican Americans and a local survey conducted among residents of East Los Angeles, California (East L.A.) to examine the factors that affect food choices and whether these factors vary by acculturation. By viewing food behaviors as a system of interrelated dimensions, rather than exclusively concentrating on food and nutrient consumption, I believe my dissertation adds a unique perspective to the existing literature and will help build an empirical basis for intervention strategies to improve diet and related health outcomes among Mexican Americans.

My second hypothesis is rooted in the fact that more-acculturated Mexican Americans differ from their less-acculturated counterparts in more than just their birthplace, time spent in the U.S., and exposure to and adoption of U.S. culture. For example, Mexican immigrants are disproportionately from rural areas in Mexico, and the vast majority come to the U.S. with very low levels of income and education. Almost all Mexican immigrants move to large urban areas in the U.S. and many work their way up the socioeconomic ladder. Furthermore, the offspring of first-generation immigrants typically achieve much higher levels of education than their parents. Throughout my dissertation, I examine whether these social factors are important in determining what Mexican-origin populations eat, and whether accounting for such factors explains differences in food behaviors between more- and less-acculturated populations. I argue that many of these factors, including income, education, and urban exposure, affect food behaviors independent of cultural context and thus their influence is not specific to the U.S. I argue that differences in food behaviors between more- and less-acculturated Mexican Americans that can

be explained by these social factors are not the result of exposure to and adoption of U.S. culture, and therefore should not be labeled as 'dietary acculturation.'

In the first of my dissertation studies, I use data from the 2005-2010 National Health and Nutrition Examination Survey, a large, nationally-representative health survey in the U.S., to examine food spending and consumption of foods prepared outside of the home among the Mexican adult population. By examining the sending context from which Mexican immigrants originate, as well as social patterns in consumption of meals prepared outside of the home, I believe this study can help provide insight into the factors that shape food behaviors within the Mexican American population. The two main objectives of this study are to understand the extent to which the Mexican adult population relies on meals prepared outside of the home and to examine whether these behaviors are influenced by social factors such as income, education, and urban versus rural residence. In the second study, I examine food behaviors among Mexican American participants in the 2005-2010 National Health and Nutrition Examination Survey, a large, nationally-representative survey with data regarding a wide range of food purchasing, preparation, and consumption behaviors. The objective of this study is to examine the relationship between linguistic acculturation and food behaviors, and identify whether this relationship is explained by differences in education and income between more- and less-acculturated Mexican Americans. In the third and fourth studies, I approach these same research questions from a local perspective using primary data collected as part of a food environment intervention study in East Los Angeles (East L.A.). The unique data from East L.A. allow me to delve deeper into the relationship between acculturation and food purchasing behaviors, by looking at the breadth and variety of food outlets where participants buy food, the specific outlets where they do the majority of their food shopping, and the types of prepared and non-prepared food items that they purchase.

To provide context for my four dissertation studies, I will begin by examining the evolution of dietary research over the last several decades as well as briefly discussing what is known about the Latino and Mexican American populations in the U.S. I will then present an overview of social theories that can be useful in explaining food behaviors among Latino populations, including both food choice theories and acculturation theories. Next, I provide further details regarding the data sources and general methodologies I use in this dissertation. After presenting the four studies, I conclude by discussing the gaps in the literature that I believe this dissertation fills, the strengths and limitations of the studies, and implications of my findings.

## **Chapter 2: Background and Significance**

### ***A Health Disparities Perspective***

Health is not random. A person's likelihood of catching a disease or suffering from an early death is highly related to the social characteristics that define where they come from and who they are. Health researchers have known for decades that people who are rich, well-educated, and have white-collar jobs have better mortality outcomes than those who are less well-off, and that Blacks, Latinos, and other racial/ethnic minority groups often suffer from increased mortality relative to Whites.<sup>1-3</sup> Similarly, a huge and ever-expanding literature has demonstrated that disadvantaged social groups suffer from greater burdens of many major health conditions, including cancer,<sup>4-7</sup> cardiovascular disease,<sup>8</sup> and obesity.<sup>9</sup>

Most health disparities, or unnecessary, avoidable, and unjust differences in health, are socially-determined rather than caused by medical or genetic differences between population groups. As described by Braveman and colleagues (2011), social determinants of health include both 'upstream' and 'downstream' factors.<sup>10</sup> Upstream factors refer to fundamental causes of health and disease, including macro-level factors like governance, policy, and cultural and societal norms and values, as well as individual-level factors like income, education, gender, and race/ethnicity. Upstream factors determine our role in society, access to resources, mastery over our life choices, and other outcomes that are intimately tied to health behaviors and outcomes. Downstream factors, in contrast, are more temporally and spatially proximate to our health, but are largely shaped by upstream factors.<sup>10</sup> Downstream factors include access and use of medical care, health behaviors, and health-related knowledge, attitudes, and beliefs.

Many health interventions target downstream determinants (i.e., healthy eating) in order to improve a defined health outcome (i.e., obesity) among a specific health disparities population (i.e., Mexican Americans). As discussed by Link and Phelan (1996), this approach

may result in improvements in the targeted health outcome, but is unlikely to result in the elimination of health disparities.<sup>11</sup> This is precisely because most health disparities are rooted in upstream factors that result in systematic disadvantage across a multitude of health and social outcomes. The elimination of health disparities would require addressing these upstream causes by, for example, ensuring equitable access to economic and educational opportunities or reducing structural racism and other forms of prejudice.

While eliminating health disparities might be difficult or impossible, approaching public health research from a health disparities perspective can be useful in explicating the true causes of social patterns in health and disease. In this dissertation, my primary focus is on understanding how food behaviors change as Mexican Americans acculturate, both within and across immigrant generations. In contrast to previous studies, which have focused largely on describing differences in diet between more- and less-acculturated Mexican Americans, I focus much of my attention on understanding how upstream social factors that might affect a broad range of food purchasing, preparation, and consumption behaviors. I argue that upstream factors, including income, education, and exposure to urban versus rural residence, differ substantially between more- and less-acculturated Mexican Americans and likely affect any number of health behaviors, including those related to food. While I focus exclusively on food behaviors, therefore, I truly view income, education, and geographic context as ‘fundamental causes’ that have an impact on a broad range of health and other social outcomes. Thus, while what we eat is extremely important and my dissertation research is very food-centric, I believe that the conceptual framework and methodological approach I employ would be equally relevant and applicable to understanding the root causes of other health behaviors and outcomes within health disparities populations.

### ***The Importance of Diet***

What people eat has consequences for their health and wellbeing. Diet influences a person's risk of cardiovascular disease<sup>12-14</sup> and cancer,<sup>15, 16</sup> two of the leading causes of death in the U.S., as well as a myriad of chronic disease risk factors such as obesity, diabetes, and hypertension.<sup>12</sup> Unfortunately, Americans in general are not healthy eaters. Few adults meet the Dietary Guidelines for Americans, the federal government's evidence-based nutritional recommendations to promote health, reduce the risk of chronic diseases, and reduce the prevalence of overweight and obesity.<sup>17</sup> Among the consequences of Americans' poor diets are that more than two in three adults are overweight or obese<sup>9</sup> and mortality from diet-related chronic diseases is higher now than ever before in our nation's history.<sup>18</sup>

Researchers have long observed that what people eat varies based on social characteristics such as age, gender, income, education, and race/ethnicity.<sup>12, 19</sup> Furthermore, anthropologists have a long history of documenting cross-cultural differences in food behaviors and practices.<sup>20</sup> But why do people from different social and cultural origins eat differently? As discussed by Birch (1999), food preferences research conducted in the 1920s and 1930s was consistent with a "wisdom of the body" perspective suggesting that food preferences reflect innate, unlearned "special appetites" for needed nutrients, including sugar, salt, fat, protein, carbohydrates, and micronutrients.<sup>21</sup> This school of thought posited that evolution has provided people from different social backgrounds with different tastes and preferences because the nutritional needs of their ancestors were different. To support this hypothesis, researchers pointed to studies that found a high degree of overlap in the tastes and preferences of children and their parents. This overlap, they claimed, was the result of the fact that tastes and preferences are genetically encoded and passed down from parents to children.

Later researchers posited that food preferences are at least partially learned, and that they develop in response to a person's social environment.<sup>22</sup> This theory was supported by a number of studies conducted in the 1970s and 1980s among pairs of monozygotic (identical)

and dizygotic (fraternal) twins, which found that food tastes and preferences are generally not more similar among pairs of siblings who are genetically identical.<sup>22-24</sup> The authors of these twin studies posited that resemblance between siblings is more likely due to shared social environments than shared genetics. It is now believed that food preferences are greatly influenced by the foods a person is exposed to as a child as well as the dietary behaviors that are modeled by their family members and friends.<sup>25</sup>

Consistent with other areas of health research, dietary research has now shifted even further towards a social ecological perspective that recognizes that food choice is affected by factors operating at multiple levels of influence.<sup>26, 27</sup> An example of this shift is the increasing emphasis being placed on understanding how people's food behaviors and obesity outcomes are affected by the physical environments in which they are embedded. A number of studies in urban contexts in the U.S. have observed that access to comprehensive supermarkets and other sources of healthy food is much more limited in poor and minority neighborhoods than upper-income and White neighborhoods.<sup>28, 29</sup> Research has also demonstrated that low-income and minority neighborhoods have increased access fast food restaurants and small corner and liquor stores, which typically sell a broad variety of unhealthy foods that are both cheap and well-marketed.<sup>30-32</sup> As discussed by MacIntyre (2007), however, social disparities in food outlet distribution is by no means common to all countries or social contexts and should not be considered a given.<sup>33, 34</sup> A burgeoning field of research is documenting disparities in food access and other environmental resources and understanding how these disparities affect individual-level health outcomes.<sup>28, 35, 36</sup>

### ***Latinos and Mexican Americans in the U.S.***

It is critically important for public health researchers to gain a better understanding of the causes and consequences of ill health among Latinos. One reason for this is that Latinos are a

large and expanding segment of the U.S. population. In 2010, 51 million Americans were of Latino origin, a number that the Pew Research Center projects to triple by 2050.<sup>37, 38</sup> The Latino population is not only increasing in an absolute sense, but is also increasing relative to other segments of the U.S. population. For example, in 2005 about 14% of all Americans were Latino, but by 2050 Latinos are expected to reach 29% of the total population.<sup>37</sup>

So what does the Latino population in the U.S. look like? In 2010, about two in three Latinos, or 33 million people, were of Mexican origin.<sup>38</sup> The next largest Latino sub-population is Puerto Ricans, which consisted of 4.7 million people in 2010. There are also large Cuban-, Salvadoran-, Dominican-, and Guatemalan-origin populations, each of which contained between one and two million people in 2010. In terms of nativity, about 37% of Latinos in the U.S. are foreign-born; however, this number obscures considerable heterogeneity by country of origin.<sup>38</sup> For example, just 36% of the Mexican-origin population is foreign-born compared to 59% of Cubans, 62% of Salvadorans, 57% of Dominicans, and 67% of Guatemalans.

States that traditionally have had large Latino populations include those along the U.S.-Mexico border and Illinois for the Mexican-origin population; Miami for the Cuban population; and New York for the Haitian and Dominican populations.<sup>39</sup> Mexicans, in particular, have a long history of migration and residency in the Western U.S. California, New Mexico, Arizona, Nevada, Utah, and parts of Wyoming and Colorado were actually part of Mexico until 1848, when they were ceded to the U.S. at the conclusion of the Mexican-American war. Many Mexicans stayed in these newly-acquired U.S. territories at the conclusion of the war, and waves of Mexican migration into California and other border states continued throughout the 20<sup>th</sup> century. Large waves of Mexican immigrants entered the U.S. during the 1900s and 1910s, in response to civil war in Mexico; during the 1940s to 1960s, in response to the Bracero Program, which sought to fill labor shortages caused by World War II; and during the 1990s, in response to an economic boom in the U.S. and the passage of the Immigration Reform and



Control Act of 1986.<sup>40</sup>

In recent years, the largest relative growth in the Latino population has occurred in states that have traditionally contained few Latinos. Between 2000 and 2010, the percentage of the population that is Latino grew by 29% in California but more than doubled in Connecticut, Utah, South Carolina, Oklahoma, Kansas, Louisiana, Arkansas, Iowa, Nebraska, and West Virginia. Despite the expansion of the Latino population to non-traditional areas, over 14 million Latinos lived in California in 2010, far more than any other state. About 85% of California's Latino population is Mexican-origin and over one-third of the Mexican-origin population in the entire U.S. lives in California.<sup>41</sup> This high concentration as well as California's great diversity of social and environmental contexts makes the state an ideal location for studying health among the Mexican-origin population.

An important characteristic of the Latino population is that, in general, Latinos have relatively low socioeconomic positions compared to the general U.S. population.<sup>41</sup> For example, 39% of all Latino adults and 45% of Mexican-origin adults have less than a high school degree, compared to 15% of all adults and just 10% of Whites.<sup>42</sup> Data from the 2011 Current Population Survey indicate that 28.2% of Latinos live in poverty, more than any other racial/ethnic group and nearly triple the rate among non-Hispanic Whites (11.1%).<sup>43</sup> In 2009, median household income among all U.S. households was \$50,800, compared to just \$40,200 among Latino households and \$40,000 among Mexican-origin households.<sup>41</sup> Lower household income is exacerbated by the relatively larger size of Latino households, which are a full person larger than non-Latino households.<sup>41</sup> In other words, Latino households have fewer resources to spend on more people when compared to non-Latino households.

Foreign-born Latinos differ from their U.S.-born counterparts in a number of sociodemographic characteristics that likely affect their health and other social outcomes. For example, 63% of Mexicans who migrated to the U.S. between 2001 and 2005 had a primary

school education or less, and data from the 2007-2011 American Community Survey (ACS) reveal that 60% of all foreign-born Mexican American adults have less than a high school degree.<sup>44, 45</sup> On the other hand, ACS data indicate that just 22% of U.S.-born Mexican Americans have less than a high school degree. Furthermore, the average poverty to income ratio among foreign-born Mexican Americans is 1.97, compared to 2.78 among U.S.-born counterparts. Using data from the 2006 Mexican National Survey of Population Dynamics, Riosmena and Massey (2012) found that about 40% of Mexicans who immigrated to the U.S. between 2001 and 2005 were from rural areas, a proportion that declined from 60% to 70% in the 1970s.<sup>40, 44</sup> While a large proportion of Mexican immigrants originate from rural areas, data from the 2007-2011 ACS suggest that 92% live in urban areas in the U.S.<sup>45</sup> Foreign-born Mexican Americans also tend to be older than their U.S.-born counterparts (median ages are 38 and 17, respectively) and are much more likely to be married.<sup>46</sup> Finally, and particularly relevant to this dissertation, about nine in ten U.S.-born Mexican Americans ages five years and older speak English proficiently, compared to about one-third of foreign-born Mexican Americans.<sup>46</sup>

### ***The Latino Health Advantage***

In 1986, Kyriakos S. Markides and Jeannine Coreil published a seminal paper comparing s<sup>47</sup> Based on a synthesis of the existing literature, Markides and Coreil concluded that “accumulating evidence suggests that the health of Hispanics is much closer to that of other Whites than to the health of Blacks, with whom Hispanics share socioeconomic conditions.” In other words, the authors found that Latinos have surprisingly good health outcomes despite their relatively low levels of income and educational attainment. The studies reviewed by Markides and Coreil, as well as subsequent studies, suggested that Latinos may have a health advantage related to all-cause mortality, cancer mortality, cardiovascular disease mortality, functional health, asthma, oral health, low birth weight, and mental health.<sup>47-53</sup> This health

advantage of Latinos has become known as the 'Latino paradox' because it stands in direct contrast to a relatively large and enduring literature that has documented an inverse relationship between socioeconomic status and health.<sup>54</sup>

Perhaps due to its surprising nature, several hypotheses have been offered to disprove or 'explain away' the Latino health advantage.<sup>55, 56</sup> One hypothesis, known as the 'salmon bias theory,' posited that mortality rates among Latinos were artificially low because Latino immigrants returned to their home countries to die and thus were not included in death counts. Another prominent theory was the 'healthy migrant theory,' which held that Latinos had a health advantage because only the healthiest members of Latin American countries were migrating to the U.S. Other hypotheses pointed out various methodological issues that may have resulted in artificially-suppressed mortality rates among Hispanics. In general, however, these and other theories that sought to disprove the paradox were found to be completely untrue or to explain only a small portion of the Latino health advantage.<sup>49, 57</sup> For example, evidence against the healthy migrant theory includes that foreign-born Latinos have a health advantage compared to most U.S.-born populations *and* foreign-born Whites.<sup>49</sup> If migration were a health selection process, the health advantage enjoyed by Latinos would likely hold for other immigrant populations.

The Latino health advantage may be partially due to the fact that Latinos are more likely than other U.S. subpopulations to engage in particular health behaviors. For example, studies have shown that Latinos are less likely than other U.S. subpopulations to smoke and drink alcohol, two important risk factors for all-cause mortality and mortality from cancer and cardiovascular disease.<sup>49, 57</sup> In contrast, Latinos are less likely to exercise and more likely to be overweight than many other racial/ethnic groups.<sup>49, 57</sup> The extent to which health behaviors explain the Latino health advantage is difficult to discern because health behaviors are not consistently better among Latinos than other U.S. subpopulations.

In order to better understand why Latinos enjoy a health advantage, I believe it will be necessary to go beyond health behaviors and risk factors that can be measured at the individual level. In particular, increasing emphasis will likely need to be placed on examining how the unique physical, social, and cultural context of Latinos in the U.S. affects their health. That the Latino health advantage is considered paradoxical, in fact, obscures the very important fact that despite their socioeconomic similarities, the lives and circumstances of Latinos are vastly different than those of other U.S. minorities. Developing a better understanding of how physical, social, and cultural context affects health will likely represent an important next wave in Latino health research.

### ***Specific Areas for Concern***

Despite enjoying an overall health advantage, Latinos actually suffer from comparatively worse outcomes related to a few specific causes of morbidity and mortality. As summarized by Vega and colleagues (2009), Latinos are much more likely than the general U.S. population to suffer from mortality due to diabetes, homicide, work-related injuries, human immunodeficiency virus, liver disease, and specific types of digestive system cancers, including cervical, stomach, and liver cancer.<sup>58</sup> One of the most compelling reasons to study diet, in particular, among the Latino population is that the Latino health advantage does not hold for a number of diet-related chronic diseases. For example, 2007-2008 NHANES data indicate that the prevalence of overweight and obesity is 76.9% among all Latino adults and 77.5% among Mexican American adults, compared to 67.5% among non-Hispanic Whites.<sup>9</sup> Recent estimates suggest that 45.4% of Latino men and 52.5% of Latina women born in 2000 will develop diabetes in their lifetime, compared to just 26.7% of White men and 31.2% of White women.<sup>59</sup> The Latino health advantage related to cardiovascular disease mortality may also be less clear-cut than previously believed. Data from the San Antonio Heart Study, a cohort study that followed participants over

a 7- to 8-year period, found a cardiovascular disease mortality ratio of 1.30 for Mexican Americans compared to non-Hispanic Whites.<sup>60, 61</sup> Given the rapid expansion of the Latino population coupled with the shifting burden of disease, combating diet-related chronic disease among Latinos may represent a great public health challenge of the future.

### ***Acculturation, Health, and Diet Among Latinos***

A relatively large body of research has found that acculturation, or the degree to which members of an immigrant group are exposed to and adopt U.S. culture, is associated with health and health behaviors among Latinos.<sup>62</sup> The relationship between acculturation and health is complex, however, and it would be inaccurate to say that acculturation is uniformly associated with better or worse health. Rather, some health behaviors and health outcomes appear to improve as Latinos acculturate, while others seem to worsen. A number of studies have found that more-acculturated Latinos are more likely to smoke, drink alcohol, and use illegal drugs than their less-acculturated counterparts;<sup>57, 62</sup> however, access and use of health care services as well as perceived general health improve as Latinos acculturate.<sup>63</sup> The evidence regarding the relationship between acculturation and many chronic conditions (e.g., overweight and obesity, diabetes, hypertension) is mixed, with studies finding conflicting results or patterns that differ based on country of origin, gender, or other social factors.<sup>62, 64-66</sup> To summarize, researchers are still trying to gain a clear understanding of the relationship between acculturation and health, including whether acculturation exerts a causal influence on health behaviors and outcomes.

Research has demonstrated that unhealthy shifts in consumption of specific nutrients and foods occur as Latino acculturate. For example, using data from the 1982-1984 Hispanic Health and Nutrition Examination Survey, Guendelman and Abrams (1995) found that foreign-born Mexican American women consumed more protein, folic acid, calcium, and vitamins A and

C than U.S.-born Mexican American or White women.<sup>67</sup> Based on the 1988-1994 National Health and Nutrition Examination Survey, Dixon and colleagues (2000) found that foreign-born Mexican Americans consumed less fat and more fiber, folate, calcium, potassium, magnesium, vitamins A, C, E, and B6 than their U.S.-born counterparts.<sup>68</sup> Batis and colleagues (2011) used data from the 1999 Mexican National Nutrition Survey and the 1999-2006 NHANES to compare intake of specific food and beverage items among Mexicans, foreign-born Mexican Americans, U.S.-born Mexican Americans, and non-Hispanic Whites.<sup>69</sup> For most food and beverage types, they found linear trends in consumption by exposure to the U.S. environment. Compared to Mexican women, for example, foreign-born Mexican American women consumed 2.2% more of their total daily calories from soda, while U.S.-born Mexican Americans consumed 3.3% more and non-Hispanic Whites consumed 3.1% more. In general, Batis and colleagues found both positive and negative effects of exposure to the U.S. environment, but concluded that the overall proportion of energy obtained from unhealthy foods was higher among the groups most exposed to the U.S. environment. In particular, the groups who were more exposed to the U.S. environment demonstrated lower consumption of beans and other legumes and higher consumption of soda, high-fat cheese, desserts, salty snacks, and pizza and French fries. In a literature review of 34 studies assessing the relationship between acculturation and diet among Latinos, Ayala and colleagues (2008) concluded that foreign-born and less-acculturated Latinos consume more fruit, rice, and beans and less sugar and sugar-sweetened beverages than their U.S.-born and more-acculturated counterparts.<sup>70</sup>

A number of important questions remain regarding how and why the food behaviors of more-acculturated Mexican Americans might differ from those of their less-acculturated counterparts. Multiple authors have theorized that exposure to a host society's culture might affect not only what members of a migrating group eat, but also their patterns of food purchasing and preparation.<sup>71-73</sup> More-acculturated Mexican Americans may shop at different

types of food outlets than their less-acculturated counterparts or spend their food budgets on different items. More-acculturated Latinos also might prepare meals at home less frequently and rely more on restaurant meals and other sources of prepared food. Relatively few studies have investigated how food purchasing changes as Latinos acculturate, with almost all focusing on fast food consumption.<sup>72, 74</sup> These studies have consistently found that fast food patronage increases with acculturation. To my knowledge, almost no research has been conducted to understand the relationship between acculturation and other food purchasing behaviors among Mexican Americans. Similarly, very little research has examined how food preparation behaviors differ between the more- and less-acculturated.

A further gap in the literature is that few studies have investigated the psychosocial mechanisms through which food behaviors may change as Mexican Americans acculturate. An exception is a study by Ayala and colleagues (2005), which found that Mexican-origin women in San Diego who were more acculturated were more likely to eat out for lunches and dinners, consumed more fast food, and had less difficulty reading nutrition labels than their less-acculturated counterparts. The study found that the more-acculturated women reported preferring fast food restaurants to other types of restaurants, and preferred supermarkets or produce markets to other types of grocery stores. Interestingly, the study found that women who preferred fast food restaurants placed high value on distance, price, and a child-friendly atmosphere. Although these values were not assessed by acculturation level, the findings suggest that such values may affect where people choose to shop. Understanding how food- and health-related knowledge, attitudes, and beliefs affect food behaviors, and whether or not these factors vary between the more- and less-acculturated, may represent an important next step in research examining the relationship between diet and acculturation.

An equally important question to investigate is whether differences in diet between the more- and less-acculturated are actually driven by exposure to U.S. culture, and thus should be

viewed as an outcome of the acculturation process. I posit that at least some of the difference in food behaviors between the more- and less-acculturated is likely the result of important social factors that separate U.S.-born and more-acculturated Mexican Americans from their foreign-born and less-acculturated counterparts. As previously discussed, Mexican migrants to the U.S. disproportionately originate in rural areas but nine in ten Mexican Americans live in large urban areas. Similarly, income and education are much higher in the second generation than among foreign-born Mexican Americans. Research has conclusively demonstrated that geographic context, income, education, and several other social factors affect health and health behaviors in countries across the globe, and thus their influence is not U.S.-specific.<sup>75</sup> I argue that differences in food behaviors caused by these factors are not culturally-driven and thus should not be considered an outcome or dimension of the acculturation process. As such, I believe it is important to differentiate between the influence of these factors and changes in food behavior that result from exposure to and adoption of U.S. culture.



## **Chapter 3: Theory**

In this chapter, I will define key constructs and discuss several social theories that have informed my dissertation research. I begin by reviewing food choice theories and then move to broad theories of acculturation and assimilation. I then review a model of dietary acculturation that incorporates elements of both food values theories and acculturation theory. Finally, I present the conceptual framework that guides my four dissertation studies.

### ***Food Behaviors***

In this dissertation, I use the term ‘food behaviors’ to refer to a broad construct with at least three dimensions: 1) food purchasing, 2) food preparation, and 3) food consumption. Food purchasing consists of the frequency with which people purchase food, the places where they purchase it, and the quantity and types of food they purchase. Food preparation refers to whether or not people prepare the food they eat, the degree of preparation in which they engage (e.g., cooked from scratch or using processed ingredients), and the methods they use to prepare their food. Food consumption refers to the frequency, quantity, and types of food that people eat.

### ***Food Choice Theories***

Two types of food choice theories inform this dissertation. The first type of theory considers the value that people place on food and its attributes, such as taste, cost and healthfulness. A number of food choice theories seek to identify the attributes of food that people value and explain why different types of people might view each attribute to be of greater or lesser importance. I review an early example of this theoretical perspective by psychologist Kurt Lewin, who studied ‘why people eat what they eat.’<sup>76</sup> While Lewin’s work was conducted

nearly 70 years ago, his framework for understanding influences on food choice is still extremely relevant and is explicitly or implicitly incorporated into many contemporary food choice theories. I also review a food choice theory that is based upon a social ecological perspective, recognizing that factors operating at multiple levels of influence affect food choice. I focus on the “Model of Community Nutrition Environments” presented by Glanz and colleagues (2005), which elaborates on environmental and policy-level factors that can affect food choice.<sup>77</sup>

### *Kurt Lewin and ‘Why People Eat What they Eat’*

In 1943, psychologist Kurt Lewin conducted one of the first comprehensive investigations of ‘why people eat what they eat.’<sup>76</sup> This was among the earliest attempts to define the constructs that affect food behaviors and understand how these constructs interact. Lewin chose to concentrate specifically on food purchasing decisions, because he believed that what a family eats is highly contingent upon the food that reaches their table. Lewin posited that food purchasing decisions are based upon *motivational influences*, which he separated into three different categories: 1) values related to food selection, 2) food needs, and 3) obstacles. *Values* consist of the qualities that a person associates with different types of food, as well as the weight they place on each quality. Lewin’s research revealed four important values, including the cost, taste, healthfulness, and prestige of different food items. He posited that the relative weight placed on these values may change over time according to a person’s or family’s food needs. *Food needs* are driven by variation in the quantity of food needed (e.g., larger households need more food), situational factors (e.g., food needs increase when preparing a meal for guests), and cultural shifts in food and diet. Food purchasing can also be affected by *obstacles*, such as difficulty in transportation to food channels or the time it takes to prepare different food items.

One of the most important aspects of Lewin’s work is that he explicitly recognized that

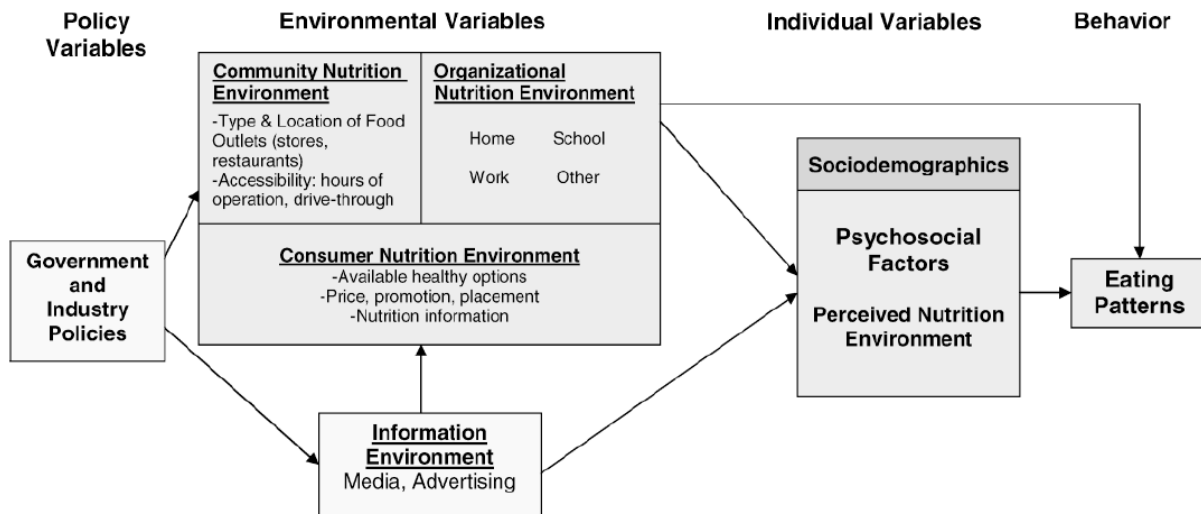
the factors influencing food choice are often in conflict with one another. For example, a specific food item may taste good but be prohibitively expensive, while another item may be cheap and delicious but very unhealthy. Lewin posited that food choice is actually a complex decision-making process that requires the resolution of these conflicts for people to purchase, prepare, and consume food. His conceptualization, therefore, is a utility maximization model whereby people make food choices to maximize the value they derive from their food while at the same time minimizing the costs.

### *The Model of Community Nutrition Environments*

The motivational influences discussed by Lewin operate primarily at the individual and interpersonal levels, because food needs and values are largely determined by individuals and their family members. Based upon a social ecological perspective, we might also assume that food choices are affected by factors operating at other levels of influence. The social ecological frameworks developed by Bronfenbrenner (1977) and McLeroy and colleagues (1988) suggest that individual-, interpersonal-, organizational-, public policy-, and community level-factors affect health outcomes and behaviors.<sup>27, 78</sup> The Model of Community Nutrition Environments developed by Glanz and colleagues (2005) elaborates on ways that factors operating at these higher levels of influence can affect food choice, with particular emphasis on community environments.

Glanz and colleagues posit that food choice is affected by: 1) the community nutrition environment, 2) the organizational nutrition environment, 3) the consumer nutrition environment, and 4) the community information environment. *The community nutrition environment* refers to the type, location, and accessibility of food outlets, factors that are all important because people can only buy food that they can access. *The organizational nutrition environment* refers to the influence that the food available in a person's home, school, work, or other organizational

environments have on their food choices. For instance, someone who works at Google, where they have access to a cafeteria with a range of cheap, healthy, tasty food, likely has different food purchasing options than someone who works at a small business in a low-income or minority neighborhood. *The consumer nutrition environment* refers to the effect that factors within food outlets can have on a person's food choices. In particular, Glanz and colleagues posit that food choices are affected by the following factors within food outlets: the availability of healthy choices; the price, placement, and promotion of specific food items; and nutrition information. Finally, the *consumer information environment* recognizes the important role that media and advertising play in shaping perceptions, preferences, and choices related to food. The consumer information environment may be particularly important in contemporary studies of food choice, over \$11 billion was spent on food advertising in 1997, and that a typical teenager sees more than 6,000 food ads per year.<sup>79, 80</sup>



**Figure 3.1: The Model of Community Nutrition Environments, Glanz, et al. (2005)**

***Acculturation Theory***

As defined by Redfield, Linton, and Herskovits (1936), the construct of ‘acculturation’

refers to “those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original cultural patterns of either or both groups.” As noted by Trimble (2003), this definition conceptualizes acculturation as a gradual process that results from long-term contact, such as migration, rather than short-term interactions, such as travel or war.<sup>81</sup> Another noteworthy aspect of this definition is its emphasis solely on changes in cultural patterns. As discussed by Gordon (1964), acculturation is actually just one dimension of a broader social process known as ‘assimilation,’ which includes not only changes in cultural patterns, but also structural and civic integration, intermarriage, changes in group identification, and the elimination of prejudice and discrimination.<sup>82</sup> Gordon posited that acculturation can and often does take place prior to these other dimensions of assimilation.

Several schools of thought have emerged regarding how the process of acculturation takes place. In general, Gordon and other early acculturation researchers assumed that acculturation is unidirectional, one-dimensional, constant, and irreversible. Gordon referred to this ideological tendency as ‘Anglo-conformity’ because it asserted that immigrants would invariably shed their own culture and values in favor of the culture and values of the dominant group of the host society. In the United States, for example, this hypothesis suggests that immigrants will inevitably adopt the culture and values of the White middle class. In general, acculturation research has found that the Anglo-conformity pattern of acculturation may have been applicable to past waves of European immigration to the U.S., but does not fit well with more recent waves of immigration from Latin America.<sup>82, 83</sup>

Contemporary acculturation theorists believe that acculturation may be multidimensional, and that adoption of different cultural patterns and practices may not always occur at the same time.<sup>84</sup> For example, Telles and Ortiz (2009) recently conducted a study of second-, third-, and fourth- generation Mexican immigrants and measured dimensions of acculturation such as

language, Spanish names, religion, religiosity, fertility, paternalistic values, and ethnic identity.<sup>83</sup> They found that linguistic acculturation occurred very quickly, with complete acquisition of English by the second generation; however, they found much more gradual change in the other dimensions of acculturation. Furthermore, when comparing cultural identity between parent-child dyads, they found that Mexican history, traditions, and values were considered to be more important to children than their parents.

In general, the findings of Telles and Ortiz suggest that acculturation is both a multidimensional construct and that, at least among Mexican Americans, the acculturative process is more complex than suggested by proponents of the 'Anglo-conformity' perspective. In particular, some dimensions of the acculturative process may take place quickly, while others occur gradually or not at all. This type of multidimensional, multidirectional process may result in multiculturalism, whereby immigrants and their offspring selectively adopt or maintain different patterns and practices from the multiple cultures to which they are exposed.

With regard to food behaviors, which I largely consider to be a single dimension of culture, an Anglo-conformity model of acculturation would suggest that immigrants and their offspring will eventually shed their own food cultures and adopt the purchasing, preparation, and consumption patterns of the White middle class. In contrast, a multidirectional, multidimensional model of acculturation suggests that food behaviors among immigrants and their offspring might change little or not at all, that they might adopt only selective parts of American food culture, or even that American food culture might itself change and adopt elements of the migrants' sending society.

### ***Segmented Assimilation***

Portes and Zhou (1993) argue that assimilation among contemporary immigrants has become segmented, with members of different groups assimilating towards different sectors of

American society.<sup>85</sup> They argue for two main assimilation trajectories, one that primarily occurs among the offspring of middle-class immigrants and another among the children of low-skill, low-wage workers.<sup>86</sup> In the first trajectory, many children of middle-class immigrants take advantage of their parents' relatively higher starting point, do well in the U.S. educational system, and quickly assimilate into the upper classes. Many children of lower-class immigrants, on the other hand, do poorly in school and assimilate downwards towards poverty and a permanent underclass.

One of the main tenets of segmented assimilation, and particularly downward assimilation, is the fact that post-1965 immigrants face considerably different challenges than previous waves of European immigrants. An important factor that separates contemporary immigrants from their European predecessors is their exposure to interpersonal and structural racism. Portes and Zhou argue that European immigrants differed from the White middle class primarily in factors that go unseen, such as social and cultural characteristics. As these differences lessened within and across immigrant generations, it became difficult to distinguish European immigrants and their offspring from longer-tenured Whites. Recent waves of immigrants, who primarily originate in Asian, Caribbean, and Latin American countries, are largely non-White and differ from the middle class in both unseen and seen characteristics, and thus are subjected to interpersonal and structural racism. Furthermore, the children of lower-class immigrants often live in inner-city neighborhoods in close proximity to 'native' minority groups, who have adopted an 'adversarial' stance to the White middle class. In response to the racist environment in which they are raised, Portes and Zhou suggest that many members of the new second generation will also adopt this adversarial culture, one consequence of which is behaviors and attitudes that lead to poor educational outcomes.<sup>86</sup>

The second factor that Portes and Zhou believe leads to segmented assimilation is change over the last several decades in the structure of the U.S. labor market. The traditional

view of assimilation is that first-generation immigrants have always been willing to take low-wage, menial jobs and then work their way into higher-paying, higher-prestige jobs. In the past, members of the second generation were able to get middle-class jobs in manufacturing and industry that were held in higher prestige and paid better than the menial jobs of the first generation. As the economy has shifted away from manufacturing and related industries, far fewer jobs are available that require moderate levels of skill and education but still pay a middle-class wage. This has led to a widening gap between low-wage, low-skill jobs and white-collar jobs that pay well but require high levels of education and skills. In this new bifurcated economy, workers must either take low-wage jobs or obtain the education necessary for white-collar jobs. Portes and Zhou argue that many second generation immigrants adopt the adversarial culture of native minorities and will not reach this higher level of education. Having grown up in the U.S., however, many members of the new second generation have 'American' employment expectations that leave them unwilling to accept low-wage, menial jobs. As a result, Portes and Zhou conclude that many members of the new second generation, particularly the offspring of poorly-educated, low-wage workers, will choose not to participate in the labor market and undergo downward assimilation towards poverty and a permanent underclass.

If segmented assimilation theory held among Mexican immigrants and their offspring, we would expect much of the second generation to undergo downward assimilation towards a permanent underclass. This is because most first-generation Mexican immigrants have low levels of education and work low-wage jobs, exactly the characteristics argued by Portes and Zhou to put the second generation at risk of poor educational outcomes and adoption of an adversarial culture. In fact, this does not appear to be the case. Waldinger and Feliciano (2004) use data from the 1996 to 2001 Current Population Survey to investigate labor force attachment among first- and second-generation Mexican immigrants, as well as third-and-higher generation Whites, Blacks, and Puerto Ricans.<sup>86</sup> In contrast to the outcomes predicted by segmented



assimilation theory, they find that patterns of employment, weeks worked, and chronic joblessness among first- and second-generation Mexican Americans provided little support for segmented assimilation theory. Among men, they found that labor force attachment among first- and second-generation Mexican immigrants was comparable to Whites and much better than native minorities, particularly given very low levels of education among first-generation immigrants. Among women, they found a large gap in occupational outcomes between first-generation Mexican immigrants and Whites, but that this gap was greatly reduced among the second generation. This finding, in direct contrast with segmented assimilation theory, was largely attributed to the fact that educational attainment tends to be much higher among the second generation. Further studies have also found that educational attainment, earnings, and occupational prestige are higher among U.S.-born Mexican Americans than their foreign-born counterparts.<sup>87-89</sup>

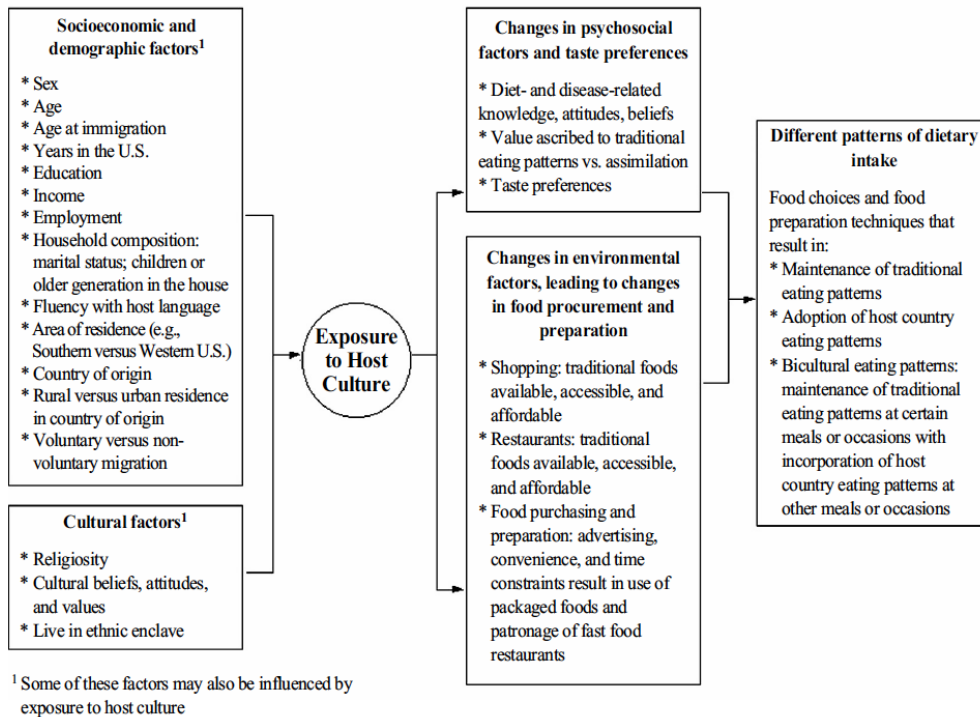
In brief, the evidence in support of segmented assimilation theory as it relates to educational and occupational outcomes among Mexican Americans is, at best, mixed; however, I believe that the theory may still have interesting implications for understanding changes in food behaviors within and across immigrant generations. According to the Anglo-conformity model of acculturation, we would likely expect that food behaviors among Mexican immigrants and their offspring would eventually converge with those of the White middle class. Under a multidimensional model, we might expect immigrants to selectively adopt characteristics of the food culture of the White middle class, while maintaining several elements of Mexican food culture. Segmented assimilation theory suggests an alternative path, namely that Mexican Americans might selectively adopt the food cultures of 'native' minority groups or the American underclass. This possibility seems quite plausible, especially given that Mexican-origin populations tend to concentrate in ethnic and immigrant enclaves that have hugely different food environments than predominantly White neighborhoods.<sup>28, 90-92</sup> Similar to other minority

neighborhoods, Mexican American neighborhoods tend to have fewer supermarkets than White neighborhoods and more fast food restaurants, corner stores, and liquor stores. These and other similarities in environmental context, social and economic influences, food values, or other factors may result in food behaviors converging towards those of 'native' minority groups and the underclass rather than Whites, a possibility that has not been explicitly discussed in this area of research.

### **Dietary Acculturation**

In addition to more general theories of the acculturation and assimilation processes, researchers have developed theories to understand dietary acculturation, or “the process that occurs when members of a migrating group adopt the eating patterns/food choices of their new environment.”<sup>71</sup> Perhaps the most comprehensive model of dietary acculturation is that offered by Satia-Abouta (2003). In essence, the model reconciles food choice theories with acculturation theories to explain the unique processes that can cause changes in food behaviors among members of an immigrant group.

Based upon the empirical body of acculturation literature, the model suggests that the extent to which immigrants and their offspring are exposed to American culture is affected by socioeconomic, demographic, and cultural factors. As summarized by Satia-Abouta, research has demonstrated that “longer residence in the host country, high education and income, employment outside the home, being married, having young children, and fluency with the host language results in increased exposure to mainstream culture, and consequently acculturation.” Thus, consistent with segmented assimilation theory and similarly complex models of acculturation, Satia-Abouta recognizes that immigrants from different social and cultural backgrounds will likely have different acculturative experiences.



**Figure 3.2: The Model of Dietary Acculturation, Satia-Abouta (2003)**

As seen in Figure 3.2, Satia-Abouta (2003) posits that as immigrants acculturate and are increasingly exposed to their host cultures, they may experience changes in psychosocial factors and taste preferences related to food, as well as changes in environmental factors that affect food purchasing and preparation. Psychosocial factors that may be important for the dietary acculturation process include the following: diet- and disease-related knowledge, attitudes, and beliefs; value ascribed to traditional eating patterns versus assimilation; and taste preferences. Environmental factors that can lead to dietary acculturation include the following: availability, access, and affordability of traditional and non-traditional foods in grocery stores, supermarkets, and other food outlets; traditional and non-traditional foods in restaurants; and advertising, convenience, and time constraints that result in use of packaged foods and patronage of fast food restaurants. Consistent with a multidimensional perspective, Satia-

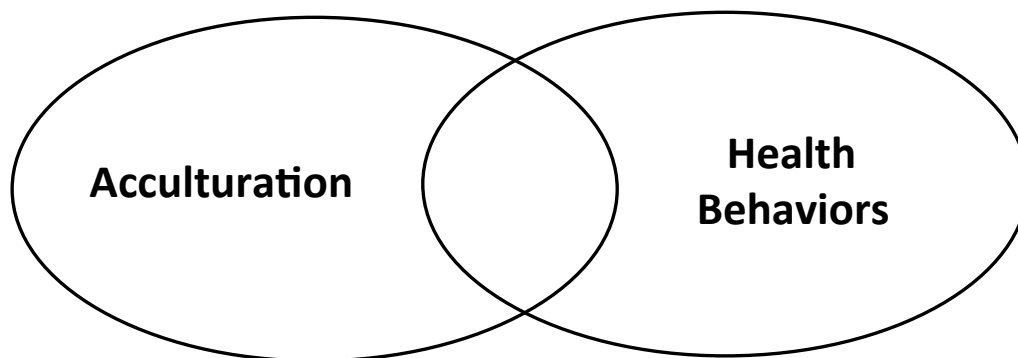
Abouta argues that these psychosocial and environmental factors can lead to three different models of dietary acculturation: First, members of an immigrant group may reject the food culture of the host society and maintain traditional eating patterns. Second, immigrant groups may undergo Anglo-conformism and adopt the food culture of the host society. Third, immigrant groups may develop a multicultural set of food behaviors, whereby they adopt some elements of the host society's food culture while maintaining some traditional elements.

The model of dietary acculturation presented by Satia-Abouta presents several pathways through which the food behaviors of immigrants might change with acculturation, over time, or across generations. She recognizes that what people eat is largely determined by what types of food they purchase and how it is prepared, so the model explicitly recognizes influences on purchasing and consumption. Furthermore, consistent with food values theories, Satia-Abouta recognizes that food choice is largely based on knowledge, attitudes, beliefs, and other values related to food, and that these psychosocial factors may change as immigrants and their offspring acculturate. Because she allows for Anglo-conformism, cultural retention, and multiculturalism, the model is also broad and flexible enough to be applicable to a wide variety of immigrant groups from multiple sending and receiving contexts.

From my perspective, one of the difficulties with using models like Satia-Abouta's to understand the relationship between diet and acculturation among Mexican Americans is that there is a substantial disconnect between the conceptual and empirical literatures. While Satia-Abouta and others explicitly recognize the important influences of psychosocial factors, food purchasing, and food preparation, the empirical literature has almost exclusively focused on changes in consumption as Mexican Americans and other Latinos acculturate.<sup>71-73</sup> As demonstrated by a literature review of 34 studies of the relationship between diet and acculturation, a large body of research has consistently documented that consumption of fruit, rice, and beans decreases as Latinos acculturate, while consumption of sugar and sugar-

sweetened beverages increases.<sup>70</sup> In contrast, few empirical studies have examined shifts in food purchasing and preparation behaviors,<sup>72, 74, 93</sup> and even fewer have examined shifts in psychosocial factors and food preferences.<sup>72</sup> The few studies that have been conducted regarding food purchasing and preparation have focused on purchasing and consumption of fast food, with most finding that these behaviors increase with acculturation,<sup>72, 74, 93</sup> however, other dimensions of food preparation have gone largely unexplored. Thus, a challenge in understanding the relationship between diet and acculturation among Mexican Americans is finding empirical support for models like the one proposed by Satia-Abouta.

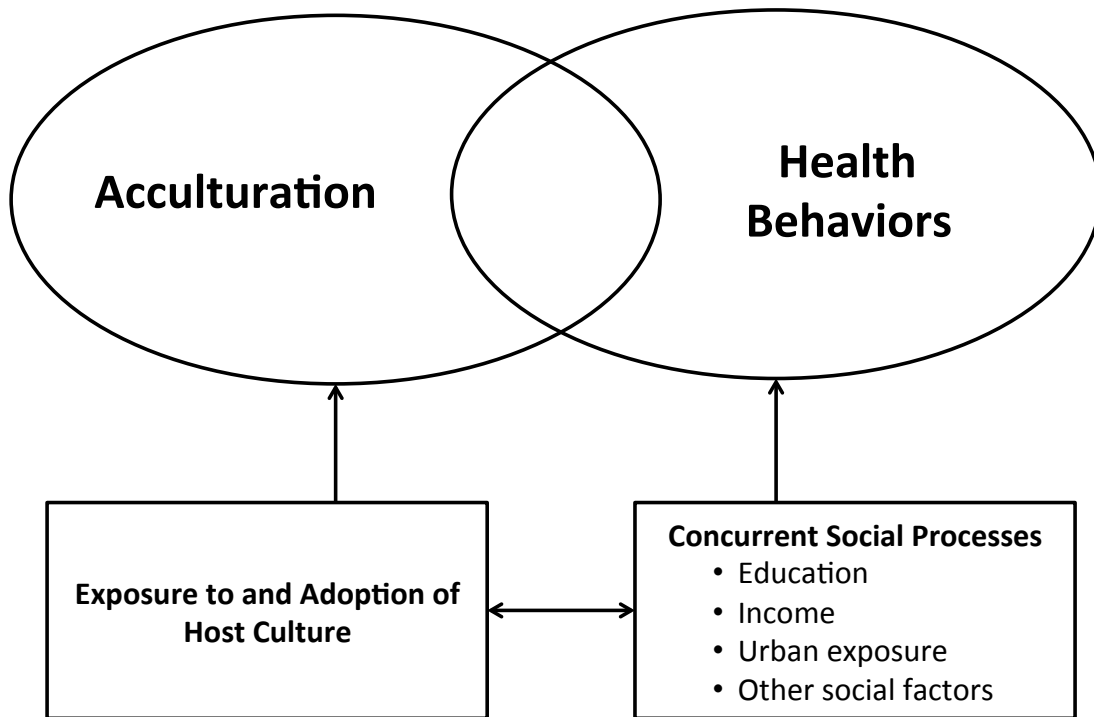
### Conceptual Framework



**Figure 3.3: A model for understanding the relationship between acculturation and health behaviors among members of an immigrant group**

In **Figure 3.3**, I present a conceptual framework for understanding the relationship between acculturation and health behaviors among members of an immigrant group. The framework recognizes that acculturation and changing health behaviors are independent but overlapping processes that can each occur within and across immigrant generations. Consistent with Telles and Ortiz, the framework recognizes acculturation as a multidimensional process that can consist of changes in a number of cultural patterns and practices, such as language

use, media use, friendship ties, ethnic identity, knowledge, attitudes, and beliefs. As discussed by Satia-Abouta, health behaviors that are related to culture, including food behaviors, can also change as part of the acculturation process. An important aspect of this model, however, is its recognition that not all changes in health behavior that occur within and across immigrant generations are part of the acculturation process. Thus, the concentric circles in the model represent three distinct processes: 1) acculturation that is unrelated to health behaviors, 2) changes in health behaviors that occur as part of the acculturation process, and 3) changes in health behavior that are unrelated to acculturation.



**Figure 3.4: A model for understanding how exposure to the host culture and concurrent social processes affect the health behaviors of members of immigrant groups**

In **Figure 3.4**, I elaborate further upon acculturation and changes in food behaviors that occur within and across immigrant generations. Consistent with previous conceptualizations of

acculturation, the model recognizes that acculturation results from exposure to and adoption of the host culture. The model further recognizes that other important social processes occur at the same time as immigrants and their offspring are exposed to the host culture. Social processes that I believe may affect the health behaviors of Mexican immigrants include moving from rural areas in Mexico to urban areas in the U.S., as well as shifts within and across generations in income and education. Using data from the 2006 Mexican National Survey of Population Dynamics, Riosmena and Massey (2012) found that about 40% of Mexicans who immigrated to the U.S. between 2001 and 2005 were from rural areas, a proportion that declined from 60% to 70% in the 1970s.<sup>40, 44</sup> While a large proportion of Mexican immigrants originate from rural areas, data from the 2007-2011 American Community Survey (ACS) suggest that 92% live in urban areas in the U.S.<sup>45</sup> Similarly, 63% of Mexicans who migrated to the U.S. between 2001 and 2005 had a primary school education or less, and data from the 2007-2011 ACS reveal that 60% of all foreign-born Mexican American adults have less than a high school degree.<sup>44, 45</sup> On the other hand, ACS data indicate that just 22% of U.S.-born Mexican Americans have less than a high school degree. Furthermore, the average poverty to income ratio among foreign-born Mexican Americans is 1.97, compared to 2.78 among U.S.-born counterparts.

I believe that **Figure 3.4** could be applied to a number of health behaviors that differ between more-acculturated Mexican Americans and their less-acculturated counterparts; however, I think it is particularly important to consider this framework when examining changes in food behavior that take place within and across immigrant generations. As previously discussed, a number of studies have documented that dietary patterns differ between more- and less-acculturated Latinos, both within and across immigrant generations. I posit that much of this change should not be considered as part of the acculturation process per se, but rather that it results from differences between the more- and less-acculturated in social factors that affect food behaviors. For example, as immigrants move from rural areas in Mexico to urban areas in

the U.S., they are not only exposed to U.S. culture but also to an urban environment. Given the large differences between rural and urban areas in food access, availability, advertising, cost, and many other factors, this transition is likely to affect immigrants' food behaviors. Similarly, food values and behaviors might change as immigrants and their offspring attain higher levels of education, better jobs, and greater income. I believe it is conceptually important to differentiate between shifts in food behavior that reflect exposure to and adoption of U.S. culture, and therefore should be considered part of the acculturation process, and other changes in food behavior caused by these concurrent social processes.



## **Chapter 4: Methods**

In this chapter, I discuss methods and measures that are common across my four dissertation studies. I begin by discussing the three data sets I use throughout the dissertation, including a detailed description of the data source for **Studies 3 and 4**, which lacks publicly-available data documentation. Next, because all four papers use data collected at a single point in time, I briefly examine issues related to studying the relationship between acculturation and diet using this type of data. I then discuss measurement of the ‘acculturation’ construct, including ideal measures, measures that have been used in past studies of the relationship between acculturation and diet, and measures I use in this dissertation. Finally, I discuss common statistical methods that are used in three of my four studies.

### **Encuesta Nacional de Salud y Nutrición (Study 1)**

Data for **Study 1** are from adult participants  $\geq 20$  years old in the 2006 Encuesta Nacional de Salud y Nutrición (ENSANUT), a nationally-representative health survey conducted by the Mexican National Institute of Public Health.<sup>94</sup> The goal of the survey was to collect systematic data about the health and nutritional status of Mexican children, adolescents, and adults, as well as to help evaluate the performance of the national health system and other social programs. ENSANUT data are collected via in-person interviews that cover topics related to health and health care, nutrition, household expenditures, use of social programs, and socio-demographics. In total, 45,241 adults participated in the survey. I restrict my analyses in **Study 1** to two subsamples: 42,915 participants who were asked about food expenditures and 20,103 participants who received a food frequency questionnaire and were asked about eating food prepared outside of the home.

ENSANUT was designed to produce results generalizable to both urban and rural areas within each of Mexico's 31 states and the Distrito Federal, the capital city. The sample is constructed using a stratified, multi-stage, clustered sampling plan. Strata are based on the size of a locality (rural, urban, large urban), as well as its incorporation into *Oportunidades*, a national poverty reduction program. Within each of the six strata, a probability sample of blocks or block groups is selected for inclusion. Within selected block groups, a random sample of households is then selected for participation in the survey. Sample weights are included in the ENSANUT public use data that account for the complex survey design and weight the data to be representative of the Mexican population living in households. Further details on the ENSANUT sampling strategy and study design are available elsewhere.<sup>94</sup>

### **The 2005-2010 National Health and Nutrition Examination Survey (Study 2)**

Data for **Study 2** are from public use data files of the 2005-2010 NHANES. Briefly, NHANES is a continuous series of annual studies that has been conducted since 1999 and is designed to assess the health and nutritional status of adults and children in the United States. NHANES uses a complex, multi-stage sampling design to obtain a sample representative of the non-institutionalized U.S. population of all ages. A key aspect of the NHANES sampling strategy is that oversampling is used to produce sub-samples representative of particular underrepresented groups, including children and adolescents, people living in low-income households, and racial/ethnic minorities. Each year of NHANES includes representative samples of the Mexican American population. Further details on the sampling strategy and study design employed by NHANES are available elsewhere.<sup>95</sup>

Since its inception, NHANES has included both an in-person interview and a physical examination component. The interview contains demographic, dietary, and health-related questions, while the examination includes medical, dental, and physiological measurements

taken by highly-trained personnel. Participants also undergo two 24-hour dietary recalls. The first day of recall is conducted in person during the NHANES examination. The second day of recall is conducted during a follow-up telephone interview. Particularly relevant to my dissertation, a Flexible Consumer Behavior Survey (FCBS) module was added to NHANES in 2007 to collect information on people's knowledge, attitudes, and beliefs toward nutrition and food choices. The FCBS module includes a core set of questions asked in the in-person interview as well as a supplementary module that is conducted over the telephone after the second day of dietary recall. The topics covered during the telephone interview change for each two-year data collection cycle. In 2007-2008, the follow-up interviews asked participants about the following: attitudes towards food away from home; factors that affect grocery shopping; nutrition knowledge, perceptions, and habits; the food label; and organic food. The majority of the data I use in **Study 2** come from the 24-hour dietary recalls, the FCBS module, a diet behavior and nutrition module, and the general demographics module.

### **East Los Angeles Community Survey (Studies 3 and 4)**

**Studies 3 and 4** use data collected as part of evaluation efforts from a large, community-based intervention in East L.A. Data collection is ongoing and no data documentation has yet been made publicly available. Thus, I believe it is important to provide context and an overview of the study methodology.

#### *Community of Interest: East Los Angeles*

East L.A. is an urban community whose residents endure high rates of chronic disease, including diabetes, hypertension and stroke. Over 95% of the people who live in East L.A. are Latino, primarily of Mexican ancestry, and almost half (49%) are immigrants. The East L.A. population has characteristics that lead to significant health disparities relative to other

neighborhoods in L.A. County, including high rates of poverty, crime, gang activity, underperforming schools, obesity, physical inactivity and poor access to primary care and preventive care. In 2006, the coronary heart disease death rate in East L.A. was 164.0/100,000 compared with 132.6/100,000 in West L.A., an area that includes more affluent communities like Beverly Hills, Santa Monica, Malibu, Bel Air, and Brentwood.<sup>96</sup>

A contributing factor to poor health in East L.A. is unhealthy food behaviors. Just 13.8% of adults in East L.A. consume five or more servings of fruits and vegetables per day, compared to 22.7% of adults in West L.A.<sup>96</sup> Furthermore, 46.4% of adults in East L.A. eat fast food at least once per week (28.3% in West L.A.) and 54.0% drink at least one soda or other sweetened drink per day (23.0% in West L.A.). Unhealthy dietary practices are also common among East L.A. children, 53.7% of whom eat fast food at least once per week (29.0% in West L.A.) and 49.8% of whom drink at least one soda or other sweetened beverage per day (25.1% in West L.A.). As a result, overweight and obesity are much more common in East L.A. than most other neighborhoods in Los Angeles County: 66.0% of adults in East L.A. are overweight or obese, compared to just 42.8% of adults in West L.A.

One of the causes of unhealthy eating in East L.A. may be an unhealthy food environment.<sup>28, 97, 98</sup> East L.A. has frequently been characterized as a “food desert,” or a community that lacks access to supermarkets but has an abundance of fast food restaurants and other sources of unhealthy food.<sup>99-101</sup> In reality, East L.A. could be more accurately characterized as a food swamp, because supermarkets and large, comprehensive grocery stores do exist but are vastly outnumbered by outlets that serve unhealthy foods.<sup>102</sup> In other words, the ratio of unhealthy to healthy food options is considerably higher in East L.A. than other, more affluent areas of Los Angeles County, including West L.A.

### *Parent Study Overview*

**Studies 3 and 4** are based on data that are being collected as part of research and evaluation efforts for a large, community-based health intervention. This ‘parent study,’ entitled “Corner Store Makeovers in East Los Angeles: Improving Healthy Food Access,” seeks to reduce cardiovascular disease risk among East L.A. residents by increasing access to healthy foods. In brief, the parent study involves conducting ‘corner store makeovers’ at four intervention stores in East L.A. As part of the makeovers, stores will expand their healthy food inventories, increase point-of-purchase advertising for healthy foods, and make façade improvements to make the stores more attractive and customer-friendly. The intervention will also include a community-based social marketing campaign to promote the made over stores as well as healthy eating in general.

#### *The East Los Angeles Community Survey*

To evaluate the impact of the corner store makeovers, the parent study is conducting a survey with a total of 2,000 community residents across two waves of data collection. In brief, the community survey employs a repeated cross-sectional survey design with data collection at two points in time: baseline data collection takes place with 1,000 community residents immediately prior to the implementation of the intervention in each store, with follow-up occurring with 1,000 additional residents at two years post-intervention. The community survey uses computer assisted personal interviews (CAPI) conducted in each participant’s home to assess food purchasing, preparation, and consumption behaviors as well as a range of other characteristics related to nutrition, health, and demographics.

The sampling plan of the community survey calls for interviews to be conducted with 125 participants in each of the neighborhoods immediately surrounding the four intervention and four comparison stores involved in the parent study. Participants are selected into the community survey based on a three-stage sampling plan. In the first stage, eight block clusters were

purposively selected from all blocks in East L.A. based on their proximity to the eight stores involved in the parent study. In brief, the closest blocks to each store are added into a cluster until each cluster contains at least 273 residences. The minimum desired number of residences in each cluster is based on the target of interviewing 125 participants per cluster as well as assumptions about the accuracy of the sampling frame, occupancy rates, screening rates, and response rates. The second stage of sampling involves the random selection of households within selected block clusters. The third stage of sampling involves purposive sampling of a single adult within each selected household. Inclusion criteria for selection into the study include that the participant must be at least 18 years of age, a resident of the selected household, and the primary purchaser or preparer of food for the household. Interviews last approximately one hour and are conducted in English or Spanish based on the preference of participants. Participants are paid \$25 as an incentive for their participation.

### *Instrument*

The community survey includes questions covering a range of topics conceptualized to be related to patronage of intervention stores as well as food purchasing, preparation, and consumption. These questions can be broadly classified into the following modules: 1) home food preparation, 2) healthy food environment, 3) food consumption, 4) food purchasing, 5) usual food stores, 6) corner store purchasing patterns and attitudes, 7) height and weight, 8) nutrition literacy, 9) food self efficacy, 10) health care utilization, access, and sources of care, 11) physical activity and exercise, 12) health conditions, 13) depressive symptomatology, 14) household composition, 15) neighborhood social cohesion, 16) demographics, 17) poverty, 18) public program participation, and 19) citizenship and immigration. Whenever possible, the items included in the community survey questionnaire were adapted from existing instruments such as the Behavioral Risk Factor Surveillance System<sup>103</sup> and the California Health Interview Survey.<sup>104</sup>

In general, standard questions were used for most modules. When suitable items could not be identified to cover a given topic, new items were developed by the parent study staff. The entire community survey was translated into Spanish and back-translated to ensure that the original meaning of each item was maintained. Prior to fielding the community survey, the entire questionnaire was pretested and cognitive interviewing was used to test specific items for readability and understandability.

### *Progress to Date*

To date, the first two waves of data collection have been completed for the baseline community survey. A total of 532 interviews have been conducted with residents of neighborhoods surrounding the first two pairs of intervention and comparison stores. The overall response rate for these interviews was above 80% in all four neighborhoods. Rounds three and four of the baseline community survey are expected to be completed by the end of Spring 2013.

### **Summary of Data Sources**

I provide an overview of some of the main characteristics of the three data sets I use in this dissertation in **Table 4.1**. Themes common across the three studies are that they all include large samples of Mexican or Mexican American participants and each collect a wealth of information on food purchasing, preparation, and consumption behaviors. ENSANUT is based on a nationally-representative sample of Mexican adults, the 2005-2010 NHANES include nationally-representative samples of Mexican American adults in each survey year, and the East L.A. Community Survey is based on interviews with food purchasers and preparers within a probability sample of households in four predominately-Mexican American neighborhoods.

**Table 4.1: Overview of Data Sets**

<b>Data Set</b>	<b>Population</b>	<b>Analytic Sample Size</b>	<b>Key Variables</b>
2006 Encuesta Nacional de Salud y Nutrición	Mexican adults ≥20 years old	n=42,915 (n=20,103 FFQ)	FV consumption, food spending, restaurant and street food consumption
2005-2010 National Health and Nutrition Examination Survey	Mexican-origin adults ≥20 in the U.S.	n=2,792 (~900 per cycle)	Dietary recall and food sources, spending, meal prep, prepared and processed food, values
East Los Angeles Community Survey	Food purchasers & preparers in four neighborhoods in East Los Angeles, CA	n=525 (first 4 stores)	Food spending, food sources, 'usual' store, Townsend, prep frequency, home food environment, fast food, perceived barriers to healthy meal prep

### **Cross Sectional Data and Food Behavior Change**

In this dissertation, I am essentially trying to use data collected at a single point in time to understand the relationship between variables that change throughout a person's life. There are clear limitations of this approach, and I would like to acknowledge some of them. As described by Gordis (2009), one of the criteria for determining whether the relationship between two variables is causal is to establish temporality.<sup>105</sup> Specifically, the hypothesized 'cause' must precede its hypothesized effect. In studies of food behavior among immigrants, a fairly consistent hypothesis is that behaviors change as immigrants are exposed to and adopt the host country's food culture. The tricky part of this is that an immigrant's level of exposure changes throughout his or her life and, presumably, so do their food behaviors. In an ideal world we would conduct longitudinal studies to follow immigrants and their offspring throughout their lives to document time spent in the U.S., exposure to different elements of U.S. culture, changes in food behaviors, and changes in other factors that can evolve over time. With these



data, we could establish temporality by determining whether time spent in the U.S. and exposure to U.S. food culture precede changes in food behaviors. As noted by Ayala and colleagues (2008), however, no studies of the relationship between acculturation and diet have followed Latinos over time in this manner, and thus temporality of the relationship between acculturation and diet has not been established. The studies I conduct in this dissertation share this limitation with other studies of the relationship between acculturation and diet among Mexican Americans (and, more broadly, among Latinos), and thus observed associations between acculturation and food behaviors do not imply causality.

The issue of time presents an additional challenge that I believe is also important to discuss. As highlighted in previous chapters, much of the literature in this field has been dedicated to identifying whether more-acculturated Mexican Americans eat differently than their less-acculturated counterparts. In the previous chapter, I argued that some of this relationship may not represent a true 'acculturation effect,' but rather might reflect the fact that other social factors change as immigrants acculturate. Many immigrants move from rural areas in Mexico to urban areas in the U.S., and income and education commonly increase within and across immigrant generations. Thus, I posit that differences in food behaviors between the more- and less-acculturated are the result of a complex relationship between an entire set of social, cultural, and contextual factors that change throughout an immigrant's life course. Given that all of the data sets upon which my studies are based represent a single snapshot in time, I am only able to adjust for current characteristics like income and location of residence. While this approach is certainly interesting, I am unable to examine how social origins, residential history, and other prior experiences shape food behaviors.

## **Acculturation Measurement**

### *Acculturation Measures in this Dissertation*

In all four of my dissertation studies I examine food behaviors within samples of Mexican and Mexican-origin populations. In the first study, I examine social gradients in food behaviors among adults within Mexico. In the latter three studies, I focus on the relationship between acculturation and food behaviors among local and national populations of Mexican Americans. The final three studies use measures of language use to assess participants' acculturation status. As discussed in **Chapter 3**, language is just one dimension of culture and the acculturative process; therefore, it is more accurate to describe these studies as examining the relationship between *linguistic acculturation* and food behaviors.

Study 2 (**Chapter 5**) uses data from the 2005-2010 National Health and Nutrition Examination Survey (NHANES), a continuous annual survey of the U.S. population that includes a nationally-representative sample of Mexican Americans. To measure participants' acculturation status, NHANES asks participants who self-identify as Hispanic the following question: "Now I'm going to ask you about language use. What language(s) do you usually speak at home?" Response options include: 1) only Spanish, 2) more Spanish than English, 3) both equally, 4) more English than Spanish, and 5) only English. **Table 4.2** shows the weighted distribution of home language use among Mexican American adult participants in the 2005-2010 NHANES.

**Table 4.2: Home Language Use among Adult Mexican American Participants in the 2005-2010 NHANES, n=2,792**

	%	95% CI	
<b>Linguistic Acculturation</b>			
Only Spanish	42.4	38.7	46.2
More Spanish	15.1	12.5	17.7
Both equally	12.9	11.0	14.8
More English	13.5	10.8	16.3
English only	16.0	13.0	19.0

In Studies 3 and 4 (**Chapters 6 and 7**), participants in the East Los Angeles Community

Survey were asked a series of questions adopted from the 2009 California Health Interview Survey.<sup>104</sup> To begin, participants were asked the following: “What languages are spoken in your home?” Response options include: 1) Spanish only, 2) both Spanish and English, or 3) English only. Participants who report that both English and Spanish are spoken in their home are then asked a set of four follow-up questions to further assess their language use and English proficiency. The first three follow-up questions include the following: 1) “What language do you mainly speak at home?” 2) “What language do you speak with friends?” 3) “In what language are the TV shows, radio stations, or newspapers that you usually watch, listen, or read?” These three questions have the following response options: “English only,” “both English and Spanish,” and “Spanish only.” The fourth follow-up question is “How well would you say you speak English? Would you say: very well, well, not well, or not at all?”

**Table 4.3: Linguistic Acculturation Among Participants in the CPHHD Project 3 Community Survey, n=525**

	n	%
<b>Linguistic Acculturation</b>		
Only Spanish	205	39.1
Mostly Spanish	73	13.9
English & Spanish	87	16.6
Mostly English	82	15.6
English Only	78	14.9
<b>Total</b>	<b>525</b>	<b>100.0</b>

Based on responses to the five questions assessing language use and proficiency, I classified each participant’s language use into five categories: ‘Spanish only,’ ‘mostly Spanish,’ ‘English and Spanish,’ ‘mostly English,’ and ‘English only.’ I classified participants who reported speaking only Spanish in their homes into the ‘Spanish only’ category, and did the same with participants who reported exclusively speaking English. Among participants who reported speaking both languages in the home, I summed responses to the other four language use and

proficiency questions (i.e., I assigned zero points for every ‘Spanish only’ response and four points for every ‘English only’ response) and classified the tertile with the heaviest Spanish use into the ‘mostly Spanish’ category, the middle tertile into the ‘English and Spanish’ category, and the tertile with the heaviest English use into the ‘mostly English’ category. **Table 4.3** shows the final distribution of the five-category variable that measures linguistic acculturation.

### *Ideal Acculturation Measurement*

Culture is a multidimensional construct that might include language, religion, friendship ties, media use, ethnic self-identification, and ethnic/cultural attitudes, beliefs, and practices. As discussed in **Chapter 3**, contemporary perspectives on acculturation view the process as multidimensional and multidirectional, such that changes in any of these cultural elements can occur, not occur, or occur at different speeds. As such, an ideal measure of acculturation would assess immigrants’ level of acculturation across multiple dimensions. Several multidimensional acculturation measures have been developed, with the two most commonly used being the Acculturation Rating Scale for Mexican Americans-II (ARSMA-II) developed by Cuellar and colleagues (1995) and the Bidimensional Acculturation Scale for Hispanics (BAS) developed by Marín and Gamba (1996).<sup>106, 107</sup> ARSMA-II assesses Anglo- versus Mexican-orientation across a variety of dimensions, including the following: language use, language proficiency, media use, contact with Mexico and the U.S., ethnic-identification, family members’ ethnic-identification, friendship ties, and cultural acceptance. BAS includes measures of language use, language proficiency, and English versus Spanish media use.

ARSMA-II and BAS, as well as other acculturation scales, have both strengths and weaknesses. Strengths of ARSMA-II include that it is extremely multidimensional and measures many different cultural elements that can change as Mexican immigrants and their offspring are increasingly exposed to U.S. culture. A downside of this approach, however, is prohibitive

length: each of the dimensions measured in ARSMA-II is measured using multiple items, and the entire instrument has 42 items. For many (or most) studies, 42 questions is far too long to measure a single construct. BAS is about half as long, with a total of 24 questions, but one of its biggest weaknesses is that all of the questions are used to measure different aspects of linguistic acculturation. There are no measures of other dimensions, such as ethnic self-identity, friendship ties, or cultural attitudes, beliefs, and values. From the perspective of segmented assimilation theorists, a further weakness of these (and most other) scales is that they both essentially view immigrants as acculturating towards middle class Whites, which may not always be the case. I believe it would be interesting to understand whether Mexican immigrants adopt cultural elements from other minority or low-income groups.

#### *Acculturation Measurement in Previous Studies*

In 2008, Ayala and colleagues conducted a literature review of 34 studies assessing the relationship between diet and acculturation among U.S. Latinos.<sup>70</sup> Twenty-nine of these studies were quantitative, five of which were based on national data sets and 24 of which were based on local or regional data sets. The five national studies used either NHANES or Hispanic HANES (HHANES), likely because these are among the only nationally-available data sets with large samples of Latinos, good dietary data, and measures of acculturation. HHANES, which was conducted between 1982 and 1984, used an 8-item short form of the predecessor to ARSMA-II to assess participants' acculturation, which included four items to assess language use and four other proxy measures, including immigrant generation, ethnic identity, and perceived ethnic identity of the mother and father. In the studies using NHANES, participants' acculturation was assessed using measures of language use and proxy variables such as nativity, immigrant generation (first, second, third or higher), and time spent in the U.S. Of the 24 regional studies assessed by Ayala and colleagues, none used a full, multidimensional

acculturation scale like ARSMA-II or BAS, four used long partial scales with six or more items, 13 used short partial scales with five or less questions (typically, these studies used multiple items to assess language use), one used a single item to measure language use, and five used a proxy measure such as nativity, immigrant generation, or years spent in the U.S.

In judging measurement of acculturation in previous studies of the relationship between acculturation and diet conducted among Latinos, I would argue that the measures used in this dissertation are very typical. In measuring language use, which is a cultural behavior that changes within and across immigrant generations, I have a direct measure of a single dimension of acculturation. Still, I believe this measure is preferable to proxy measures such as nativity, immigrant generation, or time spent in the U.S. On the other hand, a one-dimensional measure is clearly not as ideal as the small handful of studies reviewed by Ayala and colleagues that used multidimensional measures of acculturation.

**Table 4.4: Linguistic Acculturation by Immigrant Generation Among Participants in the East L.A. Community Survey, n=525**

	<b>Foreign-born (%)</b>	<b>1st Gen. (%)</b>	<b>2nd Gen. (%)</b>	<b>3rd+ Gen. (%)</b>
<b>Linguistic Acculturation</b>				
Only Spanish	56.8	11.6	2.6	0.0
Mostly Spanish	21.5	1.7	0.0	0.0
English & Spanish	14.5	28.9	7.9	4.6
Mostly English	4.8	38.8	31.6	18.2
English Only	2.4	19.0	57.9	77.3
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

*Final Thoughts on the Measures in this Study*

As discussed in Chapter 3, Telles and Ortiz have found that linguistic acculturation is highly associated with immigrant generation among the Mexican-origin population.<sup>83</sup> In particular, they found that linguistic acculturation typically occurred by the second generation.

**Table 4.4** shows linguistic acculturation by immigrant generation among participants in the East L.A. Community Survey. As expected, linguistic acculturation is highly associated with immigrant generation: 78% of the foreign-born population speaks only Spanish or mostly Spanish, while 89% of second-generation citizens and 95% of third-generation citizens speak mostly English or English only.

**Table 4.5: Performance of a One-Item Measure of Language Use against a Five-Item Measure of Language Use among Mexican American Adults in the 2003-2004 NHANES, n=981**

	1-Item Measure				
	Only Spanish (n)	More Spanish (n)	Both Equally (n)	More English (n)	Only English (n)
<b>5-Item Measure</b>					
Only Spanish	410	32	1	0	0
More Spanish	34	57	43	3	1
Both equally	12	16	90	33	6
More English	5	7	28	46	30
Only English	0	0	4	11	112
<b>Total</b>	<b>461</b>	<b>112</b>	<b>166</b>	<b>93</b>	<b>149</b>

As discussed, in Study 2 I use data from the 2007-2008 NHANES, which assesses acculturation using a one-item measure of participants' home language use. This one-item measure represents a shift from previous years, when acculturation was assessed using a five-item measure of language use that asked about home language use, language spoken and read, language use as a child, language used to think, and language spoken with friends. In **Table 4.5**, I present a cross-tabulation of the one-item measure of home language use against the full five-item measure of language use based on data collected among Mexican American adults in the 2003-2004 NHANES. To construct equivalent categories across measures, I summed participants' responses to the five language use questions and categorized responses into five equal categories. The table suggests that about three in four participants (73%) are categorized in the exact same category using either the one-item or five-item measure of language use (i.e., the percent agreement is 73%), and the vast majority of the remainder (23%)

are 'misclassified' by only one category. The proportion of participants who are 'misclassified' by two or more categories is very low (4%).

The point of the preceding paragraphs and tables has been to demonstrate that the measures of language use that I use in this dissertation perform as expected based on previous research and do well compared to other multi-item measures of language use. I believe it is important to recognize, however, that the main strength of this dissertation relative to previous studies of the relationship between acculturation and diet is not in acculturation measurement, but rather measurement of food behaviors. While almost all of the studies reviewed by Ayala and colleagues assessed acculturation-based differences in consumption of specific foods and nutrients, I focus on a much broader set of food behavioral outcomes.<sup>70</sup> Much of the data upon which Study 2 is based were added to the 2007-2008 NHANES cycle and were released to the public within the last year. Furthermore, the East L.A. data upon which Studies 3 and 4 are based were collected as part of a large intervention study and have not been previously used to examine the relationship between acculturation and diet. I believe that my measure of acculturation is comparable to what has been used in previous studies; however, the real strength of this dissertation is clearly my ability to pair a reasonable acculturation measure with a broad and unique set of food behaviors measures collected among relatively large samples of Mexican Americans.

### **Comparison of Coefficients across Logistic Regression Models**

In the last three papers of this dissertation, I seek to examine whether the relationship between linguistic acculturation and various food behavior outcomes is explained by a set of confounding variables that include income, educational attainment, employment, and other sociodemographic factors. As described by Aneshensel (2012) and MacKinnon (2008), mediation analysis can be used to determine the percentage of the relationship between two



variables that is explained by a set of third variables.<sup>108, 109</sup> In brief, this involves estimating two (or more) regression models and then calculating the percent reduction in the coefficient of interest. For example, take the following two equations:

$$y = cx_f + k \quad \text{Eq. 4.1}$$

$$y = c'x_f + bx_c + k \quad \text{Eq. 4.2}$$

In Equation 4.1,  $c$  represents the effect of an independent variable ( $x_f$ ) on a dependent variable ( $y$ ) without adjustment for other factors. In Equation 4.2,  $c'$  represents the effect of the independent variable on the dependent variable after adjustment for a set of other factors (the  $x_c$ ). The proportion of the relationship between  $x_f$  and  $y$  that is explained by the  $x_c$  can be determined by calculating Equation 4.3.

$$(c-c')/c \quad \text{Eq. 4.3}$$

The above method works well with continuous outcomes that are modeled using multivariate linear regression. The method does not work well with dichotomous outcomes modeled using logistic regression. As several authors have pointed out, it is incorrect to compare coefficients or odds ratios across logistic regression models that include different sets of independent variables.<sup>110-113</sup> This is because the addition of extra independent variables in a logistic regression causes a 'rescaling' effect in the dependent variable. The rescaling occurs because the variance of the residual in every logistic regression is fixed at  $\pi^2/3$ . This becomes a problem because as relevant independent variables are added, more of the variance in the dependent variable is explained. Because the explained variance increases while the residual

variance remains fixed, the total variance of the dependent variable differs across models.

In order to avoid the problem of rescaling, I use the method suggested by Breen and colleagues (2011).<sup>111</sup> In brief, Breen and colleagues suggest a method for constraining the total variance explained across logistic regression models. This is achieved by including one or more residual terms in reduced-form models; the residual terms capture variance in confounding variables that is not explained by variables in the reduced-form models. For example, consider a three variable model that predicts the effect of a focal independent variable ( $x_f$ ) on a focal dependent variable ( $y$ ) after adjustment for a third confounding variable ( $x_c$ ). In this three variable model, the residual is identified by regressing the confounding variable on the focal independent variable:

$$x_c = bx_f + k + \varepsilon \quad \text{Eq. 4.4}$$

The residual value for each observation is determined by estimating Equation 4.4, predicting  $x_c$  using the estimated equation, and subtracting the predicted value of  $x_c$  from the observed value. The residual captures all of the variance of  $x_c$  that is not explained by the focal independent variable ( $x_f$ ). This residual term, which Breen and colleagues label as a z-variable, is then included in the reduced model:

$$y = bx_f + bz + k + \varepsilon \quad \text{Eq. 4.5}$$

The result is that the same amount of variance is explained in both the full and reduced model. Importantly, the regression coefficient for  $x_f$  is still the 'unadjusted' effects, because there is zero association between  $x_f$  and  $z$ . The full model:

$$y = bx_f + bx_c + k + \varepsilon$$

Eq. 4.6

In Studies 2, 3, and 4, I present several ‘sets’ of logistic regression models that predict various dichotomized food behavior outcomes. Each ‘set’ includes the results of three ‘reduced’ models and one ‘full’ model. The full model estimates the effect of linguistic acculturation on the food behavior outcome after adjustment for all confounding variables. The reduced models adjust for only some or none of the confounding variables. I use the method outlined above to constrain the total variance explained in each of the reduced models to be equal to the variance explained in the full model. This allows for comparison of coefficients across models as well as the mediation analysis outlined at the beginning of this section. Further detail regarding the rationale and methodology for constraining explained variance across logistic regression models is available in Breen and colleagues (2011).<sup>111</sup>

## **Chapter 5: Social Gradients in Food Behaviors Among Mexican Adults**

### **Background**

A growing body of research in the United States seeks to understand the factors that shape dietary patterns among Mexican Americans. Much of this research has focused on changes in diet that occur as Mexican immigrants acculturate, or adopt the cultural patterns and practices of U.S. society.<sup>71</sup> As described in a literature review conducted by Ayala and colleagues (2008), these studies have found both positive and negative changes in diet as Mexican American and other Latinos acculturate; however, findings have been fairly consistent that the bad changes outweigh the good, and thus diets become less healthful with acculturation.<sup>70</sup> For example, in a study among Mexican adults, foreign-born Mexican Americans, U.S.-born Mexican Americans, and U.S.-born Whites, Batis and colleagues (2011) found that groups more exposed to the U.S. environment demonstrated lower consumption of beans and other legumes and higher consumption of soda, high-fat cheese, desserts, salty snacks, and pizza and French fries.<sup>69</sup>

Most research in this field has focused on documenting differences in nutritional outcomes between more- and less-acculturated Mexican Americans, with almost all studies focusing on intake of specific foods and nutrients. Far fewer studies have examined the relationship between acculturation and other food behaviors, including those related to food purchasing and preparation. I argue that these other behaviors are important to examine, because changes in food purchasing and preparation patterns may serve as a mechanism through which diets change as Mexican Americans acculturate. For example, many of the negative changes in diet observed in previous studies might not be due to the 'Americanization' of immigrants' palates, but rather because they prepare their own meals less often and increasingly rely on restaurant or fast food meals that are less healthful. A small but growing

body of literature that has examined differences in food sources between more- and less-acculturated Mexican Americans has found that acculturation is associated with increased purchasing and consumption of fast food among members of immigrant groups.<sup>72, 74, 93</sup>

To summarize, the empirical evidence is fairly strong that diets change as Mexican Americans acculturate, and a burgeoning literature suggests that one likely mechanism for this change is increased purchasing and consumption of fast food. What is less clear is whether differences in diet and fast food purchasing between more- and less-acculturated Mexican Americans reflect exposure to and adoption of U.S. food culture, or whether the patterns observed in the literature are the result of some other mechanism. I believe that there are two likely reasons why we might observe a relationship between acculturation and food behaviors among Mexican Americans: First, exposure to and adoption of U.S. culture might cause changes in what immigrants eat, either via changing tastes and preferences for food or environmental exposures that are part of the acculturative process.<sup>71</sup> For example, immigrants who speak English, who work, socialize, or otherwise interact with 'native' populations, and who are exposed to American food advertisements in the media, local food stores, or their neighborhoods may be inclined to adopt American food patterns and practices.

The second possibility is that acculturation might not be the only social process that occurs within and across immigrant generations and affects the food behaviors of Mexican Americans. About 40% of migrants from Mexico come from rural areas, but over 90% of Mexican immigrants live in urban areas in the U.S.<sup>44, 45</sup> At the same time as immigrants are exposed to an entirely new society and culture, therefore, many are also being exposed to an urban environment for the first time. Rural to urban relocation results in increased access to a wide variety of food outlets, as well as different exposure to advertisements, prices, and the breadth of foods offered within stores. Thus, the food behaviors of immigrants and their

offspring might change as the result of living in urban areas, without any true effect of U.S. culture on food purchasing, preparation, or consumption.

Another factor likely to change within and across immigrant generations is socioeconomic status. Data from the 2007-2011 American Community Survey suggest that the annual incomes of U.S.-born Mexican Americans are considerably higher than those of the foreign-born, and that 60% of foreign-born Mexican American adults have less than a high school degree compared to just 22% of their U.S.-born counterparts.<sup>45</sup> Foreign-born immigrants who have spent more time in the U.S. may also have higher rates of employment as well as better and higher-paying jobs. Thus, to fully understand why Latinos eat what they eat and how food behaviors change as immigrants and their offspring acculturate, it is necessary to differentiate between the effects of exposure to and adoption of U.S. cultural patterns and those of other social processes, including urbanization, income, and education.

### ***The Importance of the Sending Context***

One of the challenges associated with understanding the causal pathways between acculturation and health is that most population-based surveys in the U.S. do not include information about the 'sending context' from which immigrants originate.<sup>114, 115</sup> In particular, we tend to overlook cultural and societal norms in countries of origin that may shape attitudes, beliefs, and behaviors throughout immigrants' lives. Furthermore, we typically lack data regarding immigrants' socio-demographic and behavioral characteristics upon arrival in the U.S. This makes it difficult to understand whether heterogeneity in health behaviors within the Mexican American population is caused by acculturation and exposure to the U.S. environment, or whether this heterogeneity reflects behavioral patterns that originate in Mexico.

There are several reasons why understanding patterns in food behaviors within the Mexican population might give us insight into the Mexican-origin population in the U.S. Over one-third of the Mexican-origin population in the U.S. is foreign-born, a number that has stayed consistently high for decades.<sup>45</sup> The U.S.-Mexico border is also somewhat porous, with many Mexican Americans frequently traveling to Mexico to shop, vacation, or visit family and many Mexicans coming to the U.S. to do the same. As a result of high levels of migration and contact between countries, the health behaviors of Mexican Americans may be influenced by behavioral patterns in Mexico. Additionally, social gradients in food behaviors among Mexican Americans may be 'imported' from Mexico rather than emerging after immigrants arrive in the U.S.<sup>116</sup> To take the example of location of residence, it might be important to understand whether food behaviors among Mexicans are significantly different in rural versus urban areas. If they are, changes that occur when Mexican immigrants move from rural areas in Mexico to urban areas in the U.S. may not be the result of acculturation, assimilation, or any other 'Americanizing' influence, but simply the result of urbanization.

A further reason to examine food behaviors among Mexicans is that Mexico and other Latin American countries are going through rapid development, globalization, and urbanization. These processes can affect the food environment and how populations acquire food. Documenting how food behaviors change over time in migrant-sending countries will help inform health promotion efforts within these countries as well as help researchers in the U.S. anticipate changes in healthy behaviors among future generations of immigrants.

### ***Research Aims***

In this study, I use survey data from a large, representative sample of the Mexican adult population to examine food behaviors within Mexico. In particular, I assess fruit and vegetable

consumption, food spending, and the frequency with which Mexican adults consume prepared meals from fast food restaurants, sit-down restaurants, and street vendors. Furthermore, I determine whether these food behaviors vary within the Mexican population based on social factors including urban versus rural residence, educational attainment, and socioeconomic status.

## **METHODS**

### **Data Source**

Data for this study are from adult participants  $\geq 20$  years old in the 2006 Encuesta Nacional de Salud y Nutrición (ENSANUT), a nationally-representative health survey conducted by the Mexican National Institute of Public Health.<sup>94</sup> The goal of the survey was to collect systematic data about the health and nutritional status of Mexican children, adolescents, and adults, as well as to help evaluate the performance of the national health system and other social programs. ENSANUT data are collected via in-person interviews that cover topics related to health and health care, nutrition, household expenditures, use of social programs, and socio-demographics. In total, 45,241 adults participated in the survey. In this study, I restrict my analyses to two subsamples: 42,915 participants who were asked about food expenditures and 20,103 participants who received a food frequency questionnaire and were asked about eating food prepared outside of the home.

ENSANUT was designed to produce results generalizable to both urban and rural areas within each of Mexico's 31 states and the Distrito Federal, the capital city. The sample is constructed using a stratified, multi-stage, clustered sampling plan. Strata are based on the size of a locality (rural, urban, large urban), as well as its incorporation into *Oportunidades*, a national poverty reduction program. Within each of the six strata, a probability sample of blocks or block groups is selected for inclusion. Within selected block groups, a random sample of



households is then selected for participation in the survey. Sample weights are included in the ENSANUT public use data that account for the complex survey design and weight the data to be representative of the Mexican population living in households. Further details on the ENSANUT sampling strategy and study design are available elsewhere.<sup>94</sup>

## **Measurement**

### *Dependent Variables*

*Fruit and vegetable consumption:* Dietary intake among a subsample of 20,103 ENSANUT participants is measured using a previously validated food frequency questionnaire that asks about consumption of 101 food items comprising 14 different food groups.<sup>117, 118</sup> Trained personnel ask participants about consumption of each food item during the previous seven days, including frequency and portion size. The food frequency questionnaire asks about 26 fruits and vegetables that are commonly consumed in Mexico, as well as two residual categories that capture consumption of ‘other’ fruits and ‘other’ vegetables. In this study, I have constructed a continuous variable that measures mean daily consumption of fruits and vegetables combined. This measure does not include consumption of fruit juice or vegetable juice, but does include fruit and vegetable components that were part of a larger food item (e.g., pieces of fruit in a fruit salad or sliced vegetables on a sandwich).

*Food and restaurant expenditures:* ENSANUT assesses a variety of household expenditures, including food spending, among all adult participants. To assess non-restaurant food spending participants are asked, “In the past month, how much did the household spend on food without considering alcoholic beverages or cigarettes? Do not include restaurant food.” To assess restaurant spending, participants are asked, “In the past month, how much did the household spend on food at restaurants?” I have constructed two variables to measure food

spending: 1) spending on all food in the past month, including restaurant and non-restaurant spending (in pesos), and 2) spending on restaurant food in the past month (in pesos).

*Consumption of fast food/restaurant food and street food:* A subsample of 20,103 ENSANUT participants are asked a series of questions to assess the frequency with which they purchase breakfast, lunch, and dinner at fast food or other restaurants as well as snacks, drinks, or meals at street food vendors. To measure the lunch habits related to fast food and restaurants, for example, participants are asked, “How often do you typically eat lunch at fast food or restaurants?” Response options range from more than once per day to never.

### Independent Variables

*Rural/urban:* ENSANUT staff classify localities in Mexico as either rural, urban, or large urban based on population size. Rural localities have fewer than 2,500 inhabitants, urban areas have between 2,500 and 99,999 inhabitants, and large urban areas have 100,000 inhabitants or more.

*Education:* I classify participants’ educational attainment into the following five categories, based on the last level of education completed: 1) <elementary school, 2) elementary school, 3) middle school, 4) high school or vocational school, 5) college or more.

*Socioeconomic status:* As discussed by Barquera and colleagues (2009), the Mexican National Institute of Public Health (INSP) calculates a multidimensional socioeconomic status index based on data regarding households’ sociodemographic structure (e.g., number of occupants, employment status), housing conditions (e.g., water source, floor material, number of occupants), and household goods (e.g., radio, television and refrigerator).<sup>117</sup> Using principal components analysis, INSP classifies participants into socioeconomic status deciles.

## **Statistical Analyses**

I examine the distributions of all variables using descriptive statistics, including means and 95% confidence intervals of continuous variables and percentage distributions of categorical variables. I use bivariate statistics to examine food behaviors across strata defined by rural/urban residence, education, and socioeconomic status. More specifically, I use cross-tabulation for categorical outcomes (i.e., consumption of fast food/restaurant food and street food) and conditional means for continuous outcomes (i.e., fruit and vegetable consumption and expenditures). To assess the relationship between independent variables (i.e., urban/rural residence, education, and socioeconomic status) and food behavior outcomes after adjustment for other factors, I use linear regression for continuous outcomes and logistic regression for categorical outcomes. I adjust each regression for all of the independent variables as well as age, gender, household size, literacy, employment status, self-identification as indigenous, marital status, and region of the country. For all analyses, I use the sample weights provided in the public use data, which account for probability of selection into the survey, non-response, and the complex sampling design. I use Stata version 12 for all analyses.

## RESULTS

I present descriptive statistics for the full sample of 45,241 Mexican adults in **Table 5.1**. Nearly half (47%) of participants are under forty years old and six in ten are female. Four in ten households have either four or five occupants, and an additional one-third have six or more occupants. One-quarter of participants self-identify as indigenous and nearly three in four are married. Nearly nine in ten participants are literate, but over 60% have an elementary school education or less. About one-third of participants live in a rural area (<5,000 inhabitants), 22% live in an urban area (5,000-99,999 inhabitants), and 43% live in a large urban area ( $\geq 100,000$  inhabitants).

According to the Mexican government's socioeconomic status index, 45% of the population lives in households suffering from moderate or extreme poverty. Households suffering from extreme poverty are those that demonstrate "three or more social deprivations [i.e., low education, access to healthcare, access to social security, housing quality and space, basic services in homes and access to food] and whose income is insufficient to cover their food needs."<sup>94</sup> Households suffering from moderate poverty demonstrate one or more social deprivations and have income insufficient to cover their basic needs.

In **Table 5.2**, I present mean daily consumption of fruits and vegetables as well as monthly food expenditures stratified by rural/urban residence, educational attainment, and socioeconomic status. The data suggest that fruit and vegetable consumption, expenditures on all food, and restaurant expenditures are significantly higher in large urban areas than in rural areas. For example, participants in large urban areas consume one additional serving of fruits and vegetables per day than those in rural areas (an increase of 40%), spend 920 additional pesos per month on all food (+74%), and spend 110 additional pesos per month at restaurants (+925%). Data in **Table 5.2** suggest a similar pattern in food behavior outcomes across strata defined by educational attainment and socioeconomic status.

In **Table 5.3**, I present the percentage of participants who report eating meals at fast food or sit-down restaurants at least once per month, stratified by rural/urban residence, educational attainment, and socioeconomic status. The data indicate that consumption of fast food and restaurant meals is low among the Mexican population. Overall, 94% of participants reported eating dinner at fast food or sit-down restaurants less often than once per month, while about 88% of respondents reported eating breakfast or dinner at such outlets less often than once per month. The data further suggest, however, that there are clear social gradients in fast food and restaurant meal consumption across social strata. For example, under 3% of participants in the lowest two SES deciles report eating fast food dinners at least once a month

or more, compared to 15% of those in the highest three deciles. Similarly, 1% of participants with less than an elementary school education eat fast food or restaurant meals monthly or more, compared to nearly one-fourth of those with a college degree or higher. Just under 2% of participants in rural areas eat meals at fast food or sit-down restaurants per month, compared to 5% in urban areas and over 10% in large urban areas. The table further suggests that similar patterns hold for breakfasts and lunches eaten at fast food and sit-down restaurants.

I present the percentage of participants who purchase meals, snacks, and drinks from street food vendors in **Table 5.4**, stratified by social factors. The data suggest two patterns: first, street food vendors seem to be a more frequent source of prepared food among the Mexican adult population than fast food and sit-down restaurants. One-third of participants reported eating a meal at a street food vendor at least once per month, well above the corresponding frequency for meals at fast food or sit-down restaurants. Furthermore, similar to the results reported in **Table 5.3**, frequency of consumption at street food vendors seems to increase with SES, educational attainment, and among those living in large urban vs. rural areas.

**Table 5.5** includes the results of a linear regression model predicting the square root of expenditures on all food based on participants' age, gender, household size, self-identification as indigenous, literacy, marital status, employment status, region of residence, educational attainment, socioeconomic status, and urban vs. rural residence. I use the square root of expenditures as the outcome for this regression because the expenditures data are right-tailed and thus violate the normality assumption of linear regression; taking the square root of expenditures results in a more normal distribution. The table suggests that even after adjustment for other factors, there are large and statistically significant relationships between educational attainment, socioeconomic status, and urban vs. rural residence, on the one hand, and food spending on the other hand.

Translating the meaning of the coefficients in **Table 5.5** is difficult because of the scale of the outcome, so I have used the regression model to predict food spending for a ‘typical’ person. The model suggests that average food spending per month would be about 981 pesos for a 42-year-old male that lives in a house with 4.9 people and who is non-indigenous, literate, married, lives in the North region of the country, has a job, has less than an elementary school education, ranks in the 1st or 2nd decile of the socioeconomic status index, and lives in a rural area. All other factors held equal, this person’s monthly food spending would increase by 246 pesos if he had received a high school education and 602 pesos for a college education or more. Moving to between the 5<sup>th</sup> to 7<sup>th</sup> deciles in socioeconomic status would increase spending by 494 pesos and moving to the 8<sup>th</sup> to 10<sup>th</sup> deciles would result in an increase of 932 pesos. Monthly food spending would increase by 263 pesos if this person lived in an urban area and by 337 pesos if he lived in a large urban area. Finally, if this ‘typical’ man had received a college education *and* was ranked in the 8<sup>th</sup> to 10<sup>th</sup> decile of the socioeconomic status index *and* lived in a large urban area, his monthly food spending would be 3270 pesos per month compared to the 981 pesos he would spend in the absence of these characteristics.

**Table 5.6** shows two logistic regression models predicting consumption at fast food or sit-down restaurants as well as at street food vendors. Model 1 predicts the log-odds that participants eat breakfasts, lunches, or dinners at fast food or sit-down restaurants at least once per month. Model 2 predicts the log-odds that participants purchase drinks, snacks, or meals at street vendors at least once per month. After adjustment for other factors, the data suggest that patronage of fast food and sit-down restaurants, as well as street food vendors, vary across strata defined by rural vs. urban residence, educational attainment, and socioeconomic status. For example, participants with a college degree or more have nearly four times the odds of eating meals at a fast food or sit-down restaurant at least once per month. Compared to those in the lowest two socioeconomic status deciles, those in the highest three deciles have 2.6 times

the odds of eating fast food or restaurant meals at least monthly. Similarly, participants in large urban areas have twice the odds of eating these types of meals compared to their rural counterparts. After adjustment for other factors, purchasing of drinks, snacks, and meals at street food vendors also increases with education and is higher among residents of urban and large urban localities than among residents of rural localities. The relationship between socioeconomic status and street food purchasing is less clear, however, with no clear pattern between the lowest socioeconomic groups and the higher groups.

## **DISCUSSION**

To my knowledge, no previous studies have examined food spending and consumption of food prepared outside of the home among the Mexican population. From a public health standpoint, it is important to document the extent to which populations rely on homemade versus prepared foods because studies have shown that portion sizes are larger at fast food restaurants than at home or in sit-down restaurants,<sup>119</sup> that frequency of fast food consumption is associated with diets higher in total energy and energy density, but lower in micronutrient density,<sup>120, 121</sup> and that frequency of fast food consumption is associated with increases in body mass index and some diet-related chronic diseases.<sup>121, 122</sup> Thus, identifying social patterns in consumption of meals prepared outside of the home may help explain the non-random distribution of diet-related chronic diseases within the Mexican population.

Using data from the 2006 ENSANUT, I have shown that food behaviors among Mexican adults are largely dependent on social factors like urban versus rural residence, educational attainment, and socioeconomic status. The frequency with which Mexican adults consume fast food and street food is much greater among those in urban and large urban areas compared to rural areas, and increases dramatically with SES and educational attainment. Furthermore, consumption of fruits and vegetables, total food spending, and restaurant spending each follow

a very similar pattern. For example, I found that monthly spending at restaurants is 11 times greater among residents of large urban areas compared to those in rural areas, 27 times greater among those with a college education or higher compared to those with less than an elementary school education, and 37 times greater among those in the 8<sup>th</sup> to 10<sup>th</sup> deciles of the socioeconomic status index compared to those in the bottom two deciles.

I believe that I have presented fairly clear and compelling evidence that food behaviors among Mexican adults vary widely based on social factors. An equally important finding of this study is that overall consumption of fast food and street food appears to be relatively uncommon among Mexican adults, particularly if compared to U.S. adults.<sup>72, 120, 122, 123</sup> For example, data from the Coronary Artery Risk Development in Young Adults study, which followed young adults in the U.S. over a fifteen year period, found that Blacks and Whites reported eating fast food an average of 1.3 to 2.4 times per week.<sup>122</sup> The 1994 to 1996 Continuing Survey of Food Intakes by Individuals, which assessed fast food consumption among U.S. adults based on two 24-hour dietary recalls, suggests that one-quarter of participants consumed fast food at least once during the two days being assessed.<sup>120</sup> In a study of 357 Latina women in San Diego, California, Ayala and colleagues found that six in ten participants reported eating at fast food restaurants at least once per week, and that 45% at lunch outside of the home one or more times per week.<sup>72</sup> In contrast to the proliferation of fast food and other prepared food consumption among U.S. populations, I found that 94% of Mexican adults reported eating at fast food restaurants for dinner less than once per month, and 88% reported eating breakfasts and lunches at fast food restaurants less than monthly. Similarly, under one third of Mexican adults reported eating meals from street vendors once per month or more.

It is important to consider these findings within their historical context. In particular, consumption of meals prepared outside of the home might be expected to increase quickly as Mexico continues to undergo economic development, urbanization, and globalization. These



processes will undoubtedly increase access, availability, and prices of all types of food in Mexico, as well as change the extent to which the population is exposed to food and beverage advertising. In the U.S., where these processes have largely already taken place, studies have demonstrated that meals prepared outside of the home have become an increasingly important part of the American diet.<sup>124-126</sup> For example, foods eaten outside of the home have risen from 26% to 39% of food expenditures among U.S. households between 1970 and 1996, and the proportion of meals away from home increased from 16% in 1977-78 to 29% in 1995.<sup>125</sup> It will be important to trends in food behaviors as economic development, urbanization, and globalization continue in Mexico. ENSANUT is to be repeated every 5 to 6 years, with the most recent survey having been completed at the end of 2012, so further studies to assess changes over the last six years could begin shortly.

In addition to their implications for health and health behaviors within the Mexican population, the findings of this study might also provide insight into patterns in food behaviors within the Mexican-origin population in the U.S. Using data from the 2006 Mexican National Survey of Population Dynamics, Riosmena and Massey (2012) found that about 40% of Mexicans who immigrated to the U.S. between 2001 and 2005 were from rural areas with less than 2,500 inhabitants, compared to just 22% of the overall Mexican population.<sup>44</sup> This represents a decline since the 1970s, when 60% to 70% of Mexican migrants were typically from rural areas.<sup>40, 44</sup> While a large proportion of migrants originate from rural areas, the vast majority immigrate to urban destinations in the U.S. Data from the 2007-2011 American Community Survey (ACS) suggest that 92% of Mexican immigrants in the U.S. live in urban areas,<sup>45</sup> while other Census data reveal that over half of Mexican immigrants live in just ten major urban areas: Los Angeles, Chicago, Dallas, Houston, Riverside, Phoenix, San Diego, New York, San Francisco, and Atlanta.<sup>127</sup> The phenomenon of urban destinations is not

confined to Mexican immigrants: of the 31.1 million immigrants enumerated in the 2000 Census, about 29.6 million (95.2%) live in urban areas.<sup>128</sup>

Why is it relevant that a large proportion of migrants originate from rural areas in Mexico but immigrate to urban areas in the U.S? As I have demonstrated, there are large differences in prepared food consumption and food expenditures between rural and urban residents within Mexico. Thus, it would be reasonable to expect changes in these behaviors among Mexicans who move from rural to urban areas *within* Mexico, or across generations after such moves are made. Similarly, when migrants move to the U.S., they and their children are not only exposed to American culture, they are often exposed to an urban environment for the first time. In addition to new food patterns, practices, and beliefs, migrants are also confronted with urban food environments that differ from their predominately-rural places of origin in terms of food availability, prices, advertisements, and other important factors. Even if the process of acculturation itself has no effect on the degree to which immigrants eat meals prepared outside of the home, urban exposure may result in different food behaviors between more- and less-acculturated migrants. These differences could emerge as migrants spend increasing time in the U.S., and would almost certainly take place among later generations of migrants who grow up in urban areas. Previous studies that have observed differences in food behaviors across generations or between more- versus less-acculturated Mexican Americans, therefore, may be attributing changes in food behavior that result as Latinos urbanize to the effects of acculturation, which occurs concurrently.

A similar argument can be made for educational attainment and income. Nearly two in three Mexicans who migrated to the U.S. between 2001 and 2005 had a primary school education or less,<sup>44</sup> and data from the 2007-2011 ACS reveal that 60% of foreign-born Mexican American adults have less than a high school degree, compared to just 22% of their U.S.-born counterparts.<sup>45</sup> Over 14% of U.S.-born Mexican Americans have a bachelor's degree or higher,

compared to 5% of the foreign-born. Similarly, the average poverty to income ratio among foreign-born Mexican Americans is 1.97, compared to 2.78 among U.S.-born counterparts. Given my findings that eating out behaviors increase dramatically with education and socioeconomic status among Mexican adults, it stands to reason that these same social factors might be important among Mexican American population in the U.S. Because educational attainment and SES are higher in U.S.-born Mexican Americans, the population with the highest levels of acculturation, it is important to differentiate between changes in food behaviors caused by exposure to and adoption of U.S. culture and those caused by other social processes.

In conclusion, this study has demonstrated that fruit and vegetable consumption, food spending, and consumption of meals prepared outside of the home vary widely by location of residence, educational attainment, and socioeconomic status. Social gradients in food behaviors are important for understanding Mexican health, but may also shed light on important determinants of food behaviors among Mexican Americans. In particular, I have argued that the presence of such strong social gradients among the Mexican population makes it imperative that we reexamine why food behaviors might differ across generations of immigrants or between the more- versus-less acculturated. These differences have primarily been attributed to an acculturation effect, or the 'Americanization' of food behaviors, but I argue that such patterns may be a foreseeable result of concurrent social processes that occur as immigrants move from rural to urban areas, move up the socioeconomic ladder, and have offspring with much higher levels of education. Finally, while the results presented in this study suggest that consumption of meals prepared outside of the home is relatively uncommon among Mexican adults, I argue that this is likely to change as Mexico continues to undergo economic development, urbanization, and globalization. Thus, tracking food behaviors over time will be important for identify and responding to unhealthy trends that may have negative health consequences for Mexicans as well as future generations of immigrants to the U.S.

**Table 5.1: Descriptive statistics for adult participants in the 2006 Mexican National Health and Nutrition Survey (ENSANUT), n=42,915**

	%	95% CI	
<b>Age</b>			
20-29	26.0	25.1	26.9
30-39	24.6	23.9	25.2
40-55	28.6	27.8	29.4
55+	20.8	20.1	21.5
<b>Gender</b>			
Female	54.5	53.3	55.6
Male	45.5	44.4	46.7
<b>Household Size</b>			
1	2.0	1.9	2.1
2	9.5	9.1	9.9
3	14.9	14.3	15.4
4	21.8	21.1	22.4
5	20.6	20.0	21.3
6+	31.2	30.2	32.3
<b>Indigenous</b>			
No	81.4	80.1	82.7
Yes	18.6	17.3	19.9
<b>Education</b>			
<Elementary	9.9	9.2	10.6
Elementary	39.8	37.8	41.9
Middle School	26.5	25.8	27.3
HS or Vocational	13.4	12.4	14.3
≥College	10.4	8.7	12.0
<b>Literate</b>			
No	9.6	8.9	10.4
Yes	90.4	89.6	91.1
<b>Marital</b>			
Single	20.4	19.2	21.6
Married	68.7	67.2	70.1
Wid/Div/Sep	10.9	10.4	11.5
<b>Employed</b>			
Not Employed	48.2	46.7	49.7
Employed	51.8	50.3	53.3
<b>SES Decile</b>			
1-2	36.1	33.6	38.6
3-4	24.5	23.8	25.3
5-7	27.7	26.6	28.8
8-10	11.7	10.0	13.3
<b>Rural/Urban</b>			
Rural	20.8	18.5	23.0

Urban	23.8	21.1	26.4
Large Urban	55.4	50.8	60.1
<b>Region</b>			
North	24.1	20.6	27.5
Central	38.2	32.7	43.6
Mexico City	9.8	4.8	14.8
South	27.9	24.9	31.0

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**Table 5.2: Mean daily consumption of fruits and vegetables and monthly food expenditures among adult participants in the 2006 Encuesta Nacional de Salud y Nutrición (ENSANUT)**

	FV Consumption (servings per day)			All Food Exp. (pesos per month)			Restaurant Exp. (pesos per month)		
	Mean	95% CI		Mean	95% CI		Mean	95% CI	
<b>Total</b>	3.09	2.99	3.19	1876.7	1819.1	1934.2	82.8	67.2	98.3
<b>Rural/Urban</b>									
Rural	2.58	2.42	2.74	1243.1	1203.4	1282.9	11.9	9.3	14.5
Urban	2.94	2.78	3.11	1762.6	1719.2	1805.9	50.5	43.0	58.0
Large Urban	3.58	3.40	3.75	2163.0	2104.9	2221.1	123.1	101.6	144.7
<b>Education</b>									
<Elementary	2.36	2.15	2.56	1322.8	1264.4	1381.1	12.0	6.1	17.9
Elementary	2.77	2.66	2.88	1612.4	1577.8	1646.9	29.0	24.6	33.4
Middle School	3.36	3.20	3.53	1944.2	1894.9	1993.4	71.9	61.1	82.7
HS or Vocational	3.88	3.60	4.17	2207.1	2142.4	2271.9	132.8	114.6	151.1
>= College	4.89	4.33	5.45	2822.9	2648.6	2997.3	320.5	250.7	390.3
<b>SES Decile</b>									
1-2	2.63	2.52	2.75	1550.5	1516.8	1584.2	10.7	8.0	13.5
3-4	2.91	2.72	3.09	1661.7	1608.5	1714.8	27.4	17.8	37.0
5-7	3.80	3.61	3.98	2113.3	2068.1	2158.5	91.8	81.5	102.0
8-10	4.49	4.05	4.93	2776.8	2584.5	2969.2	400.8	336.6	465.1

Note: n=20,103 for FV consumption; n=42,915 for food and restaurant expenditures.

**Table 5.3: Percentage of Adult Participants Who Report Eating at Restaurants or Fast Food at Least once per Month, 2006 Encuesta Nacional de Salud y Nutrición (ENSANUT)**

	Fast Food/Rest. Breakfast			Fast Food/Rest. Lunch			Fast Food/Rest. Dinner		
	%	95% CI		%	95% CI		%	95% CI	
<b>Total</b>	12.03	11.21	12.89	12.51	11.69	13.39	6.22	5.68	6.82
<b>SES Decile</b>									
1st & 2nd	6.68	5.91	7.54	6.90	6.07	7.83	2.83	2.35	3.40
3rd & 4th	10.61	9.07	12.36	10.54	9.10	12.18	5.46	4.41	6.74
5th-7th	19.42	17.39	21.61	19.93	18.00	22.01	10.21	8.85	11.76
8th-10th	28.44	24.33	32.93	32.43	28.24	36.93	18.18	15.10	21.73
<b>Education</b>									
<Elementary	3.84	2.87	5.12	3.4	2.6	4.43	1.06	0.71	1.56
Elementary	6.88	6.11	7.74	6.62	5.9	7.41	2.94	2.49	3.47
Middle School	14.98	13.34	16.8	16.38	14.64	18.28	8.51	7.2	10.03
HS or Vocational	26.94	23.48	30.69	27.96	24.69	31.48	13.16	10.89	15.81
≥College	35.4	30.06	41.12	39.37	34.81	44.12	23.36	19.58	27.63
<b>Urban/Rural</b>									
Rural	4.82	4.16	5.57	5.11	4.43	5.89	1.81	1.46	2.25
Urban	9.35	8.25	10.59	9.73	8.48	11.14	5.1	4.32	6.01
Large Urban	19.19	17.53	20.97	19.89	18.19	21.7	10.34	9.19	11.62

Note: Percentage refers to the percent of adults within each stratum who report eating a given type of meal at least once per month

**Table 5.4: Percentage of Adult Participants who Report Eating at Street Vendors at Least Once per Month, 2006**  
**Encuesta Nacional de Salud y Nutrición (ENSANUT)**

	Meal			Snack			Drink		
	%	95% CI		%	95% CI		%	95% CI	
<b>Total</b>	32.18	31.03	33.35	37.40	36.11	38.71	53.63	52.27	54.99
<b>SES Decile</b>									
1st & 2nd	26.64	25.09	28.25	36.52	34.96	38.10	51.33	49.58	53.08
3rd & 4th	29.98	27.64	32.43	36.03	33.55	38.59	51.06	48.67	53.45
5th-7th	41.48	39.18	43.82	40.46	38.03	42.95	60.24	57.88	62.55
8th-10th	46.98	42.41	51.60	38.83	34.68	43.15	57.78	53.07	62.35
<b>Education</b>									
<Elementary	15.79	13.55	18.32	23.5	21.23	25.93	36.99	34.35	39.72
Elementary	26.82	25.24	28.45	32.87	31.32	34.44	49.67	47.97	51.37
Middle School	40.99	38.64	43.39	44.48	42.05	46.95	62.63	60.2	65.01
HS or Vocational	47.88	44.37	51.41	53.86	49.4	58.26	66.87	63.05	70.48
≥College	53.22	47.86	58.5	51.8	46.51	57.05	67.93	62.28	73.1
<b>Urban/Rural</b>									
Rural	21.08	19.38	22.88	32.34	30.51	34.22	46.74	44.64	48.85
Urban	29.73	27.8	31.73	37.92	35.83	40.07	52.7	50.33	55.06
Large Urban	42.35	40.34	44.37	41.19	38.81	43.6	59.64	57.26	61.98

Note: Percentage refers to the percent of adults within each stratum who report eating a given category of street food at least once per month



**Table 5.5-Linear Regression Model Predicting the Square Root of Monthly Food Spending Among Mexican Adult Participants in the 2006 ENSANUT, n=42,915**

	Sq. Rt. Food Spending	
	b	(SE)
<b>Age</b>	0.0447 <sup>***</sup>	(0.00801)
<b>Male</b>	-0.601 <sup>*</sup>	(0.298)
<b>Household Size</b>	2.218 <sup>***</sup>	(0.0906)
<b>Indigenous</b>	-1.755 <sup>***</sup>	(0.301)
<b>Literate</b>	2.382 <sup>***</sup>	(0.452)
<b>Marital Status</b>		
Single	Ref.	
Married	0.910 <sup>**</sup>	(0.307)
Div/Wid/Sep	-1.008 <sup>*</sup>	(0.445)
<b>Region</b>		
North	Ref.	
Central	1.354 <sup>***</sup>	(0.310)
Mexico City	0.875	(0.705)
South	-0.427	(0.320)
<b>Employed</b>	0.676 <sup>*</sup>	(0.271)
<b>Education</b>		
<Elementary	Ref.	
Elementary	0.939	(0.507)
Middle School	2.560 <sup>***</sup>	(0.564)
HS or Vocational	3.702 <sup>***</sup>	(0.646)
College Grad	8.466 <sup>***</sup>	(0.717)
<b>SES Decile</b>		
1st & 2nd	Ref.	
3rd & 4th	0.798 <sup>**</sup>	(0.309)
5th-7th	7.083 <sup>***</sup>	(0.346)
8th-10th	12.42 <sup>***</sup>	(0.775)
<b>Rural/Urban</b>		
Rural	Ref.	
Urban	3.953 <sup>***</sup>	(0.339)
Large Urban	4.984 <sup>***</sup>	(0.350)

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Note: Food spending is measured in pesos per month. I use the square root of expenditures as the outcome for this regression because the expenditures data are right-tailed and thus violate the normality assumption of linear regression; taking the square root of expenditures results in a more normal distribution.

**Table 5.6-Logistic Regression Predicting Whether Mexican Adult Participants in the 2006 ENSANUT Consume Food From Restaurants and Street Vendors at Least Monthly, n=20,103**

	Monthly Restaurants		Monthly Street Vendors	
	OR	SE	OR	SE
<b>Age</b>	0.979 <sup>***</sup>	(0.00285)	0.970 <sup>***</sup>	(0.00176)
<b>Male</b>	1.377 <sup>***</sup>	(0.0988)	1.281 <sup>***</sup>	(0.0782)
<b>Household Size</b>	0.959 <sup>*</sup>	(0.0168)	0.986	(0.0135)
<b>Indigenous</b>	0.948	(0.0894)	0.948	(0.0589)
<b>Literate</b>	1.834 <sup>***</sup>	(0.321)	1.064	(0.0924)
<b>Marital Status</b>				
Single	Ref.		Ref.	
Married	1.008	(0.103)	1.166	(0.0930)
Div/Wid/Sep	0.988	(0.132)	1.159	(0.118)
<b>Region</b>				
North	Ref.		Ref.	
Central	0.799 <sup>**</sup>	(0.0637)	1.008	(0.0741)
Mexico City	1.102	(0.150)	1.129	(0.169)
South	0.700 <sup>***</sup>	(0.0583)	0.831 <sup>**</sup>	(0.0588)
<b>Employed</b>	1.526 <sup>***</sup>	(0.118)	1.389 <sup>***</sup>	(0.0873)
<b>Education</b>				
<Elementary	Ref.		Ref.	
Elementary	1.062	(0.177)	1.147	(0.109)
Middle School	1.511 <sup>*</sup>	(0.278)	1.338 <sup>**</sup>	(0.145)
HS or Vocational	2.517 <sup>***</sup>	(0.474)	1.775 <sup>***</sup>	(0.266)
College Grad	3.759 <sup>***</sup>	(0.732)	1.735 <sup>***</sup>	(0.263)
<b>SES Decile</b>				
1st & 2nd	Ref.		Ref.	
3rd & 4th	1.359 <sup>**</sup>	(0.133)	1.084	(0.0770)
5th-7th	1.853 <sup>***</sup>	(0.178)	1.283 <sup>***</sup>	(0.0941)
8th-10th	2.587 <sup>***</sup>	(0.353)	1.145	(0.138)
<b>Rural/Urban</b>				
Rural	Ref.		Ref.	
Urban	1.426 <sup>***</sup>	(0.127)	1.320 <sup>***</sup>	(0.0986)
Large Urban	2.030 <sup>***</sup>	(0.186)	1.557 <sup>***</sup>	(0.130)

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Note: Outcome represents whether participants report consuming breakfasts, lunches, or dinners from restaurants at least once per month and whether participants consume snacks, drinks, or meals from street food vendors at least once per month.

## **Chapter 6: Examining How and Why Food Behaviors Change as Mexican Americans Acculturate**

### **BACKGROUND**

#### **Acculturation and Food Behaviors**

Several decades ago, health researchers were surprised to observe that the mortality and health outcomes of Mexican Americans compare favorably to other U.S. subpopulations, particularly given their relatively low socioeconomic positions.<sup>47</sup> Equally surprising, particularly given high rates of poverty and low levels of education in Mexico, are studies suggesting that the health advantage of Mexican Americans was strongest in the foreign-born and appeared to deteriorate as immigrants spent increased time in the U.S.<sup>62, 129-134</sup> A common explanation for the deteriorating health advantage among U.S.-born and longer-tenured Mexican Americans is that acculturation, or the degree to which immigrants are exposed to and adopt elements of their host culture, might include negative changes in health behaviors.

An area of research that has received considerable attention, perhaps because obesity rates are even higher among Mexican Americans and other Latinos than the general U.S. population, is understanding the relationship between acculturation and food behaviors.<sup>71</sup> A number of studies conducted among Mexican Americans and other Latino subgroups have observed that consumption of specific foods and nutrients varies based on direct measures of acculturation (typically language use) or proxy measures such as years lived in the U.S., nativity, or immigrant generation.<sup>66, 69, 70, 93, 135-137</sup> For example, a study by Batis and colleagues (2011) used nationally-representative data in both the U.S. and Mexico to assess variation in diet among Mexicans, foreign-born Mexican immigrants in the U.S., U.S.-born Mexican Americans, and U.S.-born Whites.<sup>69</sup> The study found that the U.S. subpopulations had “greater intakes of saturated fat, sugar, dessert and salty snacks, pizza and French fries, low-fat meat and fish, high-fiber bread, and low-fat milk, as well as decreased intakes of corn tortillas, low-

fiber bread, high-fat milk, and Mexican fast food.” They also found that consumption of fruits, vegetables, and fruit juice was higher among foreign-born Mexican Americans than among the U.S.-born. In general, the authors concluded that populations with greater exposure to the U.S. environment resulted in increased energy consumption from unhealthy sources. In a review of 34 studies, Ayala and colleagues (2008) found consistent evidence that foreign-born and less-aculturated Latinos consumed more fruit, rice, and beans and less sugar and sugar-sweetened beverages than their U.S.-born and more-aculturated counterparts.<sup>70</sup>

### **Gaps in the Literature**

A number of important questions remain regarding how and why the food behaviors of more-aculturated Mexican Americans might differ from those of their less-aculturated counterparts. Multiple authors have theorized that exposure to a host society’s culture might affect not only what members of a migrating group eat, but also their patterns of food purchasing and preparation.<sup>71-73</sup> In particular, Satia-Abouta argues that diet can be affected directly, through shifts in tastes and preferences or psychosocial factors related to food (e.g., knowledge, attitudes and beliefs related to diet and disease, or value ascribed to traditional food versus assimilation), as well as indirectly via environmental influences on food purchasing and preparation.<sup>71</sup> Environmental influences include access and affordability of specific food items as well as advertising, convenience, and time constraints that affect whether people prepare their own food, shop at restaurants, or purchase packaged or prepared foods.

Despite these conceptualizations of the relationship between acculturation and diet, little research has been conducted to understand how purchasing and preparation behaviors change as Latinos acculturate. Furthermore, the majority of literature examining the relationship between acculturation and food behaviors has been descriptive, and much remains unknown about the mechanisms through which diet and other food behaviors differ between more- and

less-aculturated Mexican Americans. For example, research has found that purchasing and consumption of fast food is more frequent among more-aculturated Latinos,<sup>72, 74</sup> but to my knowledge almost no studies have investigated the psychosocial, structural, or economic mechanisms that drive these shifts. An exception is a study by Ayala and colleagues (2005), which found that Mexican-origin women in San Diego who were more acculturated were more likely to eat out for lunches and dinners, consumed more fast food, and had less difficulty reading nutrition labels than their less-aculturated counterparts. The study also found that the more-aculturated women preferred fast food restaurants to other types of restaurants, and preferred supermarkets or produce markets to other types of grocery stores. Interestingly, the study investigated some of the reasons why Mexican-origin women might prefer certain types of food outlets to others and found that women who preferred fast food restaurants placed high value on distance, price, and a child-friendly atmosphere. Although these values were not assessed by acculturation level, the findings suggest that such values may affect where people choose to shop.

An equally important question to investigate is whether differences in diet between the more- and less-aculturated are actually driven by exposure to U.S. culture, and thus should be viewed as an outcome of the acculturation process. I posit that at least some of the difference in food behaviors between the more- and less-aculturated is likely the result of important social factors that separate U.S.-born and more-aculturated Mexican Americans from their foreign-born and less-aculturated counterparts. For example, the 2007-2011 ACS indicate that 60% of foreign-born Mexican American adults have less than a high school degree, compared to just 22% of their U.S.-born counterparts.<sup>45</sup> Similarly, the average income to poverty ratio among foreign-born Mexican Americans is 1.97, compared to 2.78 among their U.S.-born counterparts. In short, U.S.-born Mexican Americans not only have higher levels of acculturation than their foreign-born counterparts, but also have much higher levels of income and education. These

higher incomes and increased levels of education enable more-aculturated Mexican Americans to spend more money on food and might affect their knowledge, attitudes, values, and preferences related to food.

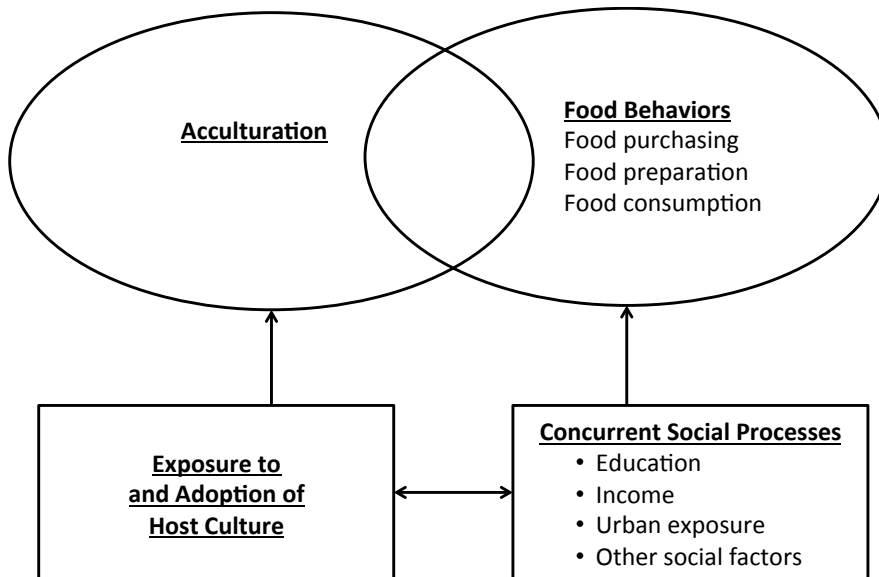
Research has conclusively demonstrated that income, education, and several other social factors affect health and health behaviors in countries across the globe, and thus their influence is not U.S.-specific.<sup>75</sup> A recent study conducted in Mexico, for example, demonstrated large social gradients in diet and other food behaviors based on income, education, and urban versus rural residence.<sup>138</sup> I argue that differences in food behaviors caused by these factors are not culturally-driven and thus should not be considered an outcome or dimension of the acculturation process. As such, I believe it is important to differentiate between the influence of these factors and changes in food behavior that result from exposure to and adoption of U.S. culture.

### **Study Objectives**

In this study, I use data from Mexican American adults who participated in the 2005-2010 National Health and Nutrition Examination Survey (NHANES) to assess the relationship between linguistic acculturation and food behaviors. Rather than focusing exclusively on diet, I examine the relationship between linguistic acculturation and a range of food purchasing, preparation, and consumption behaviors. I also examine whether any observed relationship between linguistic acculturation and these food behaviors is explained by differences in educational attainment and socioeconomic status between more- and less-aculturated Mexican Americans. Using data unique to the 2007-2008 NHANES, I also assess reasons why participants prefer eating at fast food restaurants rather than preparing food at home, as well as the perceived importance of various attributes of food when participants choose between items at the supermarket or grocery store. By assessing whether these values vary based on linguistic

acculturation, I seek to understand some of the underlying pathways through which food behaviors change as Latinos acculturate.

### Conceptual Framework



**Figure 6.1: A model for understanding how exposure to a host culture and concurrent social processes affect the food behaviors of members of immigrant groups**

In **Figure 6.1**, I present a conceptual framework for understanding the relationship between acculturation and a broad set of food behaviors, including food purchasing, preparation, and consumption. The framework recognizes that acculturation and changing food behaviors are independent but overlapping processes that can each occur within and across immigrant generations. Acculturation is a multidimensional process that can consist of changes in a number of cultural patterns and practices, such as language use, media use, friendship ties, ethnic identity, knowledge, attitudes, and beliefs. Thus, shifts in food behavior that result from exposure to and adoption of the host culture represent just one dimension of the acculturation process. Similarly, the model posits that shifts in food behaviors that result from exposure to a

host culture represent just one dimension of the change in food behaviors that can occur within and across immigrant generations. Food behaviors can also be affected by important social processes that occur at the same time as immigrants and their offspring are exposed to the host culture can affect food behaviors, and I argue that these shifts should not be viewed as an indicator or consequence of acculturation. Some important social processes, for example, might include that Mexican immigrants to the U.S. move from rural areas in Mexico to urban environments in the U.S., and that levels of income and education increase dramatically across immigrant generations. Thus, the concentric circles in the model represent three distinct processes: 1) acculturation that is unrelated to health behaviors, 2) changes in health behaviors that occur as part of the acculturation process, and 3) changes in health behavior that are unrelated to acculturation.

## **METHODS**

### **Data Source**

Data for this study are from public use data files of the 2005-2010 NHANES. Briefly, NHANES is a continuous series of annual studies that has been conducted since 1999 and is designed to assess the health and nutritional status of adults and children in the United States. NHANES uses a complex, multi-stage sampling design to obtain a sample representative of the non-institutionalized U.S. population of all ages. A key aspect of the NHANES sampling strategy is that oversampling is used to produce sub-samples representative of particular underrepresented groups, including children and adolescents, people living in low-income households, and racial/ethnic minorities. Relevant to the current study, each year of NHANES includes representative samples of the Mexican American population. Further details on the sampling strategy and study design employed by NHANES are available elsewhere.<sup>95</sup>



Since its inception, NHANES has included both an in-person interview and a physical examination component. The interview contains demographic, dietary, and health-related questions, while the examination includes medical, dental, and physiological measurements taken by highly-trained personnel. Participants also undergo two 24-hour dietary recalls. The first day of recall is conducted in person during the NHANES examination. The second day of recall is conducted during a follow-up telephone interview. In 2007, a Flexible Consumer Behavior Survey (FCBS) module was added to collect information on people's knowledge, attitudes, and beliefs toward nutrition and food choices. The FCBS module includes a core set of questions asked in the in-person interview as well as a supplementary module that is conducted over the telephone after the second day of dietary recall. The topics covered during the telephone interview change for each two-year data collection cycle. In 2007-2008, the follow-up interviews asked participants about the following: attitudes towards food away from home; factors that affect grocery shopping; nutrition knowledge, perceptions, and habits; the food label; and organic food.

## **Measurement**

### *Independent Variable*

#### *Linguistic Acculturation*

The focal independent variable in this study is participants' linguistic acculturation status. To assess linguistic acculturation, all Mexican American and other Latino participants in NHANES are asked "What language do you usually speak at home?" Response options include: only Spanish, more Spanish than English, both equally, more English than Spanish, and only English. I have coded linguistic acculturation as a categorical variable with the following five options: 1) English only, 2) More English, 3) Both, 4) More Spanish, and 5) Spanish only.

## Dependent Variables

### *Food Purchasing, Preparation, and Consumption Variables*

*Store Expenditures:* NHANES participants are asked about the amount of money spent on food at supermarkets, grocery stores, and other stores (e.g., Costco, Target) within the previous 30 days. I have coded their responses as a continuous variable measured in dollars per 30 days.

*Restaurant Expenditures:* This is a continuous variable that measures the amount of money that participants spent on eating out, carryout, and delivery of food from restaurants in the previous 30 days.

*Dinner Preparation:* This is a continuous variable that indicates the number of days the participant or someone else in their home prepared dinner at home in the previous seven days.

*Total Calories per Day:* To assess food intake, NHANES participants take part in two 24-hour dietary recalls. Participants report the type and quantity of every item of food they consumed in the previous 24 hours, as well as the source of the food. NHANES staff then use the Food and Nutrient Database for Dietary Studies to assign nutrient values to each food item. I have used these data to create a continuous variable that indicates the total daily caloric intake each participant reported during the dietary recalls.

*Fast Food Calories per Day:* This is a continuous variable that indicates the calories contained in each food item that participants reported consuming that was purchased at a fast food restaurant or pizza place. I coded participants who did not report eating any items from a fast food restaurant or pizza place as a zero for this variable.

### *Fast Food Values*

To assess fast food values, participants are first asked whether they have bought food from a fast food or pizza place in the last 12 months. Participants who answer positively are

then asked the following: “I’m going to read several reasons why you might buy food from fast food or pizza places instead of cooking at home. First, do you buy food from fast food or pizza places because it is **cheaper** than cooking at home? (YES/NO)” This question is then repeated for other reasons why people may buy food from fast food or pizza places, including that it is more **nutritious**, **tastes better**, is more **convenient**, and because they can **socialize** with families and friends. I have coded participants’ responses to each of these questions as a dichotomous categorical variable. In other words, fast food values are measured using five variables that indicate whether each participant purchases fast food or pizza rather than cooking at home because it is: 1) cheaper, 2) more nutritious, 3) tastes better, 4) more convenient, and 5) allows them to socialize.

### *Supermarket Food Values*

To assess how people evaluate food choices at the supermarket or grocery store, participants are asked, “When you buy food from a grocery store or supermarket, how important is **price**? How about **nutrition**? How about **taste**? How about **how easy the food is to prepare**? How about **how well the food keeps after it’s bought**?” Response options for each question include: very important, somewhat important, not too important, not at all important. For each question, I have created a dichotomous categorical variable that measures whether participants judge each attribute to be ‘very important.’ In other words, I have created five variables that indicate whether a participant perceives each of the five following characteristics to be very important when choosing between food items at the supermarket or grocery store: 1) price, 2) nutrition, 3) taste, 4) preparation easiness, 5) how well it keeps.

### **Analytic Sub-Sample**

In this study, I restrict my analyses to a sub-sample of 2,792 Mexican American adult participants in the 2005-2010 NHANES who are 20 years of age or older. Of the 31,034 total participants in these years of the survey, I excluded 13,902 (45%) because they were less than 20 years old and an additional 13,956 (45%) because they did not self-identify as Mexican American. Of the remaining 3,176 Mexican American adults, I excluded an additional 384 participants who lacked complete information regarding their gender (n=0), age (n=0), marital status (n=2), education (n=8), income (n=369), nativity (n=0), or level of linguistic acculturation (n=5).

### **Sample Weights**

Each NHANES public use file includes sample weights that account for non-response, the complex design of the study, and post-stratification. In brief, each two-year data release includes weights for the full sample of individuals who participated in the NHANES interview, as well as weights for sub-samples who participated in additional components. Additional components include an in-person examination, two 24-hour dietary recalls, and a fasting sub-sample. In other words, each two-year data release includes an 'interview weight,' an 'examination component weight,' a 'dietary weight,' and a 'fasting sub-sample' weight. Both the interview weight and sub-sample weights can be combined across multiple data releases for analyses using four or more years of data. For all analyses, the rule of thumb is to use the weights for the smallest analytic sub-sample. For example, analyses that include data from the interview component and the examination component should use the examination weights because not everyone who participated in the interview chose to also participate in the examination. The examination weights account for this additional non-response.

In this study, I conduct analyses with several sub-samples of NHANES participants and thus I use several different sets of weights. For example, in one analysis I assess calorie

consumption from restaurants (collected in the dietary recall component) across strata defined by linguistic acculturation (collected in the interview component) among participants in the 2005-2010 NHANES. For this analysis, I use dietary weights combined across three data releases (2005-2006, 2007-2008, and 2009-2010). In an additional analysis, I examine food spending by linguistic acculturation in the 2007-2010 samples. Since all of these data are collected in the interview component, I use interview weights for the 2007-2010 samples. Further details regarding the construction and use of samples weights are available on the website of the National Center for Health Statistics.<sup>139</sup>

### **Statistical Analyses**

I examine the distributions of all variables using descriptive statistics, including means and 95% confidence intervals of continuous variables and percentage distributions of categorical variables. I then use bivariate statistics to examine the distribution of food purchasing, preparation, and consumption outcomes across linguistic acculturation strata. In particular, I use cross-tabulation for categorical outcomes and conditional means for continuous outcomes. To assess statistical significance in the relationship between independent variables and categorical outcomes, I use a chi-squared statistic that is corrected for the survey design with the second-order correction of Rao and Scott and converted into an F-statistic.<sup>140</sup> For continuous variables, I use an adjusted Wald test to assess statistical significance.

I use multivariate linear and logistic regression to examine the relationship between linguistic acculturation and food purchasing, preparation, and consumption outcomes after adjustment for other factors. I use a model-building approach to assess whether any observed relationship between linguistic acculturation and food behavior outcomes is explained by other confounding variables. For each food behavior outcome, I present a first model predicting the outcome based on participants' linguistic acculturation status without adjustment for other

factors. In the second model, I further adjust for nativity. In the third model, I further adjust for gender, age, and marital status. In the fourth model, I further adjust for educational attainment and annual family income. For additional models that further adjust for the length of time foreign-born participants have spent in the U.S., please see **Appendix 1**.

To understand the magnitude of the relationship between linguistic acculturation and food behaviors outcomes that is explained by adjustment for other variables, I calculate the ratio of the 'adjusted effect' to the 'unadjusted effect.' The 'adjusted effect' is the sum of linguistic acculturation coefficients within any of the three adjusted models (models two, three, and four for any of the outcomes). The 'unadjusted effect' is the sum of linguistic acculturation coefficients within the first model, which is unadjusted for other factors. For further details regarding these calculations, please see Aneshensel (2012) and MacKinnon (2008).<sup>108, 109</sup> To facilitate comparison of coefficients across logistic regression models, all reduced form logistic regression models are adjusted using the methods described by Breen and colleagues (2011).<sup>111</sup> Further details regarding these methods are described in **Chapter 4**. I use Stata version 12.0 for all analyses.

## **RESULTS**

**Table 6.1** includes descriptive statistics for the sub-sample of 2,792 Mexican American adults who participated in the 2005-2010 NHANES. About one-third of the sample is 20 to 30 years old, nearly 38% are between 31 and 45 years old, and 30% are 46 years old or older. The sample is evenly split by gender, and about two in three are married or cohabiting. Slightly more than half of participants have less than a high school education, while just over 8% are graduates of a four year college. One-third of participants have annual household income below the federal poverty line, and two-thirds of participants have income below twice the poverty line. More than 60% of participants were born outside of the U.S., and 42% report speaking only

Spanish in the home.

In **Table 6.2**, I present mean calorie consumption by source among participants in the 2005-2010 NHANES sub-sample, based on two 24-hour dietary recalls. Participants consume a mean of 2,096 calories per day from all sources, with 274 calories per day coming from fast food restaurants and an additional 177 calories per day from other restaurants. The data suggest that total calorie consumption may be lower among participants who speak Spanish only than among other participants, but there is no consistent trend across levels of linguistic acculturation. On the other hand, caloric intake from fast food and other restaurants increases with linguistic acculturation. Participants who speak only Spanish consume an average of 186 calories per day from fast food, compared to over 400 calories per day among those who speak more English than Spanish ( $p < 0.05$ ) and over 300 calories per day among English-only speakers ( $p < 0.05$ ). Similarly, Spanish-only speakers consume 110 calories per day from other restaurants, while every other group consumes over 200 calories per day from these sources ( $p < 0.05$  for all groups).

In **Table 6.3**, I present consumption of prepared foods by linguistic acculturation level among participants in the 2007-2010 NHANES sub-sample.<sup>a</sup> The table includes the number of total meals participants consumed in the previous week that were not homemade, the number of fast food and pizza meals consumed in the previous week, the number of ready-to-eat meals consumed in the previous 30 days, and the number of frozen meals consumed in the previous 30 days. The data suggest that each of these prepared food behaviors increases with linguistic acculturation. For example, the Spanish-only participants consumed a mean of 2.5 non-homemade meals in the previous week, compared to about 4.5 among those who speak more English or English only ( $p < 0.05$ ). Similarly, Spanish-only participants consumed 1.2 fast food and pizza meals in the previous week, compared to 2.8 and 2.2 among the more English and

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<sup>a</sup> These data were not collected in the 2005-2006 surveys

English only, respectively ( $p < 0.05$  for both groups). Consumption of frozen meals, in particular, seems to increase with linguistic acculturation: Spanish-only participants consumed a mean of 0.5 frozen meals in the previous 30 days, compared to 2.6 and 3.5 among the more English and English only participants, respectively ( $p < 0.05$  for all groups).

In **Tables 5.4 and 5.5**, I present family meal behaviors and food expenditures, respectively, among participants in the 2007-2010 sub-samples.<sup>b</sup> Data in **Table 6.4** suggest that frequency of dinner preparation and time spent to cook dinner and clean up each decrease with linguistic acculturation. Participants who speak only Spanish cook dinner 6.1 times per week and spend 88 minutes per dinner cooking and cleaning up, compared to 5.1 dinners per week and 71 minutes per dinner among those who speak only English ( $p < 0.05$  for both outcomes). On the other hand, there is no clear relationship between linguistic acculturation and the number of meals per week that families eat together. Data presented in **Table 6.5** indicate that participants who speak only Spanish spend more money at all food stores (\$543 in the previous 30 days) and supermarkets (\$450) than those who speak only English (\$421 and \$369, respectively), but spend less at restaurants (\$132 versus \$217;  $p < 0.05$  for all spending outcomes).

**Figure 6.2** includes a series of bar charts that convey the importance of the following five reasons why participants might prefer to eat fast food over home cooked meals: fast food is cheap, fast food is nutritious, fast food tastes better, fast food is more convenient, and participants can socialize when they eat fast food. These data were collected among the 544 participants in the 2007-2008 sub-sample who reported that they eat fast food. The percentages presented in the bar graphs represent participants within each linguistic acculturation category who perceive each reason as being 'very important.' The data do not reveal a clear relationship between linguistic acculturation and perceived importance of taste, nutrition, and price of fast

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<sup>b</sup> These data were not collected in the 1999-2006 NHANES cycles.



food. On the other hand, 63% of Spanish-only participants said that the ability to socialize was a very important reason they might prefer fast food over home cooked meals, compared to about 44% of participants who speak more English or only English. Furthermore, the data suggest a clear relationship between linguistic acculturation and the perceived importance of the convenience of fast food: slightly over half of Spanish-only participants cited convenience as a very important reason to prefer fast food, compared to over 80% of participants who speak more English or English only.

**Figure 6.3** includes a similar series of charts for the importance of the five following characteristics when participants are choosing between food items at the grocery store or supermarket: price, nutrition, taste, ease of preparation, and how well the food keeps. These data were collected among 625 Mexican American participants in the 2007-2008 sub-sample. The data suggest that participants at all linguistic acculturation levels place heavy emphasis on the taste of food items, but that the less-acculturated participants perceive every other characteristic as more important than their more-acculturated counterparts. For example, about two in three participants who speak mostly Spanish or only Spanish perceived the price of food items as very important, compared to just over 40% of those who speak mostly English or only English. Nearly nine in ten participants who speak only Spanish perceive nutrition as very important, compared to 62% of those who speak only English. About 70% of Spanish-only participants perceive preparation ease to be a very important characteristic of food items, compared to one-quarter of those who speak English only.

**Table 6.6** displays the results of four logistic regression models that predict the odds of eating at a fast food or sit-down restaurant in the previous two days, among participants in two 24-hour dietary recalls. The unadjusted model suggests that there is a positive, statistically-significant relationship between linguistic acculturation and eating at a restaurant. Without adjusting for other factors, participants who speak only English have about three times the odds

of having eaten at a restaurant as those who speak only Spanish ( $p < .001$ ). The other models in **Table 6.6** suggest that the relationship between linguistic acculturation and restaurant patronage remains significant but is somewhat attenuated after adjustment for nativity (Model 2), gender, age, and marital status (Model 3), and educational attainment and income (Model 4). In fact, adjustment for nativity explains about 14% of the total relationship between acculturation and restaurant patronage, further adjustment for gender, age, and marital status explains an additional 7%, and further adjustment for educational attainment and income explains an additional 22%. In total, about 44% of the total relationship between acculturation and restaurant patronage is explained by adjustment for all of the other variables in Model 4. Still, after adjustment for other factors, those who speak mostly English have 2.6 times the odds of those who speak Spanish only of having eaten at a restaurant ( $p < .001$ ), and those who speak English only have 1.6 times the odds of having eaten at a restaurant ( $p < .05$ ).

In **Table 6.7**, I present a set of four linear regression models predicting the square root of mean daily calories consumed among participants who ate at a fast food or sit-down restaurant during at least one of the two days measured during the 24-hour dietary recalls. The data suggest that, unadjusted for other factors, participants who speak both Spanish and English, more English, or only English consume more restaurant calories than participants who speak Spanish only ( $p < 0.05$  in all cases); however, this relationship is greatly reduced and all point estimates become insignificant after adjustment for nativity (Model 2). In fact, about 54% of the total relationship between acculturation and calorie consumption in restaurants is explained by adjustment for nativity. After further adjustment for age, gender, and marital status (Model 3) and educational attainment and income (Model 4) the total relationship between acculturation and caloric intake at restaurants is reduced even further, by a total of 86%. Notably, the socio-demographic and socioeconomic variables adjusted for in Models 3 and 4, do not explain the relationship between nativity and restaurant calories. Thus, after adjustment for

all other factors, foreign-born participants who eat at restaurants consume fewer restaurant calories per day than their U.S.-born counterparts ( $p < .05$ ).

## DISCUSSION

I believe that this study has provided new insight into the relationship between linguistic acculturation and food behaviors among the Mexican-origin population in the U.S. Previous research has documented differences between more- and less-acculturated Latinos in consumption of specific foods and nutrients, as well as found increased purchasing and consumption of fast food among the more-acculturated.<sup>66, 69, 70, 72, 74, 93, 135-137</sup> Data from this study suggest that these changes may be indicative of an overall shift in a broad set of food behaviors that takes place as immigrants and their offspring become more acculturated. Consistent with previous research,<sup>72, 74</sup> I found that purchasing and consumption of fast food and other restaurant food increased with linguistic acculturation. I believe, however, that the health impact of such increases is determined largely by what types of food these restaurant meals replace. If fast food and restaurant meals replace homemade meals, this may be a cause for concern because studies have demonstrated that meals prepared away from home tend to be less healthful than those prepared at home.<sup>120, 141-143</sup> On the other hand, it may be less concerning from a public health standpoint if fast food and other restaurant meals replace 'ready-to-eat' meals, frozen meals, frozen pizzas, or other types of convenience foods that are likely to be unhealthy.

Unfortunately, data from this study suggest that increases in fast food and restaurant consumption among more-acculturated Mexican Americans is accompanied by a decrease in both the frequency and time spent preparing dinner at home. The replacement of one homemade dinner per week may be troubling in and of itself; however, because NHANES did not collect similar data for breakfasts and lunches, it is possible that these findings may

represent an even larger trend across meal types. I also found that increased purchasing and consumption of restaurant food is part of a larger trend towards convenience foods. More-acculturated Mexican Americans also spent more money at restaurants, less money at grocery stores and supermarkets, and consumed more meals prepared away from home of all types, including fast food and pizza meals as well as frozen meals.

In addition to these behavioral shifts, there were also interesting shifts in values across linguistic acculturation levels. In particular, more-acculturated participants were much more likely than their less-acculturated counterparts to report that the convenience of fast food was a very important reason why they might prefer fast food to cooking at home. This suggests that an important mechanism of the relationship between acculturation and diet might not only be shifts in tastes and preferences, but also a decline in motivation, time, ability, or commitment to preparing meals at home. Furthermore, less-acculturated participants placed greater importance on price, nutrition, ease of preparation, and how well foods keep when choosing between items at the grocery store or supermarket. This increased emphasis on a variety of factors may suggest that, relative to their more-acculturated counterparts, the less-acculturated are more deliberate about what foods they purchase in order to stretch their food budgets, provide good nutrition to themselves and their families, and reduce the burden of home meal preparation.

Importantly, I also found that much of the observed relationship between linguistic acculturation and food behaviors, particularly consumption of restaurant food, may be the result of differences in social characteristics between the more- and less-acculturated, rather than an outcome of acculturation itself. Without adjustment for other factors, I found that more-acculturated participants were significantly more likely to have eaten at a restaurant during the two days of dietary recall than their less-acculturated counterparts. After adjustment for socio-demographic characteristics and socioeconomic status, this relationship remained significant but was reduced by about 44%. Adjustment for income and education, in particular, explained

over 20% of the relationship between linguistic acculturation and restaurant patronage. Thus, much of the difference between more- and less-acculturated Mexican Americans in restaurant patronage is due to the fact that the more-acculturated have higher levels of income and education, and people with high incomes and educations eat at restaurants more frequently. Similarly, unadjusted for other factors, more-acculturated participants consumed more calories when they ate at restaurants than their less-acculturated counterparts; however, adjustment for other factors suggests that this largely reflects differences by nativity rather than an effect of linguistic acculturation itself. The interpretation is that if two people who are otherwise equal make it through the door of a restaurant, the person who is U.S.-born will consume more calories than the person who is foreign-born. While it is true, then, that the more-acculturated will consume more restaurant calories, this simply reflects the fact that the U.S.-born have higher levels of linguistic acculturation. Again, this should not be considered an indicator or outcome of the acculturation process itself, because there is no change with increased exposure to U.S. culture.

This study has a number of important limitations that should be considered when examining its findings. NHANES data are cross-sectional and thus it is impossible to determine the causal pathway between the independent variables and food behavior outcomes. My use of linguistic acculturation and nativity as variables that measure participants' exposure to and adoption of U.S. culture may also be somewhat problematic. Adoption of U.S. culture would be better measured with a multidimensional scale of acculturation capturing factors such as friendship ties, media use, ethnic self-identification, and ethnic/cultural attitudes, beliefs, and practices.<sup>106, 107</sup> Nativity, which I intend as a measure of exposure to (rather than adoption of) U.S. culture, may also not be ideal. For example, foreign-born Mexican Americans who have spent longer time in the U.S. will likely have greater exposure to U.S. culture than their recently arrived counterparts. Recognizing this limitation, I actually included time spent in the U.S. as an

independent variable in each of the multivariate models in this chapter. The food behavior outcomes I assessed did not vary based on time spent in the U.S; however, splitting foreign-born participants into categories based on length of time in the U.S. confused the relationship between nativity and food behavior outcomes. For clarity, I chose to include only nativity in the final models, although I present models with time spent in the U.S. in **Appendix 1**.

This study also has important strengths, perhaps the greatest of which is the wealth of food behavior data available in the 2005-2010 NHANES. These data allow me to examine previously-untested dimensions of the relationship between acculturation and diet among Mexican Americans, particularly those related to food purchasing and preparation as well as food-related values. Based on these data, I believe this study makes substantial and important contributions to our understanding of how food behaviors change within and across immigrant generations.

In conclusion, I think this study makes two main points: First, I have provided data that suggest that previously-observed shifts in diet between more- and less-acculturated Mexican Americans may be just one part of a larger shift in food behaviors. While this and other studies have shown that differences in diet and other consumption behaviors do exist,<sup>69, 70, 72</sup> the data I have presented suggest a larger shift away from homemade meals and towards convenience foods. These findings may have implications for the types of health promotion interventions that might be effective among Latinos. One intervention strategy that might prove effective would be to promote home meal preparation among more-acculturated Mexican Americans. An alternative strategy would be to focus on increasing the breadth, depth, quality, taste, prices, and advertising of prepared healthy foods available in Latino neighborhoods. Increasing the availability of healthy prepared foods would avoid the need to convince Mexican Americans not to eat convenience foods, but still allow for a range of healthy choices.

The second point that this study makes is that much of the difference in food behaviors

between the more- and less-acculturated may not be the result of exposure to and adoption of U.S. food culture. Rather, nearly half of this difference appears to be due to the fact that more-acculturated Mexican Americans differ from their less-acculturated counterparts in important ways other than simply their degree of exposure to U.S. culture. More-acculturated Mexican Americans have higher levels of income and education, and thus appear to eat like people who are not poor or poorly educated. Attributing the entirety of the difference between the more- and less-acculturated to the acculturation process itself, though it may make intuitive sense, likely obscures the role that other social processes play as immigrants and their offspring spend time in the U.S. Social gradients in food behaviors in other countries, including Mexico, support the idea that overreliance on prepared foods may be a characteristic of affluent populations in general, rather than a phenomenon that is culturally-specific to the U.S. Again, increasing availability and acceptance of healthy prepared foods may be a meaningful strategy for improving diet among urban, non-poor, and non-poorly educated populations, including Mexican Americans.

**Table 6.1: Descriptive statistics for adult participants in the 2005-2010 National Health and Nutrition Examination Survey (NHANES), n=2,792**

	%	95% CI	
<b>Age</b>			
20-30	32.2	29.5	34.9
31-45	38.0	34.9	41.0
46-64	22.7	20.3	25.2
65+	7.1	5.7	8.5
<b>Gender</b>			
Female	46.7	44.7	48.7
Male	53.3	51.3	55.3
<b>Marital Status</b>			
Married/Cohabiting	67.2	64.5	69.9
Never Married	17.5	15.1	19.9
Div./Wid./Sep.	15.3	13.1	17.4
<b>Education</b>			
<9th Grade	30.3	27.7	32.8
Some High School	21.4	19.2	23.7
High School Grad	20.2	18.2	22.3
Some College/AA	20.0	18.0	22.0
College Grad	8.1	6.5	9.7
<b>Income (% FPL)</b>			
0-100%	32.6	29.3	35.8
101-200%	33.6	31.4	35.8
201-300%	13.8	11.8	15.9
301-400%	8.1	6.6	9.5
>400%	11.9	10.2	13.6
<b>Nativity</b>			
U.S.-born	38.9	34.4	43.3
Foreign-born	61.1	56.7	65.6
<b>Acculturation</b>			
Only Spanish	42.4	38.7	46.2
More Spanish	15.1	12.5	17.7
Both Equally	12.9	11.0	14.8
More English	13.5	10.8	16.3
Only English	16.0	13.0	19.0



**Table 6.2: Mean Daily Calorie Consumption Among Mexican-Origin Adults in the 2005-2010 National Health and Nutrition Examination Survey (NHANES), n=2,572**

	Total Calories			Fast Food Calories			Restaurant Calories		
	Mean	95% CI		Mean	95% CI		Mean	95% CI	
<b>Total</b>	2096	2044	2149	274.0	242.7	305.3	176.6	152.2	200.9
<b>Acculturation</b>									
Only Spanish	1997	1932	2063	186.3	154.1	218.4	110.2	90.3	130.1
More Span.	2223*	2103	2343	218.2	166.2	270.2	214.5*	141.4	287.7
Both	2146	2002	2290	389.3*	278.8	499.8	206.5*	137.9	275.2
More Eng.	2187*	2099	2275	418.1*	332.6	503.5	205.4*	144.3	266.6
Only Eng.	2100	1979	2221	313.3*	261.3	365.4	246.5*	196.8	296.3

\*Significantly different from 'only Spanish' group at the p<.05 level

Note: Mean daily calorie consumption based on two 24-hour dietary recalls

**Table 6.3: Prepared Food Use Among Mexican-Origin Adults in the 2007-2010 National Health and Nutrition Examination Survey (NHANES), n=1,863**

	# Meals Not Homemade (Last Week)			# Fast Food/Pizza Meals (Last Week)			# Ready-to-Eat Meals (Prev. 30 Days)			# Frozen Meals (Prev. 30 Days)		
	Mean	95% CI		Mean	95% CI		Mean	95% CI		Mean	95% CI	
<b>Total</b>	3.49	3.29	3.69	1.80	1.67	1.93	2.04	1.63	2.46	1.45	1.08	1.83
<b>Acculturation</b>												
Only Span.	2.53	2.14	2.92	1.19	0.98	1.39	1.65	0.95	2.35	0.46	0.28	0.65
More Span.	3.53*	2.92	4.14	1.61	1.19	2.02	1.91	1.15	2.67	0.92*	0.59	1.24
Both	3.97*	3.54	4.40	2.45*	2.04	2.86	1.94	1.28	2.59	1.60*	0.76	2.43
More Eng.	4.66*	3.97	5.34	2.77*	2.30	3.24	3.22*	2.47	3.96	2.61*	1.41	3.80
Only Eng.	4.52*	3.90	5.13	2.20*	1.71	2.68	2.24	1.55	2.94	3.45*	2.23	4.67

\*Significantly different from 'only Spanish' group at the p<.05 level

**Table 6.4: Family Meal Preparation and Eating Practices Among Mexican-Origin Adults in the 2007-2010 National Health and Nutrition Examination Survey (NHANES), n=1,655**

	Times Cooked Dinner (Last Week)			Time Spent to Cook Dinner & Clean (Minutes)			# Meals Eaten as Family (Last Week)		
	Mean	95% CI		Mean	95% CI		Mean	95% CI	
<b>Total</b>	5.76	5.57	5.95	87.7	83.8	91.7	5.86	5.47	6.26
<b>Acculturation</b>									
Only Span.	6.14	5.88	6.39	94.1	88.6	99.6	5.82	5.33	6.31
More Span.	6.14	5.81	6.48	91.5	85.4	97.6	6.28	5.62	6.95
Both	5.87	5.66	6.08	89.7	83.1	96.4	6.56	5.66	7.45
More Eng.	4.79*	4.28	5.31	81.7*	72.3	91.1	5.33	4.48	6.18
Only Eng.	5.13*	4.87	5.38	70.7*	63.1	78.3	5.42	4.89	5.95

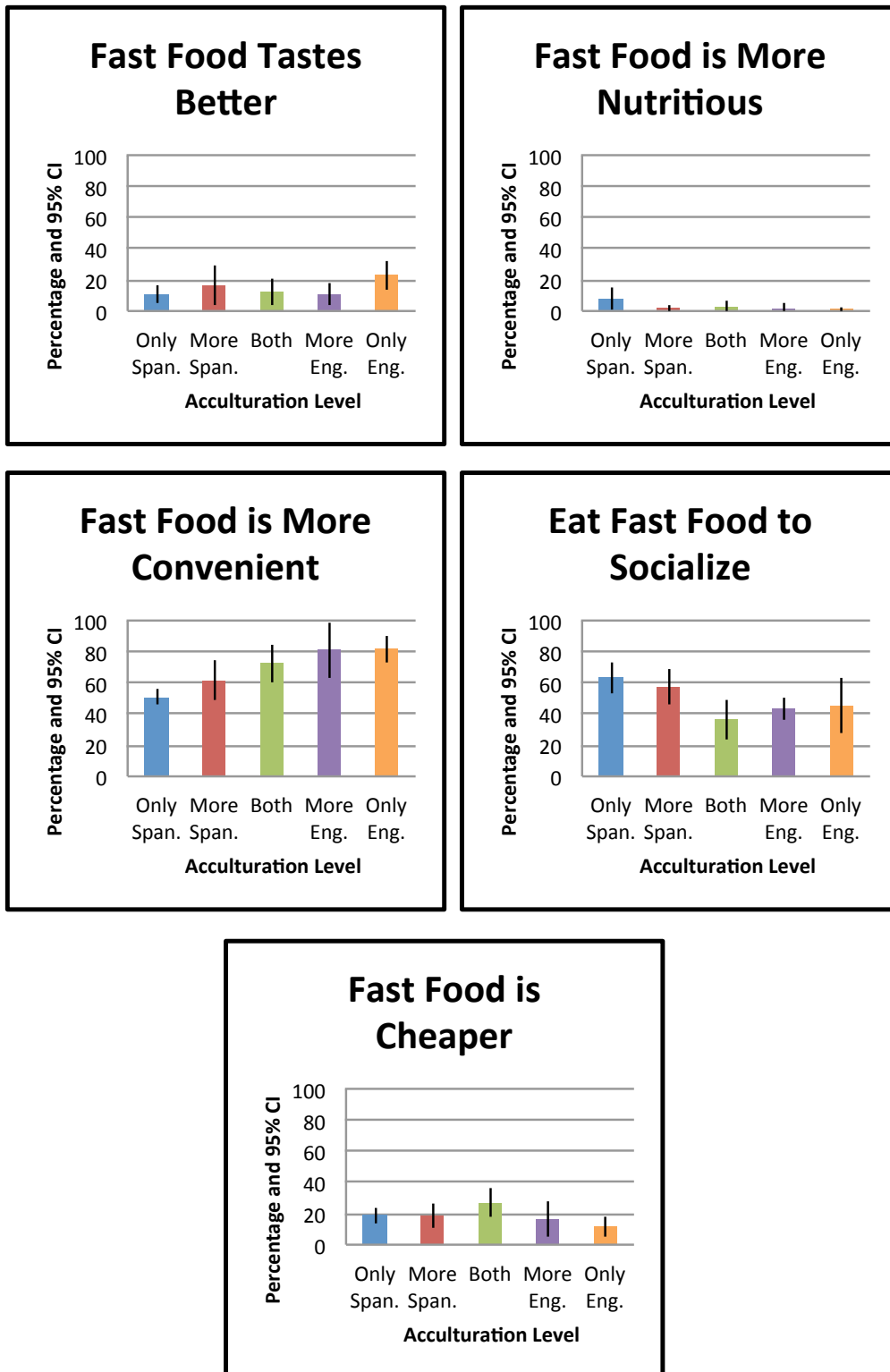
\*Significantly different from 'only Spanish' group at the p<.05 level

**Table 6.5: Family Spending on Food in the Last 30 Days Among Mexican-Origin Adults in the 2007-2010 National Health and Nutrition Examination Survey (NHANES), n=1,805**

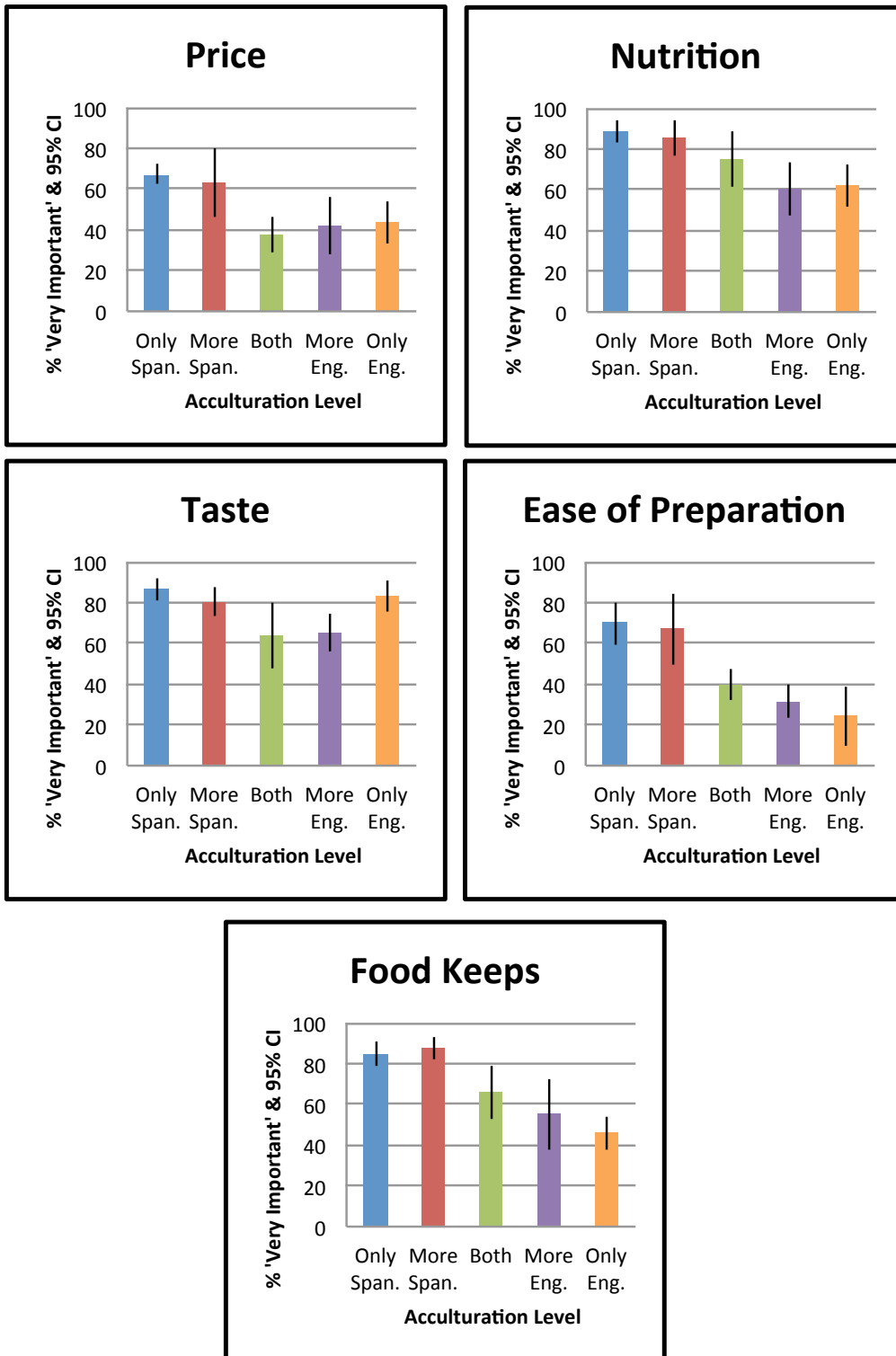
	All Store Spending (\$)			Supermarket Spending (\$)			Restaurant Spending (\$)		
	Mean	95% CI		Mean	95% CI		Mean	95% CI	
<b>Total</b>	488.0	453.0	523.1	410.4	379.4	441.5	160.1	148.2	171.9
<b>Acculturation</b>									
Only Span.	542.6	479.9	605.3	450.0	400.2	499.9	132.0	109.0	155.0
More Span.	492.3	441.6	543.0	413.9	370.0	457.7	152.4	132.4	172.4
Both	473.7*	427.6	519.8	405.1	365.4	444.9	156.0	127.0	185.1
More Eng.	412.2*	370.8	453.7	342.6*	307.5	377.6	190.4*	156.4	224.3
Only Eng.	420.5*	365.4	475.6	368.6*	316.2	420.9	217.2*	178.9	255.6

\*Significantly different from 'only Spanish' group at the p<.05 level

Note: "All Store Spending" includes spending at supermarkets, small grocery stores, and other stores that sell food. Restaurant spending includes dine-in and take-out food.



**Figure 6.2-Values related to fast food purchasing by linguistic acculturation among Mexican American adult participants in the 2007-2008 NHANES, n=544**



**Figure 6.3-Values related to food choices in supermarkets by linguistic acculturation among Mexican American adult participants in the 2007-2008 NHANES, n=625**

**Table 6.6: Logistic Regression Model Predicting the Odds of Eating Fast Food or Restaurant Food within the Previous Two Days Among Mexican-Origin Adults in the 2005-2010 NHANES, n=2,572**

	(1) OR (SE)	(2) OR (SE)	(3) OR (SE)	(4) OR (SE)
<b>Acculturation</b>				
Only Span.	Ref.	Ref.	Ref.	Ref.
Mostly Span.	1.588** (0.271)	1.520* (0.254)	1.437* (0.248)	1.277 (0.224)
Both Equally	3.142*** (0.592)	2.724*** (0.532)	2.500*** (0.497)	1.981** (0.412)
Mostly Eng.	4.591*** (0.967)	3.776*** (0.840)	3.416*** (0.768)	2.604*** (0.615)
Only Eng.	3.032*** (0.691)	2.427*** (0.537)	2.272*** (0.505)	1.636* (0.377)
<b>Foreign-born</b>				
		0.783 (0.133)	0.761 (0.128)	0.835 (0.137)
<b>Male</b>				
			1.104 (0.121)	1.138 (0.122)
<b>Age</b>				
			0.979*** (0.00405)	0.981*** (0.00433)
<b>Marital Status</b>				
Married/Cohabiting			Ref.	Ref.
Never Married			1.290 (0.232)	1.300 (0.231)
Div./Wid./Sep.			1.167 (0.165)	1.205 (0.190)
<b>Educational Attainment</b>				
<9th Grade				Ref.
Some HS				1.234 (0.219)
HS Grad				1.319 (0.240)
Some College/AA				2.048** (0.426)
College Grad				0.987 (0.305)
<b>Family Income (% FPL)</b>				
				1.123* (0.0643)

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Note: The total variance explained in the dependent variable is fixed in Models 1 to 3 using the method recommended by Breen and colleagues (2011); this allows for comparison of coefficients across logistic regression models

**Table 6.7: Linear Regression Model Predicting the Square Root of Calories Consumed Per Day Among Mexican-Origin Adults who ate at Fast Food or Sit-Down Restaurants in the Previous Two Days, 2005-2010 NHANES (n=1,507)**

	(1) b (SE)	(2) b (SE)	(3) b (SE)	(4) b (SE)
<b>Acculturation</b>				
Only Span.	Ref.	Ref.	Ref.	Ref.
Mostly Span.	1.967 (1.024)	1.465 (1.051)	0.810 (1.052)	0.681 (1.093)
Both Equally	3.831** (1.384)	2.396 (1.289)	1.701 (1.249)	1.266 (1.277)
Mostly Eng.	2.579* (1.075)	0.687 (1.389)	0.0857 (1.221)	-0.394 (1.374)
Only Eng.	2.794** (0.868)	0.637 (1.495)	0.747 (1.443)	0.0368 (1.664)
<b>Foreign-born</b>				
		-2.417* (1.014)	-2.599* (0.988)	-2.430* (1.011)
<b>Male</b>				
			3.665*** (0.543)	3.699** (0.563)
<b>Age</b>				
			-0.162*** (0.0249)	-0.162*** (0.0243)
<b>Marital Status</b>				
Married/Cohabiting			Ref.	Ref.
Never Married			1.440 (0.905)	1.542 (0.930)
Div./Wid./Sep.			1.082 (0.667)	1.234 (0.666)
<b>Educational Attainment</b>				
<9th Grade				Ref.
Some HS				0.598 (1.070)
HS Grad				0.268 (0.995)
Some College/AA				1.160 (1.022)
College Grad				-0.715 (1.178)
<b>Family Income (% FPL)</b>				
				0.404 (0.259)
<b>Intercept</b>	23.55*** (0.538)	25.85*** (1.263)	29.99*** (1.921)	28.89*** (1.840)

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Note: Outcome refers to daily calories consumed from fast food and restaurants, not inclusive of calories from other sources. The sample for this model includes the 1,507 participants who reported any consumption of fast food or restaurant food during two days of assessment based on 24-hour dietary recalls.



## **Chapter 7: Acculturation and Food Purchasing Among East L.A. Residents**

### **INTRODUCTION**

For decades, health researchers have observed that Latinos in the U.S. have paradoxically better health than would be expected given their low socioeconomic positions.<sup>47</sup> This observation, known as the ‘Latino paradox,’ refers to mortality rates among Latinos that are similar to Whites despite socioeconomic profiles that more closely resemble Blacks. The health advantage enjoyed by Latinos is particularly strong among the Mexican-origin population and holds not only for all-cause mortality, but also for several specific health conditions.<sup>47, 144</sup> An interesting observation regarding this health advantage is that it tends to erode as immigrants spend more time in the U.S. and is considerably smaller or non-existent among the offspring of immigrants.<sup>130-134</sup> An explanation that is commonly offered for this declining advantage is that health behaviors may change as Latinos acculturate, or adopt the cultural patterns, practices, and beliefs of the U.S. In fact, research has demonstrated that more-acculturated Latinos demonstrate higher rates of smoking, alcohol use, and drug use,<sup>57, 62</sup> but poorer access and use of health care services and poorer perceived general health.<sup>63</sup>

A health behavior that has received particular attention among Latino health and acculturation researchers is diet, perhaps because the Latino health advantage does not hold for a number of diet-related chronic diseases, including overweight and obesity as well as diabetes.<sup>9, 59</sup> In a review of 34 studies assessing the relationship between acculturation and diet, Ayala and colleagues (2008) found that foreign-born and less-acculturated Latinos consume more fruit, rice, and beans and less sugar and sugar-sweetened beverages than their U.S.-born and more-acculturated counterparts.<sup>70</sup> While studies have found that acculturation is associated with both positive and negative effects on diet, the general consensus is that diet quality is poorer among U.S.-born and more-acculturated Latinos. The research has been fairly

consistent in finding that more-acculturated Mexican Americans and other Latinos eat differently than their less-acculturated counterparts; however, few studies have investigated how or why these shifts may occur. As described by Abraído-Lanza and colleagues (2006), this is consistent with a trend in the broader acculturation literature, which has lacked empirical investigations of the mechanisms through which acculturation may affect health.<sup>145</sup>

There are several potential explanations for the observed relationship between acculturation and diet among the Mexican-origin population. The first explanation, of course, is that exposure to and adoption of U.S. culture does not affect food behaviors. While such a hypothesis might seem to be at odds with the empirical evidence just discussed, I believe that the existing literature has largely overlooked alternative explanations for the observation that diets differ between more- and less-acculturated Mexican Americans. I argue that acculturation is just one of several social processes that occur as immigrants move from Mexico to the U.S. and with increasing immigrant generation. Many immigrants move from rural areas in Mexico to large urban areas in the U.S.,<sup>44</sup> and later generations have higher levels of education and income than their first-generation predecessors.<sup>146</sup> These social processes, which tend to occur concurrently with acculturation, almost certainly affect the food behaviors of immigrants and their offspring. Despite this, many studies simply compare the diets of more- versus less-acculturated Mexican Americans, the U.S.-born versus the foreign-born, or the newly-arrived versus longer-tenured, without adjustment for other social factors that vary between groups. Lack of adjustment for other social factors that separate more-acculturated Mexican Americans from their less-acculturated counterparts may mask the underlying reasons why diets vary with acculturation, and thus obscure our understanding of the true mechanisms.

On the other hand, exposure to U.S. culture might cause changes in what immigrants and their offspring eat. One potential mechanism is that acculturation may affect where the Mexican-origin population shops for food. Food outlets differ in the breadth, quality, variety, and

healthfulness of the foods that they sell, so people who shop at different outlets are likely to purchase different foods. For example, Farley and colleagues (2009) found that small food stores in Southern Louisiana and Los Angeles County contained an average of 2.9 meters of shelf space dedicated to fresh fruits and vegetables, compared to 84 meters in supermarkets.<sup>147</sup> While all supermarkets surveyed sold at least some fresh fruits and vegetables, over half of small food stores did not sell any fresh fruits and 35% did not sell any fresh vegetables. In general, research has consistently found that the availability of fresh fruits, fresh vegetables, and other healthy foods is better at supermarkets than small food stores, convenience stores, and liquor stores.<sup>147-149</sup> Not surprisingly, a number of studies have demonstrated that people who live near supermarkets and other sources of healthy food have healthier diets than those who do not.<sup>98, 150, 151</sup>

Access to supermarkets and other types of food outlets is only half of the equation, however, because people generally do not shop at every single food outlet available to them. Rather, people evaluate all of the available options and make choices about where they will shop and what they will buy. These choices are often overlooked in food environment studies, which generally only examine whether geographic proximity to food outlets affects what people eat or whether or not they are overweight.<sup>98, 150, 151</sup> Still, it seems likely that cultural factors may affect where people choose to shop for food, and thus exposure to U.S. culture may affect these choices. The few studies that have been conducted to understand the relationship between acculturation and food purchasing have examined fast food, finding that fast food patronage increases with acculturation.<sup>72, 74</sup> To my knowledge, no studies have been conducted to understand whether acculturation is associated with other aspects of food purchasing behavior.

There are several potential reasons why exposure to and adoption of the cultural patterns and practices of the U.S. might affect where Mexican Americans shop for food and what they purchase. Recent immigrants and other less-acculturated Mexican Americans may be

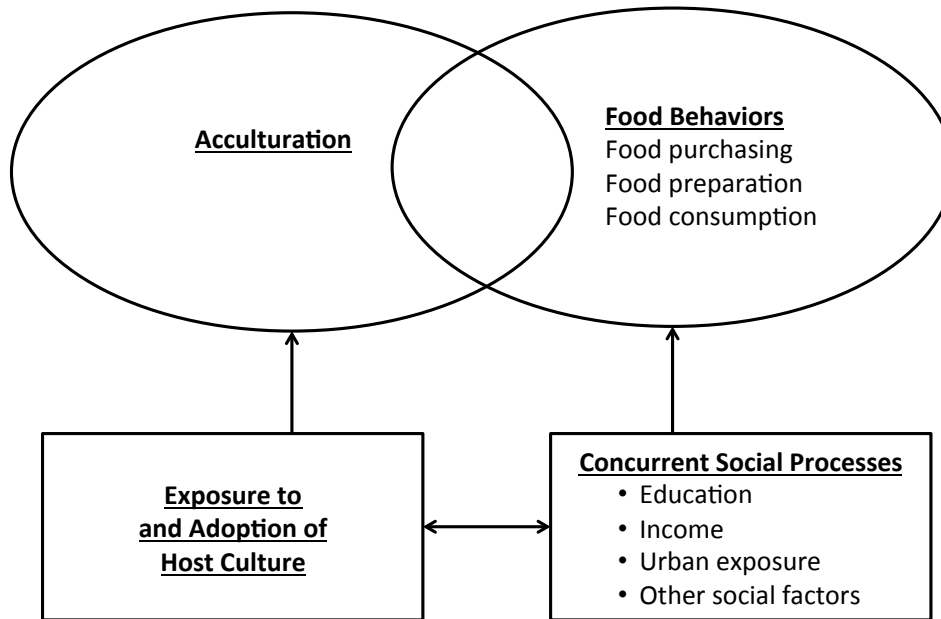
bound to their neighborhoods because of language barriers or lack of familiarity with distant neighborhoods, while these barriers may be reduced or non-existent for longer-tenured immigrants or the U.S.-born. As discussed by Satia-Abouta,<sup>71</sup> acculturation may also have a direct effect on psychosocial factors, tastes, and preferences for food and food outlets, which may affect where people shop and what they purchase.

If acculturated Mexican Americans do shop at a wider variety of food outlets than their less-acculturated counterparts, they may have access to a wider variety of foods. Furthermore, those who shop for food outside of their neighborhoods may also have greater access to non-Mexican food items or 'specialty' food items such as ethnic food, organic food, or specific varieties of healthy food. In short, changes in food outlet choice may act as a mechanism through which the diets of more-acculturated Mexican Americans differ from their less-acculturated counterparts. Identifying whether or not purchasing patterns explain some or all of the relationship between acculturation and diet will be important for shifting the literature towards a more mechanistic approach that identifies modifiable behaviors that can be targeted with empirically-driven interventions.

In this study, I examine the relationship between linguistic acculturation and food purchasing behaviors among the predominantly Mexican-origin residents of East Los Angeles, California (East L.A.). I assess whether East L.A. residents with higher levels of linguistic acculturation demonstrate different food purchasing behaviors than their less-acculturated counterparts, including the following: the amount of money that residents spend on food; choice of the primary food outlet where residents do most of their shopping; shopping frequency and typical purchases at the primary food outlet; and the breadth and variety of all outlets where residents purchase food. I also examine whether any observed relationship between acculturation and food purchasing is explained by socio-demographic differences between the more- and less-acculturated, with particular emphasis on differences in educational attainment,

income, and employment status.

## CONCEPTUAL FRAMEWORK



**Figure 7.1: A model for understanding how exposure to a host culture and concurrent social processes affect the food behaviors of members of immigrant groups**

I present the conceptual framework that guides this study in **Figure 7.1**. There are a number of departures between this framework and other empirical studies of the relationship between acculturation and food behaviors. First, although in this study I primarily examine food purchasing, I view food purchasing, preparation, and consumption as an interrelated set of food behaviors that are mutually influential. Thus, one of the main motivators of my interest in food purchasing is that I believe, ultimately, the outcomes I am examining will have a great deal of influence on what people eat. In general, food must be prepared before it is eaten, and before it is prepared it must be purchased. When members of a household prepare and consume a food item, food purchasing is affected because the food item then must be replaced. In other words,

one can only eat what one purchases and prepares, and what one purchases and how it is prepared largely depends on what one wants to eat.

The second departure between this model and most other studies is how it views the relationship between acculturation, changes in food behaviors, and other social processes that occur within and across immigrant generations. The framework conceptualizes acculturation and changing food behaviors as independent but overlapping: as a multidimensional process, acculturation can include changes in food behaviors that result from exposure to and adoption of U.S. culture. This exposure can also result in changes unrelated to food behavior, such as language use, media use, friendship ties, ethnic identity, knowledge, attitudes, and beliefs. Thus, shifts in food behavior that result from exposure to and adoption of the host culture represent just one dimension of the acculturation process. Similarly, the model posits that shifts in food behaviors that result from exposure to a host culture represent just one dimension of the change in food behaviors that can occur within and across immigrant generations. Food behaviors can also be affected by important social processes that occur at the same time as immigrants and their offspring are exposed to the host culture can affect food behaviors, and I argue that these shifts should not be viewed as an indicator or consequence of acculturation. Some important social processes, for example, might include that Mexican immigrants to the U.S. move from rural areas in Mexico to urban environments in the U.S., and that levels of income and education increase dramatically across immigrant generations. Thus, the concentric circles in the model represent three distinct processes: 1) acculturation that is unrelated to health behaviors, 2) changes in health behaviors that occur as part of the acculturation process, and 3) changes in health behavior that are unrelated to acculturation.

## **METHODS**

### **Data Source**

Data for this study come from a community survey of 532 residents of four block clusters in East L.A. The survey conducts computer assisted personal interviews (CAPI) in each participant's home to assess food purchasing, preparation, and consumption behaviors as well as a range of other characteristics related to nutrition, health, and demographics. The sampling plan for the survey called for a minimum of 125 participants to be interviewed in each of four block clusters. Participants were selected into the survey based on a three-stage sampling plan. In the first stage, block clusters were purposively selected from all blocks in East L.A. based on their proximity to four corner stores involved in a parent intervention study. In brief, the closest blocks to each store were added into a cluster until each cluster contained the anticipated number of residences necessary to complete interviews with 125 participants after adjustments for the accuracy of the sampling frame, occupancy rates, screening rates, and response rates. In the second stage of sampling, households were randomly selected within each block cluster. In the third stage of sampling, an adult is purposively sampled within each selected household. Inclusion criteria for selection into the study are that the participant must be at least 18 years of age, a resident of the selected household, and the primary purchaser or preparer of food for the household. Interviews last approximately one hour and are conducted in English or Spanish based on the preference of participants. Participants were paid \$25 as an incentive for their participation.

The community survey includes questions covering a range of topics related to health, nutrition, and the socio-demographic characteristics of participants and their households. Whenever possible, the items included in the community survey questionnaire were adapted from existing instruments such as the Behavioral Risk Factor Surveillance System<sup>103</sup> and the California Health Interview Survey.<sup>104</sup> In general, standard questions were used for most modules. When suitable items could not be identified to cover a given topic, new items were developed by the parent study staff. The entire community survey was translated into Spanish

and back-translated to ensure that the original meaning of each item was maintained. Prior to fielding the community survey, the entire questionnaire was pretested and cognitive interviewing was used to test specific items for readability and understandability.

## **Variables**

### *Food Purchasing Outcomes*

#### *Weekly Food Expenditures*

To assess weekly food expenditures, each participant is asked, “During a typical week, about how much do you and your family spend on food? Please count all places where you and your family usually shop for food in a typical week and any WIC or food stamps you may use to buy food.” A follow-up question then asks, “About how much of this do you spend on canned, frozen, or fresh vegetables and fruits?” Based on responses to these two questions, I have created two continuous variables representing weekly spending on all food and fruits and vegetables, measured in dollars.

#### *Regular Food Outlet Types*

Participants are asked whether they regularly purchase food to prepare at home from supermarkets, grocery stores, corner stores, convenience stores, wholesalers, dollar stores, and farmers markets. With the exception of farmers markets, participants are then asked how many of each store type they shop at. I have created indicator variables to represent whether participants regularly shop at each store type and two continuous variables that represent the number of supermarkets and the total number of stores of all types where participants shop.

#### *Regular Sources of Prepared Food*



Participants are also asked whether they regularly purchase prepared foods from fast food restaurants, sit-down restaurants, food trucks, and supermarket delis. I have created indicator variables that represent whether participants regularly purchase prepared food from these sources.

### *Primary Food Outlet*

To better understand where participants shop for food, participants are asked, “Now I’d like to talk about some of the specific places you shop for food. Is there one particular store where you buy most of the food for your household?” Each participant then reports the name, location, and store type (e.g., supermarket) of the outlet where they purchase the majority of the food for their household, as well as the frequency with which they shop there and their usual mode of transportation. Participants are then asked whether they usually buy a variety of food items when they shop at their primary food outlet, including the following: vegetables, fruit, frozen meals, soft drinks, flavored water, 100% juice, candy, chips, and prepared food.

### *Linguistic Acculturation*

The focal independent variable in this study is participants’ linguistic acculturation status, measured by language use. Participants’ linguistic acculturation status is a categorical variable that is coded as: 1) English only, 2) Mostly English, 3) Both English & Spanish, 4) Mostly Spanish, and 5) Spanish only. The methodology used for these classifications is reported in further detail in **Chapter 4**.

### *Covariates*

*Educational attainment:* This is a categorical variable with the following response options: <high school, high school graduate, >high school.

*Employment status:* This is a dichotomous categorical variable that indicates whether or not a participant is employed.

*Household income:* This is a categorical variable that represents participants' annual household income. It is important to note that 130 of the 525 participants in the analytic sample either did not know their annual household income or refused to provide these data. For multivariate analyses, I include household income as a categorical variable with a residual "don't know/refused" category for those with missing data.

*Gender:* This is a dichotomous categorical variable and is based on participants' self-identification as either male or female.

*Household size:* This is a continuous variable that represents the total number of people who currently live in the participant's home.

*Children in home:* This is a dichotomous categorical variable that represents whether or not one or more children live in the participant's home.

*Age:* This is a continuous variable that represents participants' age in years.

*Marital Status:* This is a categorical variable with the following response options: never married; married or living with a partner in a marriage-like relationship; widowed/divorced/separated.

*Mexican:* This is a dichotomous categorical variable that measures whether the participant identifies their Latino ancestry as Mexican or non-Mexican.

## **Statistical Analyses**

In the first stage of analysis, I examine the distributions of all variables using descriptive statistics, including means and 95% confidence intervals of continuous variables and percentage distributions of categorical variables. I then use bivariate statistics to assess the relationship between linguistic acculturation and food purchasing outcomes, without adjustment

for other factors. For food purchasing outcomes that are measured using continuous variables (i.e., total food expenditures, fruit and vegetable expenditures, and primary food outlet distance), I present conditional means and 95% confidence intervals for participants within each linguistic acculturation group. I then use one-way analysis of variance (ANOVA) to assess the statistical significance of variation in food purchasing outcomes across strata defined by linguistic acculturation. ANOVA is appropriate for testing these hypotheses because they involve a categorical independent variable and continuous dependent variables. I use cross-tabulation to assess the relationship between linguistic acculturation and primary food outlet type. Cross-tabulation is appropriate because food outlet type is measured using a categorical variable. I use a chi-square test to assess the statistical significance of the relationship between these variables.

I use multivariate linear and logistic regression to examine the relationship between linguistic acculturation and food purchasing outcomes after adjustment for other factors. I use a model-building approach to assess whether any observed relationship between linguistic acculturation and food purchasing outcomes is explained by other confounding variables. For each food purchasing outcome, I present a first model predicting the outcome based on participants' linguistic acculturation status without adjustment for other factors. In the second model, I further adjust for age, gender, marital status, household size, the presence of children in the household, and whether the participant is of Mexican origin. In the third model, I further adjust for nativity. In the fourth model, I further adjust for annual household income, educational attainment, and employment status. To facilitate comparison of coefficients across logistic regression models, all reduced form logistic regression models are adjusted using the methods described by Breen and colleagues (2011).<sup>111</sup> Further details regarding these methods are described in **Chapter 4**. For additional models that further adjust for immigrant generation and the length of time foreign-born participants have spent in the U.S., please see **Appendix 2**. I

use Stata version 12.0 for all analyses.

## RESULTS

**Table 7.1** presents preliminary descriptive statistics for the 525 participants in the first two waves of the baseline community survey with complete data regarding language use (98.7% of the full sample). About four in ten participants is a 'Spanish only' speaker, with the rest evenly distributed among those who speak mostly Spanish, both English and Spanish, mostly English, and English only. The average age of participants is 45 years old, with three quarters of participants between 32 and 56. Three in four participants are female, perhaps because we purposively selected the adult within each household that serves as the primary purchaser or preparer of food. Most participants are currently married (56%) and about one in four has never been married. About six in ten participants live in a household with children, and average household size is 4.1 residents. About half of participants have less than a high school education, and just under half (44%) are employed. Annual household income is low among participants, with about one in five estimating their income at \$5,000 or less per year and half estimating their income at \$15,000 or less. Notably, over 90% of participants reported annual household income of \$40,000 or less. This income level is extremely low, especially considering data from the 2010 American Community Survey 1-Year Estimates that suggest that median household income for all of Los Angeles County is \$52,684.<sup>152</sup> Nine in ten participants are of Mexican origin.

In **Table 7.2**, I present a variety of food purchasing data, stratified by level of linguistic acculturation. The data suggest that participants spend an average of \$120 per week on all food and \$42 per week on fruits and vegetables; however, one-way ANOVA suggests that there is no significant difference in either expenditure type across levels of linguistic acculturation. The quartile distribution of these variables suggests that most participants spend between \$80 and

\$150 per week on food and between \$25 and \$50 on fruits and vegetables. **Table 7.2** also indicates that nearly all participants regularly purchase food at a supermarket, 43% purchase food at a grocery or corner store, 43% purchase food at a wholesaler (e.g., Sam's Club, Costco), 28% purchase food at a dollar store, and 11% purchase food at a farmers market. Chi-square tests suggest that whether or not participants regularly shop at these types of stores does not vary based on their linguistic acculturation. Participants shop at an average of 3.5 different food stores (including supermarkets, grocery stores, convenience stores, corner stores, wholesalers, and dollar stores) and 1.7 different supermarkets, but the number of stores frequented does not vary based on linguistic acculturation.

**Table 7.2** also includes data indicating whether or not participants regularly purchase fast food or prepared food at four different types of outlets: fast food restaurants, sit-down restaurants, food trucks, and the supermarket deli. Seven in ten participants regularly purchase prepared food at fast food restaurants; however, a chi-square test suggests that fast food restaurant purchasing varies by linguistic acculturation. Just 63% of those who speak only Spanish or mostly Spanish regularly purchase food at fast food restaurants, compared to 76% of mostly-English speakers and 69% of only-English speakers ( $p=0.031$ ). A chi-square test similarly suggests that regular restaurant purchasing is not equal across linguistic acculturation strata ( $p=0.006$ ); however, there is no consistent linear trend. For example, a much lower proportion of mostly-Spanish speakers regularly purchase food at restaurants (37%) than among only-Spanish speakers (58%), but this proportion is highest among those who speak both languages (61%) and only English (65%). About one-quarter of participants regularly purchase prepared food at food trucks, but there is no significant relationship with linguistic acculturation. On the other hand, there is a clear relationship between linguistic acculturation and purchasing at supermarket delis: just 18% of only-Spanish and mostly-Spanish speakers

regularly purchase prepared foods at supermarket delis, compared to 31% of mostly-English speakers and 35% of only-English speakers ( $p=0.012$ ).

**Table 7.3** includes a range of data regarding the stores where participants purchase most of the food for their households (which I call their 'usual' store), as well as the types of food they usually buy there. The data suggest that the usual store of nine in ten participants is a supermarket, and that usual store type does not vary by linguistic acculturation. Method of transportation to the store does vary by linguistic acculturation ( $p<0.001$ ), with fewer only-Spanish (51%) and mostly-Spanish (49%) speakers driving to the store compared to the mostly-English (76%) and only-English (79%). The less acculturated groups were more likely to get a ride or walk to the store, compared to their more-acculturated counterparts. The frequency with which participants go to their usual store also varies across levels of linguistic acculturation ( $p=0.039$ ), with 84% of only-Spanish speakers making trips at least once per week compared to 64% of only-English speakers. The table also includes the percentage of participants who regularly purchase the following at their usual stores: vegetables, fruit, frozen meals, soft drinks, flavored water, 100% juice, candy, chips, and prepared food. The majority of these purchases do not vary based on linguistic acculturation (for example, nearly all participants purchase fruits and vegetables, regardless of linguistic acculturation level), with the exception of purchasing of frozen meals and prepared foods. Just 37% and 34% of only- and mostly-Spanish speakers purchase frozen meals at their usual store, respectively, compared to 48% of mostly-English speakers and 60% of only-English speakers ( $p=0.004$ ). Similarly, 10% and 8% of only- and mostly-Spanish speakers purchase prepared foods at their usual store, compared to 18% and 33% of mostly- and only-English speakers ( $p<0.001$ ).

**Table 7.4** includes the names of the top five most frequently-cited 'usual stores' among participants within each level of linguistic acculturation. There are clear shifts in store choice across linguistic acculturation level. Superior and El Super are more commonly cited as the

usual store among only-Spanish (34% and 31%, respectively) and mostly-Spanish (33% and 32%) speakers than among mostly-English (31% and 16%) and only-English (22% and 5%) speakers. On the other hand, only-English speakers frequently choose Food 4 Less (25%), Ralphs (20%) and Albertsons (7%) as their usual store. By comparison, only 15% of only-Spanish speakers *in total* shop at Food 4 Less or Ralphs or Albertsons.

**Table 7.5** includes the results of four logistic regression models predicting whether or not participants typically purchase prepared foods at their usual store. The unadjusted model suggests that participants who speak only English have five times the odds of typically purchasing prepared foods as those who speak Spanish only (OR: 5.03;  $p < .001$ ). This relationship attenuates somewhat after adjustment for age, gender, marital status, household size, the presence of children in the household, and whether the participant is Mexican (OR: 4.71;  $p < .001$ ). After further adjustment for nativity, this effect attenuates even more (OR: 3.17;  $p < .05$ ). The fourth model, which further adjusts for income, education, and employment status, suggests that those who speak English only have three times the odds of purchasing prepared foods at their usual store compared to those who speak only Spanish.

**Table 7.6** includes the results of four similar regressions predicting whether participants purchase frozen meals at their usual store. Compared to participants who speak Spanish only, the unadjusted model suggests that those who speak English only have 2.7 times the odds of purchasing frozen meals ( $p < .001$ ). This relationship decreases only slightly after adjustment for age, gender, marital status, household size, the presence of children in the household, and whether the participant is Mexican (OR: 2.4;  $p < .001$ ), but completely disappears after further adjustment for nativity (OR: 0.84). This suggests that differences in purchasing of frozen meals between the more- and less-aculturated reflect differences between the U.S.- and foreign-born, rather than a true 'acculturation effect.' The relationship between nativity and frozen meal

purchasing is unaffected by further adjustment for annual household income, educational attainment, and employment.

**Table 7.7** contains the results of a similar set of four models predicting whether participants purchase fast food or prepared foods from supermarket delis. The unadjusted model suggests that, compared to those who speak Spanish only, those who speak mostly English and English only have at least twice the odds of purchasing prepared foods from supermarket delis ( $p < .05$  and  $p < .01$ , respectively). Again, this effect is largely unchanged after adjustment for sociodemographic factors (Model 2), but decreases substantially and becomes statistically insignificant after further adjustment for nativity (Model 3). The fourth model, which further adjusts for annual household income, educational attainment, and employment, suggests that the foreign-born have about half the odds of purchasing prepared foods from supermarket delis compared to their U.S.-born counterparts ( $p < .05$ ).

## **DISCUSSION**

This study has a number of results that may help shed light on the relationship between acculturation and food behaviors among Mexican Americans. Data from East L.A. suggest that the vast majority of people do most of their food shopping at a supermarket, and that linguistic acculturation has no discernible relationship with whether or not they make food purchases at grocery/corner stores, wholesalers, dollar stores, or farmers markets. I found no compelling evidence that linguistic acculturation is associated with whether participants purchase prepared food at sit-down restaurants or food trucks, but did find that more-acculturated participants seemed somewhat more likely to regularly purchase food at fast food restaurants and much more likely to purchase fast food at supermarket delis. The latter finding, in particular, is compelling because it seems to be part of a larger tendency of more-acculturated participants to purchase prepared, frozen, and ready-to-eat foods at supermarkets. Given studies finding that



fast food purchasing and consumption increase with acculturation,<sup>72, 74</sup> this may signal a broader shift away from home meal preparation towards increased reliance on multiple types of convenience foods and meals. In addition to implementing lifestyle interventions that promote healthy meal preparation in the home, the public health community should consider partnering with existing supermarkets in Mexican American communities to increase the availability and marketing of healthy, affordable, culturally-appropriate prepared food items.

While almost all participants in each linguistic acculturation stratum reported doing the majority of their food shopping at a store that could be broadly classified as a supermarket, the specific supermarkets where participants chose to shop shifted with linguistic acculturation. Two in three of the less-acculturated participants reported shopping at traditionally Latino-serving supermarkets (i.e., Superior and El Super), while over half of the English-only participants were much more likely to shop at other stores (i.e., Food 4 Less, Ralphs, Albertsons). It is unclear whether this shift affects the foods that participants end up purchasing at their regular stores; however, an interesting possibility is that more-acculturated participants may choose to shop at these supermarkets because they sell more or different types of prepared foods than Latino-serving supermarkets. If so, the prepared-food sections of these supermarkets may be an ideal context for healthy eating interventions. Examining differences between Latino-serving and other supermarkets in inventories, prices, and marketing of prepared foods may help shed further light on this issue.

Multivariate analyses suggest that much of the relationship between linguistic acculturation and food purchasing behaviors is due to differences between the U.S.-born and foreign-born rather than an 'acculturation effect' that affects the foreign-born once they cross the U.S. border. Differences between the more- and less acculturated in purchasing of frozen meals from their usual store and fast food from supermarket delis, in particular, seem to be almost exclusively the result of a nativity effect. This finding has at least two implications. First,

because the underlying causal mechanism is likely not exposure to U.S. culture, purchasing and consumption of these types of prepared foods will probably not increase as foreign-born Mexican Americans acculturate. Second, because many food behaviors seem to be set prior to migration, changes in the food environment and food behaviors that are currently taking place in Mexico may have profound and long-lasting consequences for future waves of U.S. immigrants. Documenting and understanding changes that take place in Mexico may help us to anticipate future patterns of health behavior and chronic disease.

This study has a number of important limitations that should be considered when examining its findings. The East L.A. Community Survey includes participants from a limited number of neighborhoods, and interviews only the main food purchaser or preparer within each household. Furthermore, East L.A. is a predominately low-income neighborhood with high levels of crime and violence, underperforming schools, and other social issues. As a result, many higher-income and higher-education Mexican Americans live in other neighborhoods in Los Angeles. As such, the sample is not representative of Mexican Americans nationally or in Los Angeles. My use of linguistic acculturation and nativity as variables that measure participants' exposure to and adoption of U.S. culture may also be somewhat problematic. Adoption of U.S. culture would be better measured with a multidimensional scale of acculturation capturing factors such as friendship ties, media use, ethnic self-identification, and ethnic/cultural attitudes, beliefs, and practices.<sup>106, 107</sup> In addition to nativity, time spent in the U.S. may be an important indicator of exposure to U.S. culture. Unfortunately, only 13 (or 4%) of foreign-born participants in the study had been in the U.S. for five years or less and 30 (or 9%) had been in the U.S. for six to ten years. Given that exposure to U.S. culture likely has the greatest effect in these early years (especially the first five years), I believe that this limits my ability to accurately assess the relationship between time in the U.S. and behavioral outcomes. I chose to include only nativity in the final models, although I present models with time spent in the U.S. in **Appendix 2**.

This study also has important strengths. To my knowledge, the East L.A. Community Survey includes a greater breadth and depth of food purchasing questions than any survey of Mexican Americans or other Latino sub-groups. Using these data, I was able to examine the relationship between acculturation and food purchasing in much greater detail than any previous study. For example, the fact that more-acculturated participants shop at different supermarkets than their less-acculturated counterparts may have important implications for the inventories, prices, and marketing of foods they are exposed to, but has been unexplored in the literature.

In conclusion, I believe that the most important implication of this study is that U.S.-born (and consequently, more-acculturated) Mexican Americans demonstrate an overall shift towards purchasing a variety of prepared foods relative to their foreign-born counterparts. Increasing the availability, affordability, quality, and attractiveness of healthy frozen and prepared foods in supermarkets and other food outlets may be a meaningful way to improve diet quality among Mexican-origin populations.

**Table 7.1: Descriptive Statistics of Participants in the CPHHD Project 3 Baseline Community Survey, n=525**

	%	Mean (SE)
<b>Linguistic Acculturation (%)</b>		
Only Spanish	39.0	
Mostly Spanish	13.9	
English & Spanish	16.6	
Mostly English	15.6	
English Only	14.9	
<b>Age</b>		44.6 (0.7)
<b>Gender (%)</b>		
Male	22.9	
Female	77.1	
<b>Marital Status (%)</b>		
Never Married	24.7	
Married	55.7	
Div./Wid./Sep	19.7	
<b>Children in Household (%)</b>		
Yes	41.3	
No	58.7	
<b>Household Size</b>		4.1 (0.08)
<b>Education (%)</b>		
<High School	48.4	
High School Grad	31.2	
>High School	20.4	
<b>Employment (%)</b>		
Employed	44.0	
Unemployed	56.0	
<b>Annual Household Income (%)</b>		
\$0-5,000	20.0	
\$5,001-10,000	15.4	
\$10,001-15,000	12.9	
\$15,001-20,000	11.4	
\$20,001-30,000	14.9	
\$30,001-40,000	11.4	
\$40,001-50,000	4.8	
\$50,001-60,000	2.8	
\$60,001 or more	6.3	
<b>Mexican-Origin (%)</b>		
Mexican	86.9	
Any Other	13.1	

**Table 7.2: Food Purchasing by Linguistic Acculturation among East L.A. Residents**

	Linguistic Acculturation						p
	Only Span.	More Span.	Both	More Eng.	Only Eng.	Total	
	% or Mean (SE)	% or Mean (SE)	% or Mean (SE)	% or Mean (SE)	% or Mean (SE)	% or Mean (SE)	
<b>Food Spending (\$/Wk)</b>	117.8 (4.42)	136.6 (7.52)	121.9 (6.11)	117.1 (6.40)	108.1 (6.49)	119.9 (2.65)	0.064
<b>Fruit &amp; Veg Spending (\$/Wk)</b>	43.3 (2.10)	38.3 (3.75)	41.2 (2.83)	38.8 (3.44)	35.8 (2.84)	42.0 (1.27)	0.082
<b>Purchases Food at:</b>							
Supermarkets (%)	97.1	97.3	98.9	98.8	94.8	97.2	0.51
Corner Stores (%)	43.4	49.3	46.0	39.0	41.0	43.4	0.72
Wholesaler (%)	38.0	49.3	46.0	48.8	34.6	42.5	0.15
Dollar Store (%)	24.9	32.9	35.6	23.2	23.1	27.8	0.18
Farmers Market (%)	8.3	11.0	18.4	12.2	7.7	11.1	0.11
<b># All Stores</b>	3.42 (0.24)	3.60 (0.38)	3.90 (0.34)	3.23 (0.30)	3.02 (0.35)	3.5 (0.14)	0.47
<b># Supermarkets</b>	1.59 (0.08)	1.63 (0.13)	1.86 (0.13)	2.00 (0.15)	1.76 (0.14)	1.74 (0.05)	0.067
<b>Purchases Prepared Food at:</b>							
Fast Food Rest. (%)	62.9	63.0	79.3	75.6	69.2	68.8	<b>0.031</b>
Restaurant (%)	57.6	37.0	60.9	56.1	65.4	56.2	<b>0.006</b>
Food Truck (%)	22.9	11.0	24.1	29.3	26.9	22.9	0.074
Supermarket Deli (%)	18.0	17.8	20.7	30.5	34.6	23.1	<b>0.012</b>

Note: p-values are based on chi-square tests for categorical variables and a model F-test using one-way ANOVA for continuous variables

**Table 7.3: Characteristics of 'Usual' Food Store among East L.A. Residents**

	Linguistic Acculturation					Total %	p
	Only Span. %	More Span. %	Both %	More Eng. %	Only Eng. %		
<b>Store Type (%)</b>							0.34
Supermarket	96.5	94.4	89.5	88.8	92.3	93.1	
Grocery/Corner Store	1.5	1.4	3.4	2.5	2.6	2.3	
Wholesale	2.0	4.2	7.0	8.8	5.1	4.6	
<b>Transportation (%)</b>							<b>&lt;0.001</b>
Drive	51.0	49.3	77.4	76.3	78.9	63.4	
Get a Ride	18.0	28.2	6.0	13.2	6.6	14.8	
Walk	23.2	19.7	13.1	10.5	11.8	17.3	
Other	7.7	2.8	3.6	0.0	2.6	4.5	
<b>Visit Freq. (%)</b>							<b>0.039</b>
≥3 Times/Wk.	19.6	28.2	23.8	26.3	23.7	23.0	
1-2 Times/Wk.	63.9	54.9	52.4	48.7	39.5	54.9	
Every 2 Wks.	13.4	15.5	19.0	18.4	28.9	17.5	
≤Monthly	3.1	1.4	4.8	6.6	7.9	4.5	
<b>Usually Buys:</b>							
Vegetables (%)	97.1	97.3	95.4	93.9	98.7	96.6	0.48
Fruit (%)	94.1	97.3	94.3	92.7	97.4	94.9	0.56
Frozen Meals (%)	37.1	34.2	43.7	47.6	60.3	43	<b>0.004</b>
Soft Drinks (%)	62.9	67.1	77	75.6	69.2	68.4	0.095
Flavored Water (%)	58.5	61.6	50.6	63.4	66.7	59.2	0.26
100% Juice (%)	74.6	83.6	83.9	80.5	82.1	79.1	0.28
Candy (%)	52.2	49.3	58.6	53.7	59	54.1	0.66
Chips (%)	72.7	65.8	73.6	72	69.2	71.4	0.79
Prepared Food (%)	9.9	8.3	16.3	17.5	33.3	15.8	<b>&lt;0.001</b>

Note: p-values are based on chi-square tests for categorical variables and a model F-test using one-way ANOVA for continuous variables

**Table 7.4: Top Five 'Usual' Stores among East L.A. Residents by Acculturation Level**

<b>Linguistic Accult.</b>	<b>Store Name (%)</b>
<b>Only Spanish</b>	Superior (33.9%)
	El Super (31.3%)
	Top Valu Market (12.3%)
	Food 4 Less (11.3%)
	Ralphs (3.6%)
<b>More Spanish</b>	Superior (33.3%)
	El Super (31.9%)
	Food 4 Less (9.7%)
	Top Valu Market (9.7%)
	Ralphs (6.9%)
<b>Both</b>	Superior (33.3%)
	El Super (17.9%)
	Food 4 Less (15.5%)
	Top Valu Market (14.3%)
	Ralphs (9.5%)
<b>More English</b>	Superior (30.7%)
	Ralphs (17.3%)
	El Super (16.0%)
	Food 4 Less (14.7%)
	Top Valu Market (6.7%)
<b>Only English</b>	Food 4 Less (25.0%)
	Superior (22.4%)
	Ralphs (19.7%)
	Top Valu Market (9.2%)
	Albertsons (6.6%)

**Table 7.5: Logistic Regression Predicting Purchasing of Prepared Foods at Participants' 'Usual' Store**

	(1) OR (SE)	(2) OR (SE)	(3) OR (SE)	(4) OR (SE)
<b>Acculturation</b>				
Spanish Only	Ref.	Ref.	Ref.	Ref.
Mostly Spanish	0.94 [0.35,2.49]	1.03 [0.38,2.84]	1.04 [0.38,2.85]	1.10 [0.40,3.04]
Both	1.91 [0.89,4.11]	1.94 [0.88,4.24]	1.64 [0.71,3.78]	1.62 [0.69,3.78]
Mostly English	1.98 [0.91,4.31]	1.89 [0.84,4.21]	1.35 [0.53,3.49]	1.10 [0.41,2.95]
English Only	5.03 <sup>***</sup> [2.52,10.04]	4.71 <sup>***</sup> [2.34,9.47]	3.17 <sup>*</sup> [1.28,7.87]	3.07 <sup>*</sup> [1.23,7.70]
<b>Age (yrs)</b>		1.00 [0.98,1.02]	1.00 [0.98,1.02]	1.00 [0.98,1.02]
<b>Female</b>		1.39 [0.77,2.52]	1.33 [0.74,2.42]	1.30 [0.71,2.39]
<b>Marital Status</b>				
Never Married		Ref.	Ref.	Ref.
Married		1.09 [0.56,2.13]	1.16 [0.59,2.29]	1.19 [0.61,2.35]
Div/Wid/Sep		1.45 [0.64,3.32]	1.48 [0.65,3.38]	1.47 [0.64,3.38]
<b>Household Size</b>		0.94 [0.79,1.12]	0.95 [0.80,1.13]	0.94 [0.79,1.13]
<b>Children in HH</b>		1.49 [0.74,2.99]	1.51 [0.75,3.04]	1.49 [0.74,3.01]
<b>Mexican</b>		0.78 [0.38,1.64]	0.78 [0.37,1.63]	0.73 [0.35,1.55]
<b>Foreign-born</b>			0.60 [0.28,1.28]	0.62 [0.29,1.35]
<b>Household Income</b>				
\$0-10,000				Ref.
\$10,001-30,000				0.66 [0.31,1.37]
≥\$30,000				1.40 [0.66,2.99]
DK/Ref.				1.01 [0.48,2.16]
<b>Education</b>				
<HS				Ref.
HS				0.68 [0.33,1.39]
>HS				1.57 [0.74,3.31]
<b>Employed</b>				1.08 [0.61,1.91]

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Note: The total variance explained in the dependent variable is fixed in Models 1 to 3 using the method recommended by Breen and colleagues (2011); this allows for comparison of coefficients across logistic regression models



**Table 7.6: Logistic Regression Predicting Purchasing of Frozen Meals at Participants' 'Usual' Store, n=511**

	(1) OR (SE)	(2) OR (SE)	(3) OR (SE)	(4) OR (SE)
<b>Acculturation</b>				
Spanish Only	Ref.	Ref.	Ref.	Ref.
Mostly Spanish	0.93 [0.52,1.68]	0.84 [0.45,1.56]	0.84 [0.45,1.57]	0.97 [0.52,1.83]
Both	1.26 [0.73,2.19]	1.13 [0.64,1.99]	0.72 [0.39,1.32]	0.80 [0.43,1.47]
Mostly English	1.54 [0.89,2.68]	1.26 [0.71,2.26]	0.52 [0.25,1.06]	0.55 [0.26,1.14]
English Only	2.66 <sup>***</sup> [1.52,4.67]	2.42 <sup>**</sup> [1.37,4.29]	0.84 [0.41,1.75]	0.86 [0.41,1.80]
<b>Age (yrs)</b>		1.00 [0.98,1.01]	1.00 [0.99,1.01]	1.00 [0.99,1.02]
<b>Female</b>		1.91 <sup>**</sup> [1.20,3.03]	1.69 <sup>*</sup> [1.07,2.69]	1.85 <sup>*</sup> [1.15,2.98]
<b>Marital Status</b>				
Never Married		Ref.	Ref.	Ref.
Married		1.11 [0.69,1.80]	1.31 [0.80,2.13]	1.26 [0.77,2.06]
Div/Wid/Sep		1.14 [0.61,2.11]	1.19 [0.64,2.22]	1.06 [0.57,1.98]
<b>Household Size</b>		1.10 [0.97,1.25]	1.13 [0.99,1.28]	1.13 [0.99,1.28]
<b>Children in HH</b>		1.26 [0.77,2.09]	1.30 [0.79,2.15]	1.40 [0.84,2.32]
<b>Mexican</b>		0.75 [0.43,1.32]	0.75 [0.43,1.31]	0.78 [0.44,1.37]
<b>Foreign-born</b>			0.26 <sup>***</sup> [0.14,0.47]	0.28 <sup>***</sup> [0.15,0.52]
<b>Household Income</b>				
\$0-10,000				Ref.
\$10,001-30,000				0.62 [0.38,1.03]
≥\$30,000				0.40 <sup>**</sup> [0.22,0.74]
DK/Ref.				0.55 <sup>*</sup> [0.32,0.95]
<b>Education</b>				
<HS				Ref.
HS				1.28 [0.79,2.08]
>HS				1.72 [0.95,3.13]
<b>Employed</b>				0.95 [0.63,1.44]

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Note: The total variance explained in the dependent variable is fixed in Models 1 to 3 using the method recommended by Breen and colleagues (2011); this allows for comparison of coefficients across logistic regression models

**Table 7.7: Logistic Regression Predicting Whether Participants Purchase Prepared Foods at Supermarket Delis, n=511**

	(1) OR (SE)	(2) OR (SE)	(3) OR (SE)	(4) OR (SE)
<b>Acculturation</b>				
Spanish Only	Ref.	Ref.	Ref.	Ref.
Mostly Spanish	1.03 [0.50,2.10]	1.09 [0.52,2.32]	1.10 [0.52,2.32]	1.11 [0.52,2.37]
Both	1.03 [0.53,2.01]	1.05 [0.53,2.07]	0.78 [0.38,1.64]	0.75 [0.35,1.58]
Mostly English	2.00* [1.09,3.68]	2.15* [1.13,4.08]	1.21 [0.56,2.63]	1.02 [0.45,2.27]
English Only	2.42** [1.32,4.43]	2.39** [1.29,4.43]	1.21 [0.55,2.70]	1.13 [0.50,2.53]
<b>Age (yrs)</b>		1.01 [0.99,1.03]	1.01 [1.00,1.03]	1.02* [1.00,1.04]
<b>Female</b>		1.00 [0.59,1.69]	0.92 [0.54,1.57]	0.85 [0.49,1.47]
<b>Marital Status</b>				
Never Married		Ref.	Ref.	Ref.
Married		0.70 [0.41,1.19]	0.77 [0.45,1.32]	0.76 [0.45,1.31]
Div/Wid/Sep		0.47* [0.23,0.98]	0.49 [0.23,1.01]	0.47* [0.22,0.97]
<b>Household Size</b>		0.90 [0.78,1.05]	0.92 [0.79,1.06]	0.93 [0.80,1.08]
<b>Children in HH</b>		1.82* [1.01,3.28]	1.85* [1.03,3.34]	1.90* [1.05,3.45]
<b>Mexican</b>		0.85 [0.45,1.61]	0.85 [0.45,1.61]	0.86 [0.45,1.63]
<b>Foreign-born</b>			0.42** [0.22,0.81]	0.47* [0.24,0.93]
<b>Household Income</b>				
\$0-10,000				Ref.
\$10,001-30,000				0.67 [0.37,1.23]
≥\$30,000				0.92 [0.48,1.78]
DK/Ref.				1.02 [0.55,1.90]
<b>Education</b>				
<HS				Ref.
HS				1.23 [0.69,2.20]
>HS				2.06* [1.07,3.99]
<b>Employed</b>				1.41 [0.88,2.27]

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Note: The total variance explained in the dependent variable is fixed in Models 1 to 3 using the method recommended by Breen and colleagues (2011); this allows for comparison of coefficients across logistic regression models

## **Chapter 8: Understanding the Relationship Between Acculturation, Food Preparation, and Diet among Mexican-Origin Populations: A Look at East Los Angeles**

### **INTRODUCTION**

#### ***Food preparation, diet, and health***

What people eat is important for their health.<sup>12, 16</sup> Research has demonstrated that increased consumption of fruits and vegetables provides a protective effect against several forms of cancer and cardiovascular disease.<sup>12-14, 16, 153-155</sup> Unfortunately, Americans fall far short of national recommendations for fruit and vegetable consumption,<sup>17, 156-160</sup> and data from the 2003-2004 National Health and Nutrition Examination Survey (NHANES) suggest that a large portion of the fruits and vegetables Americans do eat come in less-than-optimal forms: about one-fourth of fruit intake among U.S. adults is from juice and about one-sixth of vegetable intake is from fried potatoes.<sup>160</sup> While fruit and vegetable consumption is low for all U.S. populations, it is particularly low for Latinos and other racial/ethnic minorities.<sup>12</sup> Data from the 2005-2006 NHANES indicate that White men and women eat an average of 2.0 and 2.2 servings of vegetables per day, respectively, compared to just 1.4 and 1.6 servings among Mexican American men and women.<sup>12</sup>

Consumption of larger portion sizes, high intake of sugar-sweetened beverages, and frequent consumption of fast food and other prepared foods can also increase a person's risk of obesity and chronic disease.<sup>12, 120, 121, 126, 161-166</sup> Processed and prepared foods tend to be less healthful than foods prepared in the home, and this disparity has increased over time. In 1977-1978 prepared food was eaten during 16% of eating occasions, but accounted for 18% of total caloric intake.<sup>141</sup> By 1994-1996, prepared food was eaten during 25% of eating occasions but accounted for 32% of total calories. Unfortunately, over the last several decades Americans have begun to spend less time preparing their own meals and become increasingly reliant on restaurant meals and other prepared foods.<sup>167</sup> Among the primary beneficiaries of this shift have

been fast food restaurants, which increased in volume from 30,000 establishments in 1970 to 222,000 establishments in 2001.<sup>168</sup>

Data from the 2000-2002 Multi-Ethnic Study of Atherosclerosis (MESA) suggest that frequent consumption of fast food is at least as common among Latinos as it is among most other major racial/ethnic groups.<sup>169</sup> Slightly fewer than 33% of Latino participants reported consuming fast food at least once per week, compared to 30% among Whites and 35% among Blacks. A cause of frequent fast food consumption among Latinos may be high exposure to fast food restaurants. Among MESA participants, Latinos lived in neighborhoods with a mean of 4.3 fast food restaurants per square mile, compared to 1.8 among Blacks and 1.4 among Whites. Several other studies have confirmed a relatively higher density of fast food restaurants and other unhealthy food outlets in Latino neighborhoods.<sup>31, 32, 90-92</sup>

### ***Mexican Americans and food behaviors***

In addition to differences between Latinos and other racial/ethnic groups, studies have demonstrated that there is considerable variation in food behaviors *within* the Latino population. Acculturation, or the degree to which immigrants and their offspring adopt U.S. cultural patterns and practices, is one factor in particular that has been posited to affect the food behaviors of the Mexican-origin population. As discussed in a literature review of 34 studies assessing the relationship between acculturation and diet, Ayala and colleagues (2008) found that less-acculturated Latinos consumed more fruit, rice, and beans and less sugar and sugar-sweetened beverages than their more-acculturated counterparts.<sup>70</sup> Studies have demonstrated both positive and negative differences in diet between more-acculturated Mexican Americans and their less-acculturated counterparts; however, the general consensus has been that the overall changes that occur with acculturation are negative.

Researchers have suggested a number of ways that exposure to U.S. culture might

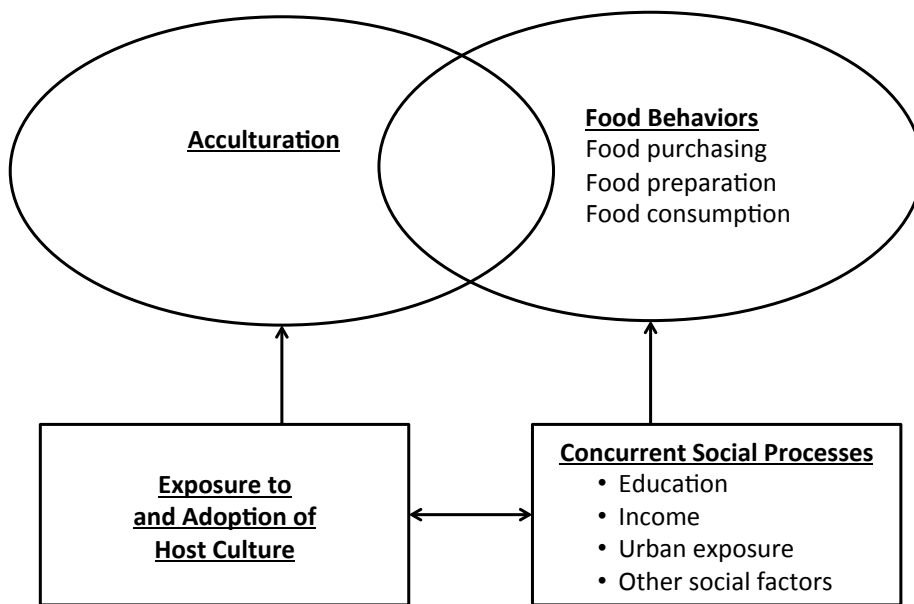
affect the way immigrants eat.<sup>71-73</sup> Satia-Abouta (2003) argues that exposure to U.S. culture might result in changing tastes and preferences for food as well as knowledge, attitudes and beliefs related to diet and disease.<sup>71</sup> Furthermore, the more-aculturated could be exposed to different environmental influences on purchasing and preparation, including access and affordability of specific food items as well as advertising, convenience, and time constraints that affect whether people prepare their own food, shop at restaurants, or purchase packaged or prepared foods.

Conceptual frameworks are an important tool for understanding *potential* mechanisms through which exposure to U.S. culture may affect diet; however, the *actual* importance of causal mechanisms can only be determined via empirical studies. To this point, the literature has been very outcomes-driven, with almost every study in this area focusing on changes in intake of specific foods and nutrients as immigrants and their offspring acculturate. In contrast, few empirical studies have examined mechanisms through which exposure to U.S. cultural patterns and practices may affect the diets of the Mexican-origin population, including via shifts in food preparation behavior. An emerging body of research suggests that acculturation is positively associated with consumption of fast food among Latinos;<sup>72, 74, 93</sup> however, other dimensions of food preparation have gone largely unexplored. There are several plausible reasons why food preparation behaviors may shift with acculturation, including the environmental influences discussed by Satia-Abouta, adoption of an American food culture that places heavy emphasis on prepared food, or erosion of traditional cooking skills among later generations of immigrants.<sup>71</sup> Understanding how and why these and other dimensions of food preparation behavior shift with acculturation will be important for informing public health interventions to improve diet within the Mexican-origin population.

In this study, I seek to examine the relationship between linguistic acculturation, food preparation, and diet among the predominately Mexican-origin residents of East Los Angeles,

California (East L.A.). I will assess perceived barriers to healthy food preparation, in-home availability of fruits and vegetables, frequency of meal preparation, and fast food consumption among East L.A. residents, and determine whether these factors vary based on linguistic acculturation. I will also investigate whether the association between linguistic acculturation, food purchasing, and diet is explained by differences between more- and less-acculturated Latinos in sociodemographic factors, including educational attainment, income, and employment.

### CONCEPTUAL FRAMEWORK



**Figure 8.1: A model for understanding how exposure to a host culture and concurrent social processes affect the food behaviors of members of immigrant groups**

I present the conceptual framework that guides this study in **Figure 8.1**. I believe there are two main departures between this framework and other empirical studies of the relationship

between acculturation and diet. First, although in this study I primarily examine food preparation and consumption behaviors, I view food purchasing, preparation, and consumption as an interrelated set of food behaviors that each influence one another. These factors are intimately tied together, so I believe it only makes sense to consider how they each might be influenced by factors such as acculturation. The novel aspect of this model is my hypothesis that much of the observed difference in food behaviors between the more- and less-acculturated might not be the result of exposure to and adoption of U.S. cultural patterns and practices. Rather, I posit that more-acculturated Mexican Americans differ from their less-acculturated counterparts in a number of important social factors that are likely to affect their food behaviors, including education, income, and urban vs. rural residence. I argue that the influence of these factors on food behaviors is not specific to the U.S. or its culture, and thus should not be considered as an indicator or result of the acculturation process. In this study, I empirically assess the relationships between linguistic acculturation, food preparation, and food consumption, in addition to examining whether these relationships are explained by differences in education, income, and other sociodemographic factors that separate more-acculturated participants from their less-acculturated counterparts.

## **METHODS**

### **Data Source**

Data for this study come from the baseline wave of a community survey conducted as part of a large environmental-change intervention in East L.A. In brief, the community survey involves in-person interviews with 532 residents in four neighborhoods in East L.A. Interviews cover a variety of topics such as health, nutrition, and sociodemographic factors. Further details regarding the design and implementation of the community survey are available in **Chapter 4**.

## **Variables**

### Linguistic Acculturation

The focal independent variable in this study is participants' linguistic acculturation status. Participants' linguistic acculturation status is classified as as: 1) English only, 2) Mostly English, 3) Both English & Spanish, 4) Mostly Spanish, and 5) Spanish only. The methodology used for these classifications is reported in further detail in **Chapter 4**.

### Food Behavior Variables

The baseline community survey measures the healthfulness of participants' diets using the Townsend Food Behavior Checklist.<sup>170</sup> This checklist is a 22-item questionnaire that has been validated among English- and Spanish-speaking populations.<sup>170-172</sup> In general, the questionnaire was designed to assess the overall healthfulness of a person's diet and includes items regarding consumption of fruits, vegetables, juice, soda, sports drinks, milk, and fish. The authors of the instrument suggest that the items in the questionnaire can be broken down into five distinct subscales that measure consumption of: fruits and vegetables, milk, fat and cholesterol, overall diet quality, and food security. In this study, I am interested in assessing participants' consumption of fruits and vegetables. Principal components factor analysis suggests that the seven items included in the fruits and vegetables subscale load on three distinct factors that can be thought of as measuring the underlying constructs: 1) quantity of fruit and vegetable consumption, 2) variety of fruit and vegetable consumption, 3) citrus consumption. I use the appropriated items to create indices measuring the constructs 'quantity' and 'variety' of fruit and vegetable consumption.

### Daily Servings of Fruits and Vegetables

Quantity of fruit and vegetable consumption is measured using the following two



questions: “How many servings of fruit do you eat each day?” And, “How many servings of fruit do you eat each day?” I sum the answers to these questions to create a single continuous variable that represents the total daily servings of fruits and vegetables each participant consumes.

### *Fruit and Vegetable Variety Index*

Variety of fruit and vegetable consumption is measured using the following four questions: 1) “Do you eat fruits or vegetables as snacks?” 2) “Do you eat 2 or more vegetables at your main meal?” 3) “Do you eat more than one kind of fruit each day?” and 4) “Do you eat more than one kind of vegetable each day?” The response options to each of these questions are: “No...Yes, sometimes...Yes, often...Yes, always.” To create a single measure of fruit and vegetable variety, I have created a summary measure that ranges from zero to 12. I give participants zero points for each ‘no’ answer, one point for each ‘sometimes’ answer, two points for each ‘often’ answer, and three points for each ‘always’ answer.

### *Fast Food Consumption*

To assess the frequency with which participants consume fast food, I use a categorical variable with four possible response options that is based on a question asking, “Next, I’d like to know about the fast food or other prepared meals you eat at work, home, school, or on the go during a typical week. Would you say that you do this: never, sometimes, often, or every day?”

### *Meal Preparation Frequency*

To assess the frequency with which participants prepare meals at home, each participant is asked, “During a typical week, how many days do you prepare...Breakfasts...Lunches...Dinners?” Possible responses for each meal type ranged from zero to seven. I have created four

continuous variables that represent the frequency with which participants prepare each type of meal, as well as the total number of meals each participant prepares in a typical week. For the latter variable, I sum responses related to breakfast, lunch, and dinner.

#### *Fruit and Vegetable Availability*

Fruit and vegetable availability is a continuous variable that represents the total number of fruits and vegetables available in each participant's home. The variable is based on questions that ask whether participants currently have 27 common varieties of fruits and vegetables in their home, including fresh, frozen, or in cans.

#### *Perceived Barriers to Healthy Meal Preparation*

Perceived barriers to healthy food preparation are assessed with a series of eight statements regarding specific factors that may act as barriers to healthy food preparation. Participants are asked whether each statement is true or false. For example, one statement is, "You have time to prepare healthy food." Barriers addressed by the statements include: time for preparation, individual taste preferences, family taste preferences, convenience of purchasing healthy foods, cost, preparation knowledge, and healthy food quality. In addition to assessing the specific barriers each participant perceives as preventing healthy food preparation, I also create a summary measure that indicates the total number of factors each participant perceives to be a barrier to healthy meal preparation.

#### *Covariates*

Covariates for this study include gender, age, marital status, household size, the presence of children in the home, household income, employment status educational attainment, and Mexican origin. The methodology used to construct these variables is further

explained in **Chapter 7**.

### **Statistical Analyses**

I use descriptive statistics to examine the distributions of all food preparation and consumption variables, including the frequency of meal preparation, fast food consumption, perceived barriers to healthy food preparation, fruit and vegetable availability in the home, and fruit and vegetable consumption. Descriptive statistics include means and 95% confidence intervals of continuous variables and percentage distributions of categorical variables. I use bivariate statistics to examine the relationship between linguistic acculturation and food preparation and consumption variables, unadjusted for other factors. To assess the relationship between linguistic acculturation and each continuous outcome (e.g., servings of fruits and vegetables consumed), I present conditional means and 95% confidence intervals for participants within each linguistic acculturation group and use one-way ANOVA to assess statistical significance. To assess the relationship between linguistic acculturation and categorical outcomes (e.g., fast food consumption), I use cross-tabulation and a chi-square test.

I use multivariate linear and logistic regression to examine the relationship between linguistic acculturation and food preparation and consumption outcomes after adjustment for other factors. I use a model-building approach to assess whether any observed relationship between linguistic acculturation and food preparation and consumption outcomes is explained by other confounding variables. For each outcome, I present a first model predicting the outcome based on participants' linguistic acculturation status without adjustment for other factors. In the second model, I further adjust for age, gender, marital status, household size, the presence of children in the household, and whether the participant is of Mexican origin. In the third model, I further adjust for nativity. In the fourth model, I further adjust for annual household income, educational attainment, and employment status. To facilitate comparison of coefficients

across logistic regression models, all reduced form logistic regression models are adjusted using the methods described by Breen and colleagues (2011).<sup>111</sup> Further details regarding these methods are described in **Chapter 4**. For additional models that further adjust for immigrant generation and the length of time foreign-born participants have spent in the U.S., please see **Appendix 3**. I use Stata version 12.0 for all analyses.

## RESULTS

### Food Preparation

Descriptive statistics for the 525 East L.A. participants with complete data regarding language use are available in **Table 7.1**. In **Table 8.1**, I present food preparation and consumption behaviors stratified by level of linguistic acculturation. Participants eat an average of 4.2 servings of fruits and vegetables per day, and the quartile distribution suggests that most participants consume between three and five servings per day. Participants who speak only Spanish or mostly Spanish report consuming 4.2 and 4.4 servings of fruit and vegetables per day, respectively, compared to 3.9 and 3.8 among those who speak mostly English or only English ( $p=0.038$ ). Based on a 12-point scale, fruit and vegetable variety measured a mean of 6.6, ranging from 6.9 and 7.1 among those who speak only Spanish or mostly Spanish to 6.0 and 5.6 among those who speak mostly English or only English ( $p<0.001$ ).

The table suggests that participants prepare an average of 15.2 meals in a typical week, and the quartile distribution indicates that most participants prepare between 11 and 21 meals. Preparation frequency ranges from 16.1 and 17.4 meals per week among those who speak only Spanish or mostly Spanish, respectively, to 13.8 and 13.3 among mostly-English and only-English speakers ( $p<0.001$ ). The data further suggest that preparation of specific types of meals is more frequent among less-acculturated participants than their more-acculturated

counterparts, including breakfasts, lunches, and dinners.

In terms of the home food environment, participants had an average 18.3 varieties of fruits and vegetables available in their homes out of the 27 varieties that were specifically asked about. Only-Spanish and mostly-Spanish participants had 18.4 and 20.3 varieties of fruits and vegetables available in their homes, respectively, compared to 17.9 among the mostly-English and 16.1 among the only-English ( $p < 0.001$ ). Nearly three in four participants report eating fast food sometimes, while 14% eat fast food often and just 3% eat fast food every day. About 31% of English-only and mostly-English speakers eat fast food often or every day, compared to just 10% of Spanish-only speakers and 5% of mostly-Spanish speakers ( $p < 0.001$ ).

In **Table 8.2**, I present eight perceived barriers to healthy food preparation. In total, participants perceived an average of 4.4 of the eight mentioned factors as being barriers to healthy meal preparation. The number of perceived barriers was not equal across linguistic acculturation strata ( $p = 0.02$ ); however, there was no linear pattern, with participants who speak mostly Spanish and both languages reporting fewer barriers than those who speak only Spanish, mostly English, and only English. There was no significant relationship between participants' linguistic acculturation status and their perception of barriers related to time, personal preference, family preference, food outlet convenience, preparation knowledge, or the poor quality of healthy foods sold in their neighborhoods; however, perceptions of barriers related to the expense of healthy foods and the lack of places to buy healthy foods within the neighborhood did vary based on linguistic acculturation ( $p = 0.008$  and  $p = 0.002$ , respectively). The data suggest no clear trend across linguistic acculturation levels in whether participants perceive the expense as a barrier to healthy food preparation; rather, many fewer participants who speak both English and Spanish perceive expense as a barrier than among those in the other categories. Compared to those who speak only Spanish (31%) or mostly Spanish (32%), participants who speak mostly English (53%) and only English (44%) were more likely to say

that not having a place to buy healthy food in the neighborhood was a barrier to healthy food preparation.

In **Table 8.3**, I present the results of four linear regression models predicting fruit and vegetable consumption variety among East L.A. residents. Unadjusted for other factors, participants who speak mostly English and only English score one point less than those who speak only Spanish on the fruit and vegetable variety scale ( $p < .01$  for mostly English;  $p < .001$  for only English). After adjustment for age, gender, marital status, household size, the presence of children in the household, and whether the participant is Mexican (Model 2), the relationship between linguistic acculturation and fruit and vegetable variety decreases such that the difference between participants who speak only Spanish and mostly English is no longer significant, and the difference between those who speak only Spanish and only English decreases by about 20%. After further adjustment for nativity (Model 3), there is no significant relationship between linguistic acculturation and fruit and vegetable variety.

In **Table 8.4**, I present the results of a set of four logistic regression models predicting frequency of fast food consumption. The outcome for these models is whether participants report consuming fast food often or every day, versus sometimes or never. The unadjusted model suggests a clear relationship between linguistic acculturation and fast food consumption. Compared to those who speak only Spanish, those who speak both English and Spanish have 2.5 times the odds of consuming fast food often or every day ( $p < .05$ ) and those who speak mostly English and only English have over five times the odds ( $p < .001$  in both cases). The relationship between linguistic acculturation and fast food consumption is largely explained by adjustment for age, gender, marital status, household size, the presence of children in the household, and whether the participant is Mexican (Model 2), and almost entirely disappears and becomes non-significant after further adjustment for nativity (Model 3).

In **Table 8.5**, I present the results of a similar set of four logistic regression models predicting ‘frequent’ meal preparation, defined as 19 or more meals prepared in a typical week. I use a dichotomized outcome for these models rather than a continuous variable because meal preparation frequency is extremely left-tailed, with one-quarter of participants preparing 21 meals per week (the maximum). One-third of participants prepare 19, 20, or 21 meals per week, and I consider these people to be ‘frequent’ preparers. The unadjusted model suggests that linguistic acculturation is highly associated with being a frequent meal preparer. Compared to participants who speak only Spanish, those who speak both English or Spanish have half the odds ( $p < .05$ ), and those who speak mostly English or only English have 74% lower odds ( $p < .001$  in both cases) of being frequent meal preparers. In contrast to the food consumption outcomes, this relationship remains largely intact after adjustment for age, gender, marital status, household size, the presence of children in the household, and whether or not the participant is Mexican (Model 2), further adjustment for nativity (Model 3), and further adjustment for annual household income, educational attainment, and employment (Model 4). After adjustment for all other factors, participants who speak English only have 65% lower odds of being a frequent meal preparer than those who speak only Spanish.

## **DISCUSSION**

In this study, I found evidence of a positive relationship between fast food consumption and linguistic acculturation among residents of East L.A. This finding is consistent with those of other studies, which have also found that fast food patronage increases as Latinos acculturate.<sup>72, 74, 93</sup> From a public health perspective, it is important to understand what types of food are being displaced by increased purchasing and consumption of food from fast food restaurants. If fast food is replacing other types of prepared or ready-to-eat foods (e.g., frozen meals, prepared foods from supermarkets, street food, sit-down restaurants), this may be less

troubling than if the meals being replaced are of the typically healthier meals prepared in the home.<sup>141</sup>

Unfortunately, the results presented in this and other chapters suggest that increased fast food consumption among more-acculturated Mexican Americans is just one part of a broader shift towards prepared and ready-to-eat meals. In this study, I presented compelling evidence that this shift likely comes at the expense of meals prepared in the home, since in-home preparation of all meal types is lower among more- versus less-acculturated participants. This shift from homemade to prepared meals is likely at least part of the reason that more-acculturated participants in my sample report eating a lower quantity and variety of fruits and vegetables than their less-acculturated counterparts.

The results of my multivariate analyses suggest that much of the difference in fast food consumption between less- and more-acculturated participants may actually reflect differences by nativity rather than a true relationship with linguistic acculturation. After adjustment for a range of social, demographic, and socioeconomic factors, the foreign-born had about one-third the odds of being frequent consumers of fast food relative to their U.S. born counterparts. Thus, at least some food behaviors may have less to do with changes that occur once immigrants cross the border than with behavioral patterns set in countries of origin. As Mexico continues to undergo globalization and the population becomes increasingly urban,<sup>40, 44</sup> it will be interesting to document whether the relationship between nativity and fast food consumption changes among future generations of immigrants.

On the other hand, the relationship between linguistic acculturation and home meal preparation was largely unchanged after adjustment for other factors. Meal preparation declined with greater levels of linguistic acculturation, such that the participants who speak English-only had about one-third the odds of being frequent meal preparers relative to those who speak only Spanish. This may suggest that more-acculturated Mexican Americans feel less motivated to



prepare meals or have greater affinity for prepared or ready-to-eat meals; however, other explanations may include that the more-acculturated face real or perceived barriers to meal preparation that are less of an issue for the less-acculturated. For example, the East L.A. data suggest that participants who are employed are much less likely to be frequent meal preparers than those who are unemployed. Given that this effect is adjusted for differences in income, education, and several other social and demographic factors, I believe this may reflect the reality that having a job comes with time constraints that make it difficult to prepare meals. A potential explanation for the relationship between acculturation and meal preparation may be that the more-acculturated work longer hours, spend more time travelling to their jobs, or have other commitments that reduce the time or energy they can dedicate to preparing meals. Despite living in the same neighborhoods, more-acculturated participants were also significantly more likely to report that it is hard to find places in their neighborhood to buy healthy foods to prepare at home. These perceptions may be another explanation for decreased home meal preparation among more-acculturated participants.

In brief, I consider the main finding of this study to be that U.S.-born and more-acculturated participants prepare fewer meals at home and consume more fast food and prepared food than their foreign-born and less-acculturated counterparts. This trend is troubling from a public health perspective primarily because homemade meals tend to be more healthful than those prepared elsewhere.<sup>141</sup> I believe there are two main options for reducing these disparities between the more- and less-acculturated: First, public health interventions could seek to reverse the observed trend and increase healthy meal preparation in the home and decrease purchasing and consumption of prepared foods. Although perceptions of most barriers to healthy meal preparation did not vary by participants' level of linguistic acculturation, many participants within each acculturation category perceived a number of factors to be important barriers. For example, more than half of participants reported that time, taste preferences of

themselves and their families, lack of a convenient place to buy healthy foods, and preparation knowledge acted as barriers to healthy meal preparation. Addressing any of these barriers might make it easier for Mexican Americans to prepare homemade meals, including via environmental interventions to increase access to produce and other healthy foods, educational classes to ensure that traditional cooking skills are maintained across generations, and marketing campaigns to promote the healthfulness, quality, taste, convenience, and other positive aspects of homemade meals. Eliminating or drastically reducing consumption of prepared foods may prove difficult, however, given their increasingly central role in the American diet and the fact that the number of fast food establishments in the U.S. rose more than seven-fold between 1970 and 2001.<sup>141, 168</sup>

Another approach to mitigating the health effects of this shift may be to take a multi-pronged approach towards reducing the nutritional disparity between homemade and prepared meals. This could include a number of strategies, including the following: working with fast food and other restaurants to reduce portion sizes and improve the availability, affordability, quality, and attractiveness of healthy menu items; partnering with the food industry to improve healthy food options in supermarkets and grocery stores, including frozen meals, deli items, and other ready-to-eat products; altering U.S. food policy so that unhealthy foods are no longer subsidized and thus ubiquitously available and artificially cheap; implementing easy-to-understand menu labeling so that nutritional differences between prepared food options are noticeable and accessible; and designing advertising campaigns to educate the public about the importance of making healthy decisions when eating away from home. In particular, I believe it is important to ensure access to affordable health food options, both prepared and unprepared, and to improve 'food literacy' so that individuals have the knowledge and ability to make healthy choices. Many of these strategies would have the benefit of not only affecting food choices of Mexican Americans, but also those of the larger U.S. population. For Mexican Americans and other

Latinos, of course, a tailored approach would be necessary to ensure that expanded healthy food options, marketing messages, and education campaigns were culturally and linguistically appropriate.

This study has a number of important limitations that should be considered when examining its findings. Participants in the East L.A. Community Survey were included in the sample because they reported being the main food purchaser or preparer within each household. Furthermore, participants were from a limited number of predominately-poor neighborhoods in East L.A. where Mexican Americans with greater levels of income and education are unlikely to live. As such, the sample is not representative of Mexican Americans nationally or in Los Angeles. My use of linguistic acculturation and nativity as variables that measure participants' exposure to and adoption of U.S. culture may also be somewhat problematic. Adoption of U.S. culture would be better measured with a multidimensional scale of acculturation capturing factors such as friendship ties, media use, ethnic self-identification, and ethnic/cultural attitudes, beliefs, and practices.<sup>106, 107</sup> In addition to nativity, time spent in the U.S. may be an important indicator of exposure to U.S. culture. Unfortunately, very few participants had lived in the U.S. for ten years or fewer (n=43, or 13%) and almost none (n=13, or 4%) had lived in the U.S. for five years or fewer, limiting my ability to accurately assess the relationship between time in the U.S. and behavioral outcomes. I chose to include only nativity in the final models, although I present models with time spent in the U.S. in **Appendix 3**. This study also has important strengths. The East L.A. Community Survey includes a greater breadth and depth of food preparation and questions than most other surveys that include large samples of Mexican Americans or other Latino sub-groups. Using these data, I was able to examine several previously-unexplored dimensions of the relationship between acculturation and food behaviors.

In conclusion, I believe that this paper has demonstrated a shift from homemade to prepared foods between foreign-born and less-acculturated Mexican Americans and their U.S.-

born and more-acculturated counterparts. Given secular trends in the food environment and food behaviors that are occurring both in the U.S. and Mexico, I believe that drastically reducing or eliminating this shift would be difficult or impossible. Thus, I argue for a public health approach seeking to reduce the nutritional gap between homemade and prepared meals.

**Table 8.1: Food Preparation and Consumption Behaviors among East L.A. Residents by Level of Acculturation**

	Linguistic Acculturation						p
	Only Span.	More Span.	Both	More Eng.	Only Eng.	Total	
	% or Mean (SE)	% or Mean (SE)	% or Mean (SE)	% or Mean (SE)	% or Mean (SE)	% or Mean (SE)	
<b>Fruit &amp; Veg. Servings/Day</b>	4.2 (0.11)	4.4 (0.19)	4.3 (0.18)	3.9 (0.17)	3.8 (0.19)	4.2 (0.07)	<b>0.038</b>
<b>Fruit &amp; Veg. Variety Index</b>	6.9 (0.19)	7.1 (0.29)	6.7 (0.31)	6.0 (0.28)	5.6 (0.30)	6.6 (0.12)	<b>&lt;0.001</b>
<b>Meals Prepared/Wk.</b>	16.1 (0.34)	17.4 (0.49)	14.5 (0.59)	13.8 (0.53)	13.3 (0.58)	15.2 (0.22)	<b>&lt;0.001</b>
<b>Breakfasts Prep./Wk.</b>	5.5 (0.15)	5.5 (0.27)	4.5 (0.27)	4.3 (0.24)	4.4 (0.28)	5.0 (0.10)	<b>&lt;0.001</b>
<b>Lunches Prep./Wk.</b>	5.2 (0.19)	5.7 (0.24)	4.5 (0.28)	4.4 (0.27)	3.9 (0.28)	4.8 (0.11)	<b>&lt;0.001</b>
<b>Dinners Prep./Wk.</b>	5.4 (0.17)	6.2 (0.18)	5.5 (0.21)	5.0 (0.21)	4.9 (0.22)	5.4 (0.09)	<b>0.002</b>
<b>Fruit &amp; Veg. Varieties in Home</b>	18.4 (0.35)	20.3 (0.48)	19.0 (0.46)	17.9 (0.50)	16.1 (0.70)	18.3 (0.22)	<b>&lt;0.001</b>
<b>Fast Food Consumption (%)</b>							<b>&lt;0.001</b>
Never	14.6	15.1	8	7.3	3.8	10.9	
Sometimes	75.6	79.5	72.4	62.2	65.4	72	
Often	6.8	2.7	16.1	28	26.9	13.9	
Every Day	2.9	2.7	3.4	2.4	3.8	3.2	

Notes: p-values are based on chi-square tests for categorical variables and a model F-test using one-way ANOVA for continuous variables. Fruit & vegetable variety is measured on a 12-point scale

**Table 8.2: Perceived Barriers to Healthy Food Preparation among East L.A. Residents by Level of Acculturation**

	Linguistic Acculturation						p
	Only	More	Both	More	Only	Total	
	Span.	Span.	Both	Eng.	Eng.	% or	
	% or	% or	% or	% or	% or	% or	
	Mean (SE)	Mean (SE)	Mean (SE)	Mean (SE)	Mean (SE)	Mean (SE)	
<b># Barriers to Healthy Food Prep.</b>	4.2 (0.17)	3.6 (0.30)	3.6 (0.27)	4.5 (0.26)	4.5 (0.24)	4.1 (0.11)	<b>0.02</b>
<b>Healthy Food Prep. Barriers</b>							
Don't have time (%)	58.3	47.9	54.0	60.5	59.0	56.4	0.50
Don't like eating (%)	59.5	47.9	48.2	54.3	61.0	55.5	0.21
Family doesn't like eating (%)	59.4	45.2	47.7	56.8	55.1	54.6	0.18
No convenient place to buy (%)	56.7	52.1	57.7	50.0	47.4	52.2	0.53
Too expensive (%)	47.8	49.3	34.1	59.3	58.4	48.8	<b>0.008</b>
Don't know how to prepare (%)	57.9	39.4	51.8	58.5	60.3	54.8	0.055
No place to buy in neighborhood (%)	31.0	31.5	29.1	53.1	43.5	36.4	<b>0.002</b>
Poor quality (%)	61.5	55.9	50.6	61.5	64.1	49.5	0.37

Note: p-values are based on chi-square tests for specific barriers and a one-way ANOVA for the total number of barriers

**Table 8.3: Linear Regression Predicting Fruit and Vegetable Variety Among East L.A. Residents, n=511**

	(1) b [95% CI]	(2) b [95% CI]	(3) b [95% CI]	(4) b [95% CI]
<b>Acculturation</b>				
Spanish Only	Ref.	Ref.	Ref.	Ref.
Mostly Spanish	0.16 [-0.58,0.90]	0.10 [-0.67,0.87]	0.10 [-0.67,0.86]	0.02 [-0.76,0.81]
Both	-0.22 [-0.91,0.47]	0.01 [-0.69,0.71]	0.36 [-0.37,1.09]	0.32 [-0.42,1.07]
Mostly English	-0.94** [-1.64,-0.24]	-0.58 [-1.31,0.15]	0.11 [-0.76,0.98]	0.07 [-0.83,0.97]
English Only	-1.32*** [-2.03,-0.62]	-1.13** [-1.85,-0.41]	-0.32 [-1.22,0.59]	-0.34 [-1.26,0.57]
<b>Age (yrs)</b>				
		0.02 [-0.00,0.03]	0.01 [-0.00,0.03]	0.01 [-0.01,0.03]
<b>Female</b>				
		-0.52 [-1.10,0.06]	-0.43 [-1.01,0.15]	-0.48 [-1.07,0.12]
<b>Marital Status</b>				
Never Married		Ref.	Ref.	Ref.
Married		0.44 [-0.15,1.04]	0.32 [-0.28,0.92]	0.32 [-0.29,0.92]
Div/Wid/Sep		0.21 [-0.55,0.98]	0.18 [-0.58,0.94]	0.23 [-0.54,1.00]
<b>Household Size</b>				
		-0.01 [-0.17,0.15]	-0.03 [-0.19,0.13]	-0.03 [-0.19,0.13]
<b>Children in HH</b>				
		0.24 [-0.39,0.87]	0.22 [-0.41,0.84]	0.15 [-0.48,0.78]
<b>Mexican</b>				
		-0.18 [-0.89,0.52]	-0.18 [-0.88,0.52]	-0.20 [-0.91,0.51]
<b>Foreign-born</b>				
			1.05** [0.33,1.77]	0.99** [0.24,1.73]
<b>Household Income</b>				
\$0-10,000				Ref.
\$10,001-30,000				0.32 [-0.31,0.95]
≥\$30,000				0.53 [-0.22,1.29]
DK/Ref.				0.06 [-0.61,0.74]
<b>Education</b>				
<HS				Ref.
HS				-0.03 [-0.64,0.58]
>HS				-0.38 [-1.13,0.37]
<b>Employed</b>				
				-0.02 [-0.54,0.49]

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**Table 8.4: Four Logistic Regressions of Fast Food Consumption Among East L.A. Residents, n=511**

	(1)	(2)	(3)	(4)
	OR (SE)	OR (SE)	OR (SE)	OR (SE)
<b>Acculturation</b>				
Spanish Only	Ref.	Ref.	Ref.	Ref.
Mostly Spanish	0.63 [0.20,2.01]	0.86 [0.26,2.83]	0.86 [0.26,2.84]	0.92 [0.27,3.07]
Both	2.48* [1.12,5.47]	1.56 [0.70,3.48]	1.12 [0.48,2.63]	1.19 [0.50,2.81]
Mostly English	5.30*** [2.50,11.27]	2.17* [1.03,4.60]	1.14 [0.47,2.75]	1.06 [0.43,2.60]
English Only	5.47*** [2.55,11.77]	3.34** [1.57,7.11]	1.56 [0.61,3.95]	1.50 [0.59,3.80]
<b>Age (yrs)</b>		0.96*** [0.94,0.98]	0.96*** [0.94,0.98]	0.97** [0.95,0.99]
<b>Female</b>		2.88*** [1.64,5.08]	2.64*** [1.50,4.66]	2.23** [1.25,3.97]
<b>Marital Status</b>				
Never Married		Ref.	Ref.	Ref.
Married		0.38** [0.20,0.72]	0.43** [0.23,0.81]	0.42** [0.22,0.79]
Div/Wid/Sep		0.78 [0.35,1.73]	0.81 [0.37,1.80]	0.71 [0.32,1.60]
<b>Household Size</b>		0.89 [0.75,1.07]	0.91 [0.76,1.09]	0.95 [0.79,1.14]
<b>Children in HH</b>		1.10 [0.56,2.17]	1.13 [0.57,2.22]	1.04 [0.52,2.06]
<b>Mexican</b>		0.65 [0.31,1.35]	0.65 [0.31,1.35]	0.68 [0.32,1.42]
<b>Foreign-born</b>			0.37* [0.18,0.80]	0.34** [0.15,0.75]
<b>Household Income</b>				
\$0-10,000				Ref.
\$10,001-30,000				0.60 [0.29,1.23]
≥\$30,000				0.69 [0.32,1.50]
DK/Ref.				0.37* [0.15,0.87]
<b>Education</b>				
<HS				Ref.
HS				1.40 [0.67,2.90]
>HS				0.95 [0.41,2.20]
<b>Employed</b>				2.46** [1.38,4.39]

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Note: Outcome is dichotomized as self-reported fast food consumption often or every day, versus sometimes or never. The total variance explained in the dependent variable is fixed in Models 1 to 3 using the method recommended by Breen and colleagues (2011); this allows for comparison of coefficients across logistic regression models.



**Table 8.5: Logistic Regression of 'Frequent' Meal Preparation Among East L.A. Residents, n=508**

	(1) OR (SE)	(2) OR (SE)	(3) OR (SE)	(4) OR (SE)
<b>Acculturation</b>				
Spanish Only	Ref.	Ref.	Ref.	Ref.
Mostly Spanish	1.42 [0.80,2.51]	1.13 [0.62,2.07]	1.13 [0.62,2.07]	1.15 [0.62,2.14]
Both	0.46** [0.25,0.82]	0.57 [0.32,1.04]	0.56 [0.30,1.06]	0.61 [0.32,1.15]
Mostly English	0.26*** [0.13,0.50]	0.40** [0.20,0.80]	0.38* [0.17,0.88]	0.48 [0.21,1.12]
English Only	0.26*** [0.13,0.52]	0.34** [0.17,0.67]	0.33* [0.14,0.77]	0.35* [0.15,0.82]
<b>Age (yrs)</b>				
		1.03*** [1.01,1.05]	1.03*** [1.01,1.05]	1.03** [1.01,1.04]
<b>Female</b>				
		0.58* [0.34,0.99]	0.57* [0.33,0.99]	0.62 [0.36,1.09]
<b>Marital Status</b>				
Never Married		Ref.	Ref.	Ref.
Married		1.14 [0.67,1.93]	1.15 [0.68,1.95]	1.10 [0.65,1.88]
Div/Wid/Sep		0.82 [0.42,1.60]	0.82 [0.42,1.61]	0.83 [0.42,1.63]
<b>Household Size</b>				
		1.11 [0.97,1.27]	1.11 [0.97,1.27]	1.09 [0.95,1.25]
<b>Children in HH</b>				
		1.00 [0.57,1.74]	1.00 [0.57,1.74]	1.07 [0.61,1.87]
<b>Mexican</b>				
		1.01 [0.55,1.86]	1.01 [0.55,1.86]	0.99 [0.54,1.83]
<b>Foreign-born</b>				
			0.95 [0.49,1.83]	1.01 [0.51,1.99]
<b>Household Income</b>				
\$0-10,000				Ref.
\$10,001-30,000				1.03 [0.61,1.75]
≥\$30,000				0.67 [0.34,1.34]
DK/Ref.				1.03 [0.59,1.80]
<b>Education</b>				
<HS				Ref.
HS				1.52 [0.92,2.54]
>HS				0.74 [0.37,1.50]
<b>Employed</b>				
				0.61* [0.39,0.96]

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Note: Outcome is dichotomized as 19 or more meals prepared per week, versus 18 or fewer. The total variance explained in the dependent variable is fixed in Models 1 to 3 using the method recommended by Breen and colleagues (2011); this allows for comparison of coefficients across logistic regression models

## **Chapter 9: Conclusions**

### **Overview of Findings**

In this study, I used three different approaches to understand patterns in food behaviors within the Mexican-origin population in the U.S. In the first study (**Chapter 5**), I used data from a large national survey of the Mexican adult population to examine consumption of food prepared outside of the home. The two main findings of the study were that eating out is relatively uncommon in Mexico, particularly if compared to the U.S., and that social factors such as income, education, and urban versus rural residence have a huge influence on the degree to which people eat out. These findings are important for at least two reasons: First, Mexico is undergoing economic development, urbanization, and globalization, processes that almost certainly affect access, variety, affordability, quality, and marketing of prepared foods. As prepared food options increase and more and more Mexicans live in urban food environments, it is very likely that eating out will become more prevalent. This will not only affect health outcomes in Mexico, but will also probably change the food behavioral patterns of future waves of Mexican immigrants to the U.S. The second major finding, that eating out behaviors among Mexicans are highly related to income, education, and urban versus rural residence, underscores the importance of adjusting for these factors when examining differences in food behaviors between more- and less-aculturated Mexican Americans. While most Mexican migrants are disproportionately from rural areas and have low levels of income and education, most move to urban areas, work to improve their economic conditions, and have offspring with much higher levels of education. Given these changes within and across generations, which often occur concurrently with acculturation, we might expect at least some increase in eating out behaviors in more-aculturated, U.S.-born, and longer-tenured Mexican-origin individuals.

In the second study (**Chapter 6**), I conducted a secondary analysis of the 2005-2010 NHANES to examine food behaviors within the Mexican American population. The first objective of this study was to understand whether any observed relationship between linguistic acculturation and food behaviors was explained by differences in education and income between more- and less-acculturated Mexican Americans. I found that more-acculturated participants were significantly more likely to have eaten at a restaurant in the two days measured via dietary recall, and that about one-quarter of this relationship was explained by differences in income and education. My second objective was to use unique questions in the NHANES dataset to shed light on why food behaviors might differ between more- and less-acculturated Mexican Americans. Not only did more-acculturated participants report eating prepared foods more often than their less-acculturated counterparts, but this trend was remarkably consistent across different types of prepared food (i.e., fast food, sit-down restaurants, frozen meals, ready-to-eat meals). Furthermore, I found that this increase in prepared food consumption was accompanied with a decrease in home meal preparation, which I have argued is likely not a good tradeoff in terms of health impact. When asked why they might prefer fast food over homemade meals, more-acculturated participants were much more likely to cite the convenience of fast food as a very important reason. Thus, not only did we see a shift from homemade meals to convenience foods across linguistic acculturation strata, but convenience was cited as a motivator behind this food choice.

In the third and fourth studies (**Chapters 7 and 8**), I used primary data from East L.A. to approach these same research questions from a more local perspective. I was able to confirm that purchasing and consumption of prepared food increases with linguistic acculturation, while home meal preparation decreases. The unique data from East L.A. also allowed me to delve deeper into the relationship between linguistic acculturation and food purchasing behaviors. Contrary to my hypothesis, I found that more-acculturated East L.A. residents do not shop at

more food outlets or different categories of food outlets than their less-acculturated counterparts. Almost everyone in the sample did the majority of their food shopping at a supermarket, and there was no clear pattern in whether or not they shopped at other types of outlets (e.g., corner/grocery store, farmers market, etc.). Interestingly, I did find that the *specific* supermarkets where participants do the majority of their shopping varied with linguistic acculturation, despite more- and less-acculturated participants living in the same neighborhoods. In particular, the less-acculturated were much more likely to shop at traditionally Latino-serving supermarkets, while many of the more-acculturated shopped at places like Food 4 Less, Ralphs, and Albertsons. Given that the more-acculturated participants were more likely to purchase prepared foods from these stores, I believe it would be interesting to examine differences in prepared food inventories, prices, and marketing between these different types of supermarkets.

### **Consistency of Findings**

The findings from the nationally-representative sample of Mexican American participants in NHANES differed from those among East L.A. residents in a number of important ways. First, the relationship between linguistic acculturation and several food behaviors among East L.A. residents were largely the results of differences between the U.S.- and foreign-born, but this was not the case for the NHANES sample. Second, education and income explained much of the relationship between linguistic acculturation and food behaviors in the NHANES sample, but this was not the case in East L.A. While I can only speculate as to the reasons behind these discrepancies, I believe that one potential explanation may be the relative homogeneity of the East L.A. population relative to the larger and more diverse 'universe' of Mexican Americans in L.A. County or throughout the U.S. Relative to other parts of the county, East L.A. is a ubiquitously poor neighborhood with high rates of crime and gang activity, as well as

underperforming schools. About half of participants in our study reported having annual income below \$15,000, despite median household income in L.A. County of \$52,684. Many non-poor Mexican Americans in Los Angeles live in other neighborhoods throughout the county, and that many East L.A. residents who ascend the socioeconomic ladder probably move out of the areas included in our study. As a result, the few high-income and high-education participants in the East L.A. data are not representative of the larger populations of Mexican Americans within those categories, limiting my ability to accurately identify socioeconomic gradients in health or behavioral outcomes.

### **Limitations**

This dissertation has a number of important limitations that should be considered when evaluating its findings. Among the most serious of these is my measure of acculturation, which is measured with language use in both the NHANES data and East L.A. data. In an ideal data set, I would be able to examine the relationship between acculturation and food behaviors using a multidimensional scale capturing factors such as language, friendship ties, media use, ethnic self-identification, and ethnic/cultural attitudes, beliefs, and practices.<sup>106, 107</sup> My measure of language use, while an improvement over studies that rely solely on proxy measures of exposure to and adoption of U.S. culture, such as nativity and time spent in the U.S., may have misidentified the true level of acculturation of an unknown number of participants. This limitation may be particularly serious in the East L.A. data, where all participants were asked about the language spoken in their home, but only those who reported that both English and Spanish were spoken in their home were asked a set of follow-up questions related to other dimensions of language use. Thus, participants who live with monolingual-Spanish speakers but speak English themselves and use it outside of the home may be misclassified as Spanish-only speakers. Despite this serious limitation, my observation has been that many data sets that

include an ideal measure of acculturation include few or no data regarding food behaviors, and those that contain good food behavioral data often lack acculturation measures. Thus, while my dissertation studies could certainly be improved upon given an ideal data set, I believe they each make a significant contribution to the existing literature.

A limitation that is particularly relevant to my first study (**Chapter 5**) is the fact that the Mexican adult population is not representative of the population of Mexicans who have or will migrate to the U.S. Given that a disproportionate number of migrants come from a limited number of migrant-sending communities, it may not be fair to assume that social gradients within the entire Mexican population can provide a glimpse of what would happen if the population of Mexican immigrants and their offspring were to become more urban and gain higher levels of income and education. As a next step, I would like to conduct further analyses to compare whether social gradients in migrant sending communities are similar to those within the entire Mexican population, which may help indicate whether or not these comparisons are fair.<sup>116</sup>

Another limitation of this study is that I have been unable to examine whether the relationship between linguistic acculturation and food is explained by the fact that many immigrants grew up in rural areas in Mexico but moved to urban areas in the U.S. A study by Riosmena and Massey (2012) found that 40% of Mexicans who immigrated to the U.S. between 2001 and 2005 were from rural areas with less than 2,500 inhabitants;<sup>44</sup> however, data from the 2007-2011 American Community Survey (ACS) suggest that 92% of Mexican immigrants in the U.S. live in urban areas.<sup>45</sup> Furthermore, Census data reveal that over half of Mexican immigrants live in just ten major urban areas: Los Angeles, Chicago, Dallas, Houston, Riverside, Phoenix, San Diego, New York, San Francisco, and Atlanta.<sup>127</sup> As a result, immigrants who move to the U.S. are not only faced with an entirely new social and cultural context, but many are also confronted for the first time with an urban environment. These urban areas likely differ

from rural locations of origin in Mexico in terms of access, availability, prices and advertisements related to food. Patterns of food purchasing, preparation, and consumption may change as immigrants and their offspring become accustomed to these new urban environments, a process that would likely happen concurrently with acculturation. My findings from the first study (**Chapter 5**) support this inference, given the strong relationship between urban versus rural residence and food behaviors within the Mexican population. I was unable to investigate this possibility using the NHANES data, which employs a sampling plan that includes a very limited number of geographic contexts, or the East L.A. data, which exclusively includes residents of the same urban area.

Almost all of the limitations of this dissertation could be overcome with the ideal dataset, so I would like to take a few lines to explain what I think that dataset would look like. First, it is difficult to understand the impact of exposure to U.S. culture on any outcome using cross-sectional data. As I have argued, exposure to U.S. culture and adoption of cultural patterns and practices are processes that take place at the same time as many other social processes. Using cross-sectional data, it is hard to tell whether changes in acculturation precede changes in the outcome of interest, and even harder to disentangle acculturation effects from those of any number of other social factors that change over time, including educational attainment, income, employment status, household composition, social networks, or neighborhoods and their effects. In my dissertation, I was able to control for several of these variables at a single point in time; however, I was unable to discern how past conditions may have shaped participants' food behaviors, which may be an important source of bias. In an ideal study, I would be able to follow a large sample of migrants from Mexico into the U.S., documenting changes in food behaviors, multiple dimensions of acculturation, and a host of other social and demographic factors. This would allow me to establish temporality and rule out alternative explanations for the relationship between acculturation and food behaviors among foreign-born immigrants. I would also be

interested in how food behaviors change across generations, so I would supplement my sample at various points in time with second-and-higher generations of immigrants. While this would be a very expensive and laborious study to conduct, I believe that longitudinal studies among Mexican immigrants and Mexican Americans have been and are being conducted (e.g., the Mexican Family Life Survey and the Hispanic Community Health Study/Study of Latinos), so it may simply be a matter of trying to include good measures of acculturation, food behaviors, and other factors that change over time.

### **Strengths**

This dissertation also has several important strengths that, I believe, have allowed it to make an important contribution to the field. First, I think I have approached the study of acculturation and diet from a less ‘outcomes-driven’ perspective than previous researchers. The vast majority of empirical studies in this field have assessed the relationship between acculturation (or nativity, immigration status, or time spent in the U.S.) and consumption of specific foods and nutrients. I consider these nutritional endpoints to be the result of several food behaviors that occur slightly further upstream in the causal chain, particularly those related to food purchasing and preparation. By examining these nutritional endpoints, other researchers have documented the ‘what’ of the relationship between acculturation and diet. By examining a wider range of food behaviors, as well as food values and perceived barriers, I have taken a first step towards identifying the ‘how’ and ‘why.’ While other authors, particularly Satia-Abouta, have conceptualized pathways and mechanisms through which acculturation may affect diet, I believe that my dissertation is among the best attempts to date to empirically test these relationships.

My ability to test several previously-untested aspects of the relationship between acculturation and food behaviors is largely due to the rich and unique data sets to which I had access. For example, this is the first study of which I am aware to examine consumption of



foods prepared outside of the home within the Mexican population. Furthermore, the Consumer Behavior Questionnaire, around which much of Study 2 (**Chapter 6**) is based, was added to NHANES for the first time in 2007-2008, and much of the data were released in the last year. To my knowledge, use of these data have been extremely limited and no studies have used the data to examine the relationship between acculturation and diet among Mexican Americans or other Latinos. The East L.A. Community Survey, which was fielded as part of a large food environment intervention, includes an incredible diversity of food purchasing data that have enabled me to examine previously-unexplored aspects of food purchasing among Mexican Americans. Data related to the specific food stores where participants shop, as well as the food items they typically purchase, led to some of my most interesting findings.

A strength of this dissertation is that, rather than focusing on the Latino population in general or multiple Latino subgroups, I concentrated almost exclusively on Mexican-origin populations. As noted by several other researchers,<sup>173</sup> Latino subpopulations vary considerably based on their country of origin, so it makes little sense to study them as a single monolithic group. This is particularly true for studies of acculturation and food behaviors, which arguably document a shift in food culture from that of the country of origin. Given that Latinos from different countries have entirely different food cultures, it is imperative to disaggregate Latino subgroups.

A further strength of this dissertation is that I was able to approach similar research questions from a variety of different angles, using different data sets collected among multiple Mexican or Mexican-origin populations. This broad approach, I believe, has both lent credibility to my findings and enabled me to explore more dimensions of the acculturation-food behaviors relationship than would be possible with a single data set. An example of this is my use of the ENSANUT data, which can be used to examine a broad range of food behaviors among Mexicans but has been little used by academics in the U.S. Despite this, there are several

reasons why working with Mexican data can be informative to U.S. researchers. Many food behaviors are set in childhood or adolescence, so examining behavioral patterns in Mexico can help us understand why the 11 million Mexican immigrants in the U.S. eat what they eat. As I have argued, I also believe that identifying social patterns in health behaviors among Mexicans can help us understand heterogeneity within the Mexican American population. Finally, given the globalization and urbanization processes underway in Mexico, tracking changes in food behaviors over time may help us to anticipate what may occur among future waves of immigrants.

## **Implications**

I believe that the most important finding of my dissertation is that more-acculturated Mexican Americans rely more on a wide variety of prepared foods than their less-acculturated counterparts, but prepare fewer meals at home. This shift towards 'convenience foods' is of concern primarily because of a well-documented nutritional gap that results in prepared and processed foods being much less healthful than those prepared in the home. Throughout my dissertation, I have argued for two main strategies to mitigate the health effects of this shift towards convenience foods: First, I believe that the public health community could design culturally-appropriate interventions and media campaigns to promote healthy meal preparation among Mexican Americans. Second, we could attempt to reduce the aforementioned nutritional gap between homemade meals and those prepared elsewhere. At the end of **Chapter 8**, I suggest a range of approaches the public health community might employ to improving the healthfulness of processed and prepared foods. I will not rehash that discussion here, but I would like to briefly comment on why I think this approach may be an important public health strategy over the next several decades.

The results of my dissertation papers suggest that much of the difference in food behaviors that separates more-aculturated Mexican Americans from their less-aculturated counterparts does not represent 'dietary acculturation,' but rather reflects differences by nativity or across socioeconomic strata. In other words, food behaviors might not change because of an acculturative process that starts when immigrants cross the border, but rather because food behaviors are set early in life so people born in Mexico are ingrained with different behavioral patterns than those born in the U.S. Additionally, some of the relationship acculturation and food behaviors is likely because immigrants often come to the U.S. entrenched in poverty or with low levels of education, and thus eat the way that poor and poorly-educated people in Mexico eat. Results from **Chapter 5** suggest that these groups eat prepared foods extremely rarely, so it makes sense that less-aculturated and recently-arrived immigrants might display this tendency in the U.S. Later immigrant generations or those who have spent time in the U.S. are often able to move up the socioeconomic ladder, which may enable them to pick up the food behaviors of the non-poor. Thus, U.S.-born, longer-tenured, and more-aculturated Mexican Americans display food behaviors that resemble those of the non-poor in Mexico as well as other U.S. sub-populations.

Regardless of the mechanism, however, the implication is that Mexican Americans who have high levels of income, education, and linguistic acculturation demonstrate increased reliance on prepared foods. While it might seem reasonable to try to prevent this shift, doing so would clearly be difficult. Furthermore, given the processes of globalization and urbanization underway in Mexico, it seems plausible and even likely that future waves of immigrants will arrive in the U.S. with a greater proclivity towards prepared foods than those who have come here in the past. Improving the availability, affordability, quality, taste, attractiveness, and marketing of healthy prepared foods would not only be relevant for more-aculturated Mexican Americans, therefore, but would also likely benefit future waves of Mexican immigrants.

Frequent consumption of prepared food among other U.S. subpopulations (e.g., Whites and Blacks) also means that the impact of this strategy would reach beyond Mexican Americans.

An additional, albeit completely anecdotal, observation is that concentrating on healthy prepared food options would capitalize on trends that already seem to be taking place. Supermarket chains like Trader Joes that sell healthy meals that are frozen or ready-to-eat seem to be having success, and some fast food chains seem to be expanding their healthy menu options and making these items an increasingly central part of their advertising strategies (e.g., the 'Cantina Bell' and 'Fresco' menus at Taco Bell). Similarly, large government agencies such as the Los Angeles County Department of Public Health have embarked on ambitious programs to improve access to healthy snacks and drinks in vending machines as well as incentivize restaurants to offer healthy menu choices. The Los Angeles Unified School District, one of the largest school districts in the nation, is in the midst of revising its school lunch menus to include more healthy, locally-sourced options. These types of efforts, whether implemented by public health or other actors, should be supported with adequate resources and complemented by culturally-tailored media campaigns to increase awareness of the importance of making healthy choices when eating outside of the home.

### **Final Thoughts**

My dissertation research and broader interests primarily concern Mexican Americans and other Latino populations; however, I feel it is important to recognize that Latinos face many of the same issues, challenges, and opportunities encountered by other racial/ethnic groups in the U.S. Whites, Blacks, Asians, Native Americans, and others are also affected by the myriad behavioral, environmental, and policy factors that affect what people eat and, ultimately, their risk of becoming obese and getting other diet-related chronic diseases. I approach food and nutrition research from the perspective of a Latino health researcher, but the truth is that we

have stacked the deck against healthy eating in this country to such an extent that all populations are affected. Everywhere I look, including in supermarkets, the unhealthy choices far outnumber the healthy ones and are often cheaper, better-packaged, and more addicting. Finding lasting solutions to this monumental societal problem will not only require using a culturally-tailored approach targeted towards specific segments of the population, but also wholesale changes to our national food policy, the food industry, and how we collectively think about what we eat.

## Appendix 1: Additional Regression Models from Chapter 6

**Table A1.1: Logistic Regression Model Predicting the Odds of Eating Fast Food or Restaurant Food within the Previous Two Days Among Mexican-Origin Adults in the 2005-2010 NHANES, n=2,572**

	Original Model		Alternative Model	
	OR	SE	OR	SE
<b>Acculturation</b>				
Only Span.	Ref.		Ref.	
Mostly Span.	1.277	(0.224)	1.255	(0.226)
Both Equally	1.981**	(0.412)	1.823**	(0.404)
Mostly Eng.	2.604***	(0.615)	2.417**	(0.618)
Only Eng.	1.636*	(0.377)	1.507	(0.345)
<b>Male</b>	1.138	(0.122)	1.147	(0.125)
<b>Age</b>	0.981***	(0.00433)	0.978***	(0.00452)
<b>Marital Status</b>				
Married/Cohabiting	Ref.		Ref.	
Never Married	1.300	(0.231)	1.316	(0.245)
Div./Wid./Sep.	1.205	(0.190)	1.249	(0.204)
<b>Education</b>				
<9th Grade	Ref.		Ref.	
Some HS	1.234	(0.219)	1.225	(0.224)
HS Grad	1.319	(0.240)	1.299	(0.238)
Some College/AA	2.048**	(0.426)	2.047**	(0.433)
College Grad	0.987	(0.305)	0.974	(0.294)
<b>Family Income (% FPL)</b>	1.123*	(0.0643)	1.120	(0.0645)
<b>Foreign-born</b>	0.835	(0.137)		
<b>Nativity &amp; Time in U.S.</b>				
U.S.-born			Ref.	
≥20 yrs			0.972	(0.176)
10-19 yrs			0.722	(0.160)
5-9 yrs			0.660	(0.151)
0-4 yrs			0.750	(0.200)

Note: Original model is from Table 6.6

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**Table A1.2: Linear Regression Model Predicting the Square Root of Calories Consumed Per Day Among Mexican-Origin Adults who ate at Fast Food or Sit-Down Restaurants in the Previous Two Days, 2005-2010 NHANES (n=1,507)**

	Original Model		Alternative Model	
	b	SE	b	SE
<b>Acculturation</b>				
Only Span.	Ref.		Ref.	
Mostly Span.	0.681	(1.093)	0.740	(1.050)
Both Equally	1.266	(1.277)	1.508	(1.329)
Mostly Eng.	-0.394	(1.374)	-0.400	(1.518)
Only Eng.	0.0368	(1.664)	0.0801	(1.805)
<b>Male</b>	3.699 <sup>***</sup>	(0.563)	3.598 <sup>***</sup>	(0.565)
<b>Age</b>	-0.162 <sup>***</sup>	(0.0243)	-0.167 <sup>***</sup>	(0.0258)
<b>Marital Status</b>				
Married/Cohabiting	Ref.		Ref.	
Never Married	1.542	(0.930)	1.552	(0.914)
Div./Wid./Sep.	1.234	(0.666)	1.447 <sup>*</sup>	(0.613)
<b>Education</b>				
<9th Grade	Ref.		Ref.	
Some HS	0.598	(1.070)	0.476	(1.074)
HS Grad	0.268	(0.995)	0.339	(0.971)
Some College/AA	1.160	(1.022)	1.128	(1.008)
College Grad	-0.715	(1.178)	-0.716	(1.193)
<b>Family Income (% FPL)</b>	0.404	(0.259)	0.384	(0.262)
<b>Foreign-born</b>	-2.430 <sup>*</sup>	(1.011)		
<b>Nativity &amp; Time in U.S.</b>				
U.S.-born			Ref.	
≥20 yrs			-2.108 <sup>*</sup>	(0.980)
10-19 yrs			-3.426 <sup>*</sup>	(1.354)
5-9 yrs			-1.719	(1.492)
0-4 yrs			-2.208	(1.829)

Note: Original model is from Table 6.7

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

## Appendix 2: Additional Regression Models from Chapter 7

**Table A2.1: Alternative Logistic Regression Models Predicting Purchasing of Prepared Foods at Participants' 'Usual' Store**

	Original Model		Alternative 1		Alternative 2	
	OR	95% CI	OR	95% CI	OR	95% CI
<b>Acculturation</b>						
Spanish Only	Ref.		Ref.		Ref.	
Mostly Spanish	1.10	[0.40,3.04]	1.07	[0.39,2.98]	1.01	[0.36,2.85]
Both	1.62	[0.69,3.78]	1.59	[0.68,3.73]	1.84	[0.75,4.49]
Mostly English	1.10	[0.41,2.95]	0.95	[0.34,2.62]	1.22	[0.42,3.54]
English Only	3.07*	[1.23,7.70]	2.95*	[1.09,7.98]	3.28*	[1.16,9.26]
<b>Age</b>	1.00	[0.98,1.02]	1.00	[0.97,1.02]	1.00	[0.98,1.03]
<b>Female</b>	1.30	[0.71,2.39]	1.20	[0.63,2.28]	1.18	[0.62,2.25]
<b>Marital Status</b>						
Never Married	Ref.		Ref.		Ref.	
Married	1.19	[0.61,2.35]	1.24	[0.62,2.48]	1.19	[0.59,2.39]
Div/Wid/Sep	1.47	[0.64,3.38]	1.64	[0.70,3.87]	1.56	[0.66,3.69]
<b>Household Size</b>	0.94	[0.79,1.13]	0.94	[0.78,1.13]	0.95	[0.80,1.13]
<b>Children in HH</b>	1.49	[0.74,3.01]	1.52	[0.74,3.14]	1.52	[0.74,3.12]
<b>Mexican</b>	0.73	[0.35,1.55]	0.68	[0.31,1.48]	0.80	[0.37,1.74]
<b>Household Income</b>						
\$0-10,000	Ref.		Ref.		Ref.	
\$10,001-30,000	0.66	[0.31,1.37]	0.76	[0.36,1.62]	0.75	[0.35,1.59]
≥\$30,000	1.40	[0.66,2.99]	1.60	[0.72,3.55]	1.56	[0.70,3.46]
DK/Ref.	1.01	[0.48,2.16]	1.17	[0.54,2.55]	1.16	[0.53,2.53]
<b>Educational Attainment</b>						
<HS	Ref.		Ref.		Ref.	
HS	0.68	[0.33,1.39]	0.65	[0.31,1.37]	0.67	[0.32,1.40]
>HS	1.57	[0.74,3.31]	1.44	[0.65,3.18]	1.50	[0.68,3.29]
<b>Employed</b>	1.08	[0.61,1.91]	0.98	[0.55,1.76]	1.02	[0.57,1.84]
<b>Foreign-born</b>	0.62	[0.29,1.35]				
<b>Immigrant Generation</b>						
1st Gen (FB)			Ref.			
2nd Gen			1.52	[0.67,3.44]		
3rd Gen			3.01*	[1.02,8.87]		
4+ Gen			1.09	[0.27,4.40]		
<b>Generation &amp; Time in U.S.</b>						
3+ Gen					Ref.	
2nd Gen					0.73	[0.32,1.68]
FB, >20 yrs					0.42	[0.15,1.19]
FB, 11-20 yrs					0.45	[0.11,1.79]
FB, 0-10 yrs					1.29	[0.33,5.02]
<b>N</b>	<b>505</b>		<b>494</b>		<b>494</b>	

Note: Original model is from Table 7.5

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$



**Table A2.2: Alternative Logistic Regression Models Predicting Purchasing of Frozen Meals at Participants' 'Usual' Store**

	Original Model		Alternative 1		Alternative 2	
	OR	95% CI	OR	95% CI	OR	95% CI
<b>Acculturation</b>						
Spanish Only	Ref.		Ref.		Ref.	
Mostly Spanish	0.97	[0.52,1.83]	0.95	[0.51,1.79]	0.96	[0.51,1.80]
Both	0.80	[0.43,1.47]	0.81	[0.44,1.49]	0.79	[0.43,1.48]
Mostly English	0.55	[0.26,1.14]	0.55	[0.26,1.16]	0.54	[0.25,1.15]
English Only	0.86	[0.41,1.80]	0.59	[0.26,1.34]	0.61	[0.27,1.40]
<b>Age</b>	1.00	[0.99,1.02]	1.00	[0.99,1.02]	1.00	[0.99,1.02]
<b>Female</b>	1.85*	[1.15,2.98]	1.88*	[1.16,3.06]	1.91**	[1.17,3.11]
<b>Marital Status</b>						
Never Married	Ref.		Ref.		Ref.	
Married	1.26	[0.77,2.06]	1.29	[0.78,2.13]	1.28	[0.77,2.11]
Div/Wid/Sep	1.06	[0.57,1.98]	1.04	[0.55,1.97]	1.04	[0.55,1.96]
<b>Household Size</b>	1.13	[0.99,1.28]	1.13	[0.99,1.28]	1.12	[0.98,1.27]
<b>Children in HH</b>	1.40	[0.84,2.32]	1.46	[0.87,2.44]	1.50	[0.90,2.51]
<b>Mexican</b>	0.78	[0.44,1.37]	0.85	[0.48,1.52]	0.83	[0.47,1.48]
<b>Household Income</b>						
\$0-10,000	Ref.		Ref.		Ref.	
\$10,001-30,000	0.62	[0.38,1.03]	0.62	[0.37,1.03]	0.63	[0.38,1.05]
≥\$30,000	0.40**	[0.22,0.74]	0.43**	[0.23,0.80]	0.44**	[0.24,0.82]
DK/Ref.	0.55*	[0.32,0.95]	0.57*	[0.32,0.99]	0.58	[0.33,1.01]
<b>Educational Attainment</b>						
<HS	Ref.		Ref.		Ref.	
HS	1.28	[0.79,2.08]	1.26	[0.77,2.06]	1.26	[0.76,2.06]
>HS	1.72	[0.95,3.13]	1.78	[0.96,3.30]	1.73	[0.93,3.20]
<b>Employed</b>	0.95	[0.63,1.44]	0.95	[0.62,1.44]	0.94	[0.62,1.44]
<b>Foreign-born</b>						
<b>Immigrant Generation</b>						
1st Gen (FB)			Ref.			
2nd Gen			3.10***	[1.65,5.82]		
3rd Gen			5.08***	[2.00,12.91]		
4+ Gen			10.47***	[2.95,37.24]		
<b>Generation &amp; Time in U.S.</b>						
3+ Gen					Ref.	
2nd Gen					0.48	[0.23,1.03]
FB, >20 yrs					0.16***	[0.07,0.39]
FB, 11-20 yrs					0.14***	[0.05,0.40]
FB, 0-10 yrs					0.17**	[0.05,0.50]
<b>N</b>	<b>511</b>		<b>500</b>		<b>500</b>	

Note: Original model is from Table 7.6

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**Table A2.3: Alternative Logistic Regression Models Predicting Whether Participants Purchase Prepared Foods at Supermarket Delis**

	Original Model		Alternative 1		Alternative 2	
	OR	95% CI	OR	OR	95% CI	OR
<b>Acculturation</b>						
Spanish Only	Ref.		Ref.		Ref.	
Mostly Spanish	1.11	[0.52,2.37]	1.12	[0.53,2.41]	1.12	[0.52,2.39]
Both	0.75	[0.35,1.58]	0.75	[0.36,1.59]	0.78	[0.36,1.67]
Mostly English	1.02	[0.45,2.27]	0.94	[0.41,2.14]	0.99	[0.42,2.30]
English Only	1.13	[0.50,2.53]	0.93	[0.38,2.30]	0.91	[0.36,2.25]
<b>Age</b>	1.02*	[1.00,1.04]	1.01	[0.99,1.03]	1.02	[1.00,1.03]
<b>Female</b>	0.85	[0.49,1.47]	0.83	[0.47,1.47]	0.82	[0.47,1.44]
<b>Marital Status</b>						
Never Married	Ref.		Ref.		Ref.	
Married	0.76	[0.45,1.31]	0.81	[0.47,1.40]	0.82	[0.47,1.42]
Div/Wid/Sep	0.47*	[0.22,0.97]	0.51	[0.24,1.08]	0.51	[0.24,1.08]
<b>Household Size</b>	0.93	[0.80,1.08]	0.91	[0.78,1.06]	0.92	[0.79,1.07]
<b>Children in HH</b>	1.90*	[1.05,3.45]	2.00*	[1.09,3.68]	1.91*	[1.04,3.50]
<b>Mexican</b>	0.86	[0.45,1.63]	0.83	[0.43,1.61]	0.85	[0.44,1.64]
<b>Household Income</b>						
\$0-10,000	Ref.		Ref.		Ref.	
\$10,001-30,000	0.67	[0.37,1.23]	0.67	[0.36,1.24]	0.65	[0.35,1.21]
≥\$30,000	0.92	[0.48,1.78]	0.98	[0.50,1.92]	0.96	[0.49,1.88]
DK/Ref.	1.02	[0.55,1.90]	1.04	[0.55,1.96]	0.99	[0.53,1.87]
<b>Educational Attainment</b>						
<HS	Ref.		Ref.		Ref.	
HS	1.23	[0.69,2.20]	1.10	[0.61,2.00]	1.09	[0.60,1.97]
>HS	2.06*	[1.07,3.99]	1.77	[0.89,3.52]	1.84	[0.93,3.66]
<b>Employed</b>	1.41	[0.88,2.27]	1.37	[0.84,2.21]	1.33	[0.82,2.17]
<b>Foreign-born</b>	0.47*	[0.24,0.93]				
<b>Immigrant Generation</b>						
1st Gen (FB)			Ref.			
2nd Gen			2.01	[0.99,4.11]		
3rd Gen			3.85**	[1.45,10.21]		
4+ Gen			2.08	[0.60,7.15]		
<b>Generation &amp; Time in U.S.</b>						
3+ Gen					Ref.	
2nd Gen					0.64	[0.30,1.38]
FB, >20 yrs					0.30**	[0.12,0.75]
FB, 11-20 yrs					0.46	[0.16,1.37]
FB, 0-10 yrs					0.22*	[0.06,0.85]
<b>N</b>	<b>511</b>		<b>500</b>		<b>500</b>	

Note: Original model is from Table 7.7

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

### Appendix 3: Additional Regression Models from Chapter 8

**Table A3.1: Alternative Linear Regression Models of Fruit and Vegetable Variety Among East L.A. Residents**

	Original Model		Alternative 1		Alternative 2	
	b	95% CI	b	95% CI	b	95% CI
<b>Acculturation</b>						
Spanish Only	Ref.		Ref.		Ref.	
Mostly Spanish	0.02	[-0.76,0.81]	0.08	[-0.70,0.87]	0.08	[-0.71,0.86]
Both	0.32	[-0.42,1.07]	0.34	[-0.41,1.08]	0.41	[-0.36,1.17]
Mostly English	0.07	[-0.83,0.97]	0.11	[-0.80,1.02]	0.21	[-0.72,1.15]
English Only	-0.34	[-1.26,0.57]	-0.28	[-1.29,0.73]	-0.28	[-1.30,0.74]
<b>Age</b>	0.01	[-0.01,0.03]	0.01	[-0.01,0.03]	0.01	[-0.01,0.03]
<b>Female</b>	-0.48	[-1.07,0.12]	-0.38	[-0.99,0.22]	-0.40	[-1.01,0.21]
<b>Marital Status</b>						
Never Married	Ref.		Ref.		Ref.	
Married	0.32	[-0.29,0.92]	0.24	[-0.37,0.85]	0.24	[-0.38,0.85]
Div/Wid/Sep	0.23	[-0.54,1.00]	0.25	[-0.53,1.02]	0.23	[-0.55,1.00]
<b>Household Size</b>	-0.03	[-0.19,0.13]	-0.05	[-0.21,0.11]	-0.04	[-0.20,0.12]
<b>Children in HH</b>	0.15	[-0.48,0.78]	0.17	[-0.47,0.81]	0.13	[-0.50,0.77]
<b>Mexican</b>	-0.20	[-0.91,0.51]	-0.27	[-0.99,0.45]	-0.22	[-0.94,0.51]
<b>Household Income</b>						
\$0-10,000	Ref.		Ref.		Ref.	
\$10,001-30,000	0.32	[-0.31,0.95]	0.26	[-0.38,0.89]	0.24	[-0.39,0.88]
≥\$30,000	0.53	[-0.22,1.29]	0.45	[-0.31,1.21]	0.44	[-0.33,1.20]
DK/Ref.	0.06	[-0.61,0.74]	0.07	[-0.61,0.76]	0.05	[-0.64,0.73]
<b>Educational Attainment</b>						
<HS	Ref.		Ref.		Ref.	
HS	-0.03	[-0.64,0.58]	0.01	[-0.61,0.63]	0.01	[-0.61,0.63]
>HS	-0.38	[-1.13,0.37]	-0.38	[-1.15,0.39]	-0.34	[-1.11,0.43]
<b>Employed</b>	-0.02	[-0.54,0.49]	-0.01	[-0.53,0.51]	-0.02	[-0.54,0.50]
<b>Foreign-born</b>	0.99**	[0.24,1.73]				
<b>Immigrant Generation</b>						
1st Gen (FB)			Ref.			
2nd Gen			-1.05**	[-1.83,-0.28]		
3rd Gen			-0.80	[-1.95,0.35]		
4+ Gen			-1.71*	[-3.13,-0.29]		
<b>Generation &amp; Time in U.S.</b>						
3+ Gen					Ref.	
2nd Gen					0.08	[-0.85,1.02]
FB, >20 yrs					1.04	[-0.02,2.10]
FB, 11-20 yrs					1.41*	[0.17,2.66]
FB, 0-10 yrs					1.24	[-0.13,2.62]
<b>N</b>	<b>511</b>		<b>500</b>		<b>500</b>	

Note: Original model is from Table 8.3

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**Table A3.2: Alternative Logistic Regression Models of Fast Food Consumption Among East L.A. Residents**

	Original Model		Alternative 1		Alternative 2	
	OR	95% CI	OR	95% CI	OR	95% CI
<b>Acculturation</b>						
Spanish Only	Ref.		Ref.		Ref.	
Mostly Spanish	0.92	[0.27,3.07]	0.91	[0.27,3.05]	0.90	[0.26,3.06]
Both	1.19	[0.50,2.81]	1.16	[0.48,2.80]	1.19	[0.48,2.93]
Mostly English	1.06	[0.43,2.60]	0.90	[0.36,2.27]	0.93	[0.36,2.43]
English Only	1.50	[0.59,3.80]	1.25	[0.43,3.67]	1.38	[0.47,4.07]
<b>Age</b>	0.97**	[0.95,0.99]	0.97*	[0.95,0.99]	0.97*	[0.95,1.00]
<b>Female</b>	2.23**	[1.25,3.97]	2.41**	[1.31,4.40]	2.49**	[1.36,4.57]
<b>Marital Status</b>						
Never Married	Ref.		Ref.		Ref.	
Married	0.42**	[0.22,0.79]	0.43*	[0.22,0.82]	0.40**	[0.21,0.78]
Div/Wid/Sep	0.71	[0.32,1.60]	0.61	[0.26,1.41]	0.58	[0.25,1.37]
<b>Household Size</b>	0.95	[0.79,1.14]	0.97	[0.81,1.17]	0.96	[0.79,1.15]
<b>Children in HH</b>	1.04	[0.52,2.06]	0.99	[0.49,2.00]	1.11	[0.55,2.25]
<b>Mexican</b>	0.68	[0.32,1.42]	0.67	[0.31,1.44]	0.65	[0.31,1.38]
<b>Household Income</b>						
\$0-10,000	Ref.		Ref.		Ref.	
\$10,001-30,000	0.60	[0.29,1.23]	0.56	[0.27,1.17]	0.58	[0.28,1.21]
≥\$30,000	0.69	[0.32,1.50]	0.63	[0.28,1.40]	0.63	[0.28,1.41]
DK/Ref.	0.37*	[0.15,0.87]	0.26**	[0.10,0.66]	0.28**	[0.11,0.71]
<b>Educational Attainment</b>						
<HS	Ref.		Ref.		Ref.	
HS	1.40	[0.67,2.90]	1.44	[0.67,3.08]	1.47	[0.68,3.13]
>HS	0.95	[0.41,2.20]	1.05	[0.43,2.54]	1.02	[0.43,2.46]
<b>Employed</b>	2.46**	[1.38,4.39]	2.45**	[1.35,4.47]	2.48**	[1.36,4.52]
<b>Foreign-born</b>	0.34**	[0.15,0.75]				
<b>Immigrant Generation</b>						
1st Gen (FB)			Ref.			
2nd Gen			3.09**	[1.33,7.14]		
3rd Gen			2.48	[0.74,8.28]		
4+ Gen			6.04**	[1.56,23.39]		
<b>Generation &amp; Time in U.S.</b>						
3+ Gen					Ref.	
2nd Gen					0.89	[0.37,2.15]
FB, >20 yrs					0.28*	[0.09,0.87]
FB, 11-20 yrs					0.21*	[0.05,0.85]
FB, 0-10 yrs					0.56	[0.14,2.32]
<b>N</b>	<b>511</b>		<b>500</b>		<b>500</b>	

Note: Original model is from Table 8.4

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**Table A3.3: Alternative Logistic Regression Models of 'Frequent' Meal Preparation Among East L.A. Residents**

	Original Model		Alternative 1		Alternative 2	
	OR	95% CI	OR	95% CI	OR	95% CI
<b>Acculturation</b>						
Spanish Only	Ref.		Ref.		Ref.	
Mostly Spanish	1.15	[0.62,2.14]	1.15	[0.62,2.14]	1.15	[0.62,2.13]
Both	0.61	[0.32,1.15]	0.65	[0.34,1.23]	0.66	[0.34,1.27]
Mostly English	0.48	[0.21,1.12]	0.52	[0.22,1.24]	0.54	[0.22,1.32]
English Only	0.35*	[0.15,0.82]	0.31*	[0.12,0.83]	0.34*	[0.13,0.90]
<b>Age</b>	1.03**	[1.01,1.04]	1.03**	[1.01,1.05]	1.03**	[1.01,1.05]
<b>Female</b>	0.62	[0.36,1.09]	0.58	[0.32,1.03]	0.59	[0.33,1.05]
<b>Marital Status</b>						
Never Married	Ref.		Ref.		Ref.	
Married	1.10	[0.65,1.88]	1.09	[0.63,1.88]	1.08	[0.63,1.86]
Div/Wid/Sep	0.83	[0.42,1.63]	0.80	[0.40,1.60]	0.80	[0.40,1.59]
<b>Household Size</b>	1.09	[0.95,1.25]	1.10	[0.95,1.26]	1.09	[0.95,1.26]
<b>Children in HH</b>	1.07	[0.61,1.87]	1.04	[0.59,1.84]	1.07	[0.60,1.89]
<b>Mexican</b>	0.99	[0.54,1.83]	1.01	[0.54,1.89]	1.01	[0.54,1.90]
<b>Household Income</b>						
\$0-10,000	Ref.		Ref.		Ref.	
\$10,001-30,000	1.03	[0.61,1.75]	1.06	[0.62,1.82]	1.08	[0.63,1.85]
≥\$30,000	0.67	[0.34,1.34]	0.65	[0.32,1.33]	0.67	[0.33,1.37]
DK/Ref.	1.03	[0.59,1.80]	1.04	[0.59,1.84]	1.08	[0.61,1.90]
<b>Educational Attainment</b>						
<HS	Ref.		Ref.		Ref.	
HS	1.52	[0.92,2.54]	1.65	[0.98,2.79]	1.62	[0.96,2.74]
>HS	0.74	[0.37,1.50]	0.66	[0.31,1.40]	0.64	[0.30,1.35]
<b>Employed</b>	0.61*	[0.39,0.96]	0.65	[0.41,1.02]	0.66	[0.42,1.04]
<b>Foreign-born</b>	1.01	[0.51,1.99]				
<b>Immigrant Generation</b>						
1st Gen (FB)			Ref.			
2nd Gen			0.91	[0.44,1.87]		
3rd Gen			0.59	[0.18,1.91]		
4+ Gen			1.65	[0.44,6.21]		
<b>Generation &amp; Time in U.S.</b>						
3+ Gen					Ref.	
2nd Gen					1.06	[0.41,2.73]
FB, >20 yrs					1.16	[0.42,3.20]
FB, 11-20 yrs					1.23	[0.39,3.90]
FB, 0-10 yrs					1.43	[0.41,5.01]
<b>N</b>	<b>508</b>		<b>497</b>		<b>497</b>	

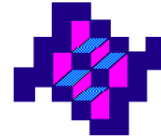
Note: Original model is from Table 8.5

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**Appendix 4: ENSANUT Questionnaires**



**SECRETARIA DE SALUD**  
**ENCUESTA NACIONAL DE SALUD Y**  
**NUTRICIÓN 2005**  
**Cuestionario de Adultos de 20 años o más**



**IDENTIFICACIÓN GEOGRÁFICA**

Entidad Federativa \_\_\_\_\_ [ ] [ ] [ ]  
 Municipio ó Delegación \_\_\_\_\_ [ ] [ ] [ ] [ ]  
 Localidad \_\_\_\_\_ [ ] [ ] [ ] [ ] [ ]  
 U.P.M [ ] [ ] Manzana [ ] [ ] [ ]  
 AGEB [ ] [ ] [ ] - [ ]  
 Estrato ..... [ ] 1-Urbano 2-Rural  
 Nivel Socioeconómico ..... [ ] 1-Bajo 2-Medio 3-Alto

Hogar.....[ ] de [ ]  
 DE LA VIVIENDA  
 Cuestionario.....[ ] de [ ]  
 DEL HOGAR  
 Número Progresivo  
 de Vivienda.....[ ] [ ] [ ]

Núm. de cuestionario: [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
 Núm. de control: [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
 Número de registro del entrevistado: [ ] [ ]  
 Nombre seleccionado(a): \_\_\_\_\_

**DIRECCIÓN DE LA PERSONA SELECCIONADA**

\_\_\_\_\_ (CALLE, AVENIDA,, CALLEJÓN, CARRETERA, CAMINO, BOULEVARD, KM) \_\_\_\_\_ NOMBRE DEL JEFE DE FAMILIA \_\_\_\_\_  
 \_\_\_\_\_ NÚM. EXTERIOR NÚM. INTERIOR LOCALIDAD (COLONIA, FRACCIONAMIENTO, BARRIO, UNIDAD HABITACIONAL) \_\_\_\_\_  
 MUNICIPIO \_\_\_\_\_ [ ] [ ] [ ] [ ] [ ] COD. POSTAL [ ] [ ] [ ] [ ] [ ] [ ]

VISITA	Primera		Segunda		Tercera		Cuarta	
	Día	Mes	Día	Mes	Día	Mes	Día	Mes
Fecha de entrevista								
Nombre Clave								
Hora en que comenzó	[ ] [ ] : [ ] [ ]		[ ] [ ] : [ ] [ ]		[ ] [ ] : [ ] [ ]		[ ] [ ] : [ ] [ ]	
Hora en que terminó	[ ] [ ] : [ ] [ ]		[ ] [ ] : [ ] [ ]		[ ] [ ] : [ ] [ ]		[ ] [ ] : [ ] [ ]	
Duración	[ ] [ ] : [ ] [ ]		[ ] [ ] : [ ] [ ]		[ ] [ ] : [ ] [ ]		[ ] [ ] : [ ] [ ]	
Cuantos días pasaron entre la 1ª y 2ª								
Resultado*								

**\* CÓDIGO PARA RESULTADO**

- 1. ENTREVISTA COMPLETA
- 2. ENTREVISTA INCOMPLETA
- 3. INFORMANTE INADECUADO
- 4. ENTREVISTA APLAZADA (HACER CITA)

- 5. AUSENCIA DE LA PERSONA SELECCIONADA
- 6. SE NEGÓ A DAR INFORMACIÓN
- 7. OTRO \_\_\_\_\_ Especificar

Nombre del supervisor \_\_\_\_\_

Nombre del codificador \_\_\_\_\_

## 1. ACTIVIDAD FÍSICA

Piense en todas las actividades que requieran de un **esfuerzo físico vigoroso** que pudo haber realizado durante los últimos 7 días.

Las actividades vigorosas hacen que usted respire con mucho más dificultad de lo normal y estas actividades pueden ser: aeróbicos, andar en bicicleta rápidamente, levantar cosas pesadas, cavar, trabajo agrícola como cosechar, etc. **Piense solamente en esas actividades que usted hizo por lo menos 10 minutos continuos.**

<p>1.1 Durante los últimos 7 días, ¿Cuántos días realizó usted alguna actividad que requiriera de un esfuerzo físico vigoroso?</p>	<p>No realiza alguna actividad vigorosa.....00                  No responde.....88                  No sabe.....99</p> <p>Limitación o dificultad para moverse o caminar.....55</p>	<p>[ ] [ ]  <b>Días por semana</b></p> <p>PASE A P. 1.4</p> <p>PASE A P. 2.1</p>
<p>1.2 ¿Cuánto tiempo en total usualmente le toma realizar actividad(es) física(s) vigorosa(s) en uno de esos días?</p>	<p>No responde.....88                  No sabe.....99</p>	<p>PASE A P. 1.4</p> <p>[ ] [ ]                  Horas por día                  [ ] [ ]                  Minutos por día</p>
<p>1.3 Entonces, ¿el tiempo que paso usted realizando alguna actividad(es) física(s) vigorosa(s) durante los últimos [ ] días es de aproximadamente [ ] (horas/minutos)?</p>	<p>Sí.....1                  No.....2                  No responde.....8                  No sabe.....9</p>	<p>[ ]</p>

Ahora piense en las actividades que requieran de un **esfuerzo físico moderado** que usted pudo haber realizado durante los últimos 7 días.

Las actividades físicas moderadas hacen que usted respire con un poco más de dificultad de lo normal y estas actividades pueden ser: cargar cosas ligeras de un lugar a otro, ir en bicicleta aun paso regular, etc. **No incluya caminar.**

**Una vez más piense únicamente en las actividades físicas en las cuales haga por lo menos 10 minutos continuos.**

<p>1.4 Durante los últimos 7 días, ¿cuántos días realizó usted alguna actividad física moderada?</p>	<p>No realiza alguna actividad moderada.....00                  No responde.....88                  No sabe.....99</p>	<p>[ ] [ ]  <b>Días por semana</b></p> <p>PASE A P. 1.7</p>
<p>1.5 ¿Cuánto tiempo pasa generalmente realizando esta(s) actividad(es) física(s) moderada(s) en uno de esos días?</p>	<p>No responde.....88                  No sabe.....99</p>	<p>PASE A P. 1.7</p> <p>[ ] [ ]                  Horas por día                  [ ] [ ]                  Minutos por día</p>
<p>1.6 Entonces, ¿el tiempo que paso usted realizando alguna actividad(es) física(s) moderada(s) durante los últimos [ ] días es de aproximadamente [ ] (horas/minutos)?</p>	<p>Sí.....1                  No.....2                  No responde.....8                  No sabe.....9</p>	<p>[ ]</p>

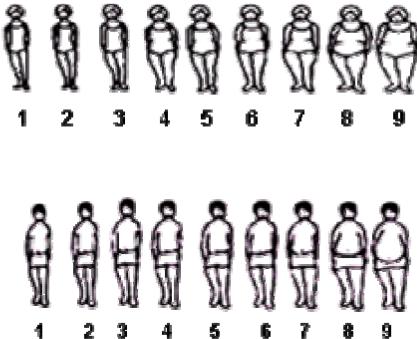
Ahora piense en **el tiempo que ha caminado durante los últimos 7 días**. Esto incluye caminar en el trabajo, en la casa, trasladándose de un lugar a otro y/o cualquier otra caminata que usted haya hecho meramente por recreación, deporte, ejercicio o placer. **Piense únicamente en las actividades en las que usted camina por lo menos 10 minutos seguidos.**

<p>1.7 Durante los últimos 7 días, ¿Cuántos días usted <b>camino por lo menos 10 minutos seguidos</b>?</p>	<p>No camino.....00          No responde.....88          No sabe.....99</p>	<p>[ ] [ ]  <b>Días por semana</b>          PASE A P. 1.10</p>
<p>1.8. Generalmente, ¿Cuánto tiempo camina usted en <b>uno de esos días</b>?</p>	<p>No responde.....88          No sabe.....99</p>	<p>PASE A P. 1.10          [ ] [ ]          Horas por día          [ ] [ ]          Minutos por día</p>
<p>1.9 Entonces, ¿el tiempo que paso usted caminando durante los últimos [ ] días es de aproximadamente [ ] (horas/minutos)?</p>	<p>Sí.....1          No.....2          No responde.....8          No sabe.....9</p>	<p>[ ]</p>

Ahora piense en el tiempo que usted estuvo **sentado durante los últimos 7 días**. Incluya el tiempo que pasa sentado(a) en el trabajo, en la casa, estudiando, y durante el tiempo de descanso. **Esto puede incluir tiempo que pasó sentado(a) en un escritorio, visitando amistades, leyendo, sentado(a) o acostado(a) viendo televisión.**

<p>1.10 Durante los últimos 7 días, ¿Cuánto tiempo en total estuvo sentado(a) <b>en uno</b> de esos días de la semana?</p>	<p>No responde.....88          No sabe.....99</p>	<p>[ ] [ ]          Horas de un día de la semana          [ ] [ ]          Minutos de un día de la semana</p>
<p>1.11 En total, ¿cuanto tiempo estuvo sentado(a) el <b>Miércoles</b> de la semana pasada?</p>	<p>No responde.....88          No sabe.....99</p>	<p>[ ] [ ]          Horas del miércoles de la semana pasada          [ ] [ ]          Minutos el miércoles de la semana pasada</p>

## 2. SOBREPESO Y OBESIDAD

<p>2.1 Ahora le voy a mostrar unas figuras corporales, por favor dígame que figura siente que más se parece a usted en este momento</p> <p style="border: 1px solid gray; padding: 5px; display: inline-block; margin-top: 20px;">Muestre las figuras según sea el sexo del entrevistado</p>		<p>[ ]  <b>Número de figura</b></p>
<p>2.2 ¿Considera usted que ...</p>	<p>tiene sobrepeso?.....1          tiene obesidad?.....2          está bajo de peso?.....3          está bien de peso?.....4          No responde.....8          No sabe.....9</p>	<p>[ ]</p>



<p>2.3 ¿Alguna vez le ha dicho un médico/dietista/nutriólogo que tiene o tuvo obesidad?</p>	<p>Sí.....1          No.....2          No sabe.....9</p>	<p>[ ]          PASE A          P. 2.6</p>
<p>2.4 ¿Qué edad tenía cuando le diagnosticaron obesidad?</p>	<p>No responde..... 88          No sabe ..... 99</p>	<p>[ ][ ]          Años cumplidos</p>
<p>2.5 ¿Siguió algún tratamiento para controlar su peso?</p>	<p>Sí.....1          No.....2          No sabe.....9</p>	<p>[ ]</p>
<p>2.6 Durante el último año, ¿ha perdido o ganado peso?</p>	<p>Sí          Ganó peso .....1          Perdió peso.....2          No ha experimentado cambios en su peso.....3          Ganó o perdió peso porque está embarazada...4          No responde.....8          No sabe.....9</p>	<p>[ ]          PASE A          P. 3.1</p>
<p>2.7 ¿Cuántos kilos fueron los que ganó (o perdió)?</p>	<p>Ganó peso → PASE A P. 3.1</p>	<p>[ ][ ]          Kilos</p>
<p><b>SI PERDIÓ MÁS DE 5 KILOS CONTINÚE, SI PERDIÓ MENOS DE 5 KILOS PASE A LA PREGUNTA 3.1</b></p>		
<p>2.8 ¿Esta pérdida de peso fue intencional?</p>	<p>Sí.....1          No .....2          No responde.....8          No sabe.....9</p>	<p>[ ]          PASE A          P. 3.1</p>
<p>2.9 ¿Cómo intentó perder peso?</p> <div style="border: 1px solid gray; padding: 5px; margin: 10px auto; width: fit-content;"> <p>Puede anotar más de una opción</p> </div>	<p>Consumió menos comida.....01          Consumió alimentos con menos calorías...02          Consumió alimentos con menos grasa.....03          Realizó algún tipo de ejercicios.....04          Se saltó comidas.....05          Consumió productos de “dieta”.....06          Utilizó alguna fórmula líquida de “dieta”(Ejem. SlimFast).....07          Se integró a un programa de pérdida de peso .....08          Siguió alguna dieta especial por su cuenta anunciada en revistas, internet, televisión o recomendada por amigos o familiares.....09          Siguió una dieta especial prescrita por un médico/dietista/nutriólogo.....10          Tomó medicamentos prescritos por su médico .....11          Tomó otros medicamentos, hierbas, gotas chochos, suplementos alimenticios sin prescripción médica.....12          Tomó laxantes o vomitó.....13          Tomó mucha agua.....14          Otra forma .....77          Especifique          No sabe.....88          No responde.....99</p>	<p>[ ][ ]          [ ][ ]          [ ][ ]          [ ][ ]          [ ][ ]          [ ][ ]          [ ][ ]</p>

### 3. DEPRESIÓN

Estas preguntas se refieren a como se ha sentido usted durante la semana pasada.

<p>3.1 <i>Durante la semana pasada, ¿ha tenido algún periodo de <u>varios días</u> en los que ...</i></p> <div style="border: 1px dashed gray; padding: 5px; text-align: center; margin: 10px 0;"> <b>LEA TODAS LAS OPCIONES Y ANOTE CADA RESPUESTA.</b> </div>	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="width: 10%; text-align: center;">Sí</th> <th style="width: 10%; text-align: center;">No</th> <th style="width: 10%; text-align: center;">No sabe</th> </tr> </thead> <tbody> <tr> <td>la mayor parte del día se sintió triste o vacío(a)?.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">9</td> </tr> <tr> <td>perdió el interés por casi todas las cosas que suele disfrutar?.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">9</td> </tr> <tr> <td>se sintiera con falta de energía o cansado(a) constantemente?.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">9</td> </tr> <tr> <td>se ha sentido solo(a)? .....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">9</td> </tr> <tr> <td>ha sentido que tenía mucha energía? .....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">9</td> </tr> <tr> <td>se ha sentido irritado?.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">9</td> </tr> <tr> <td>perdió el apetito?.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">9</td> </tr> <tr> <td>sintiera que sus pensamientos se hacían más lentos?.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">9</td> </tr> </tbody> </table>		Sí	No	No sabe	la mayor parte del día se sintió triste o vacío(a)?.....	1	2	9	perdió el interés por casi todas las cosas que suele disfrutar?.....	1	2	9	se sintiera con falta de energía o cansado(a) constantemente?.....	1	2	9	se ha sentido solo(a)? .....	1	2	9	ha sentido que tenía mucha energía? .....	1	2	9	se ha sentido irritado?.....	1	2	9	perdió el apetito?.....	1	2	9	sintiera que sus pensamientos se hacían más lentos?.....	1	2	9	<div style="text-align: right; margin-bottom: 10px;">[ ]</div> <div style="text-align: right; margin-bottom: 10px;">[ ]</div> <div style="text-align: right; margin-bottom: 10px;">[ ]</div> <div style="text-align: right; margin-bottom: 10px;">[ ]</div> <div style="text-align: right; margin-bottom: 10px;">[ ]</div> <div style="text-align: right; margin-bottom: 10px;">[ ]</div> <div style="text-align: right; margin-bottom: 10px;">[ ]</div> <div style="text-align: right; margin-bottom: 10px;">[ ]</div>
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perdió el apetito?.....	1	2	9																																			
sintiera que sus pensamientos se hacían más lentos?.....	1	2	9																																			
<p>3.2 ¿Alguna vez le ha dicho un médico u otro personal de salud que sufre o ha sufrido depresión?</p>	<p>Sí ..... 1</p> <p>No ..... 2</p>	<div style="text-align: right; margin-bottom: 10px;">[ ]</div> <div style="text-align: right; border: 1px solid black; padding: 5px; display: inline-block;">             PASE A P. 4.1         </div>																																				
<p>3.3 ¿Le mandaron medicinas o algún otro tipo de tratamiento para la depresión?</p>	<p>Sí ..... 1</p> <p>No ..... 2</p> <p>No responde..... 8</p>	<div style="text-align: right; margin-bottom: 10px;">[ ]</div>																																				
<p>3.4 <i>Durante las últimas 2 semanas, ¿ha tomado algún medicamento o ha seguido algún otro tipo de tratamiento para la depresión?</i></p>	<p>Sí ..... 1</p> <p>No ..... 2</p> <p>No responde..... 8</p>	<div style="text-align: right; margin-bottom: 10px;">[ ]</div>																																				

### 4. DIABETES MELLITUS

<p>4.1 ¿Algún médico le ha dicho que tiene diabetes o alta el azúcar en la sangre?</p>	<p>Sí.....1</p> <p>Si, durante el embarazo (sólo mujeres, diabetes gestacional) .....3</p> <p>No..... 2</p>	<div style="text-align: right; margin-bottom: 10px;">[ ]</div> <div style="text-align: right; border: 1px solid black; padding: 5px; display: inline-block;">             PASE A P. 5.1         </div>
<p>4.2 ¿Hace cuánto tiempo le dijo su médico por primera vez que tenía diabetes o alta el azúcar en la sangre?</p>	<p>Menos de un mes ..... 00</p> <p>No sabe..... 99</p>	<p style="text-align: right;">meses [ ] [ ]</p> <p style="text-align: right;">años [ ] [ ]</p>
<p>4.3 ¿Ha tenido <u>tratamiento médico</u> para controlar la diabetes o el azúcar en la sangre?</p>	<p>Sí..... 1</p> <p>No..... 2</p>	<div style="text-align: right; margin-bottom: 10px;">[ ]</div> <div style="text-align: right; border: 1px solid black; padding: 5px; display: inline-block;">             PASE A P. 4.8         </div>
<p>4.4 ¿Cuántas veces y con que frecuencia acude al médico para controlar su diabetes?</p>	<p>Diario.....1</p> <p>Semanal..... 2</p> <p>Mensual ..... 3</p> <p>Anual ..... 4</p> <p>No responde..... 8</p> <p>No sabe ..... 9</p>	<p style="text-align: right;">[ ] [ ]</p> <p style="text-align: right;">Veces</p> <p style="text-align: right;">[ ]</p> <p style="text-align: right;">Frecuencia</p>

<p>4.5 ¿En dónde se atiende para controlar su diabetes?</p>	<p>IMSS OPORTUNIDADES ..... 01  IMSS ..... 02  Secretaría de Salud..... 03  SEGURO POPULAR (SSA)..... 04  DIF, ,  CRUZ ROJA, INI ..... 05  ISSSTE, ISSSTE ESTATAL ..... 06  MARINA/DEFENSA, PEMEX ..... 07  PARTICULAR ..... 08  HOSPITAL CIVIL ..... 09  INSTITUTOS NACIONALES ..... 10  OTRA INSTITUCIÓN ..... 77  NO SABE ..... 99</p>	<p>[ ] [ ]</p>
<p>4.6 ¿Actualmente toma pastillas o le aplican insulina para controlar su azúcar?</p>	<p><b>Sí, ¿Cuál?</b>  Insulina..... 1  Pastillas..... 2  Ambas..... 3  Ninguno..... 4</p> <p>→ PASE A P. 4.8  → PASE A P. 4.8</p>	<p>[ ]  PASE A P. 4.8  PASE A P. 4.8</p>
<p>4.7 ¿Cuántas veces y con que frecuencia se aplica la insulina?</p>	<p>Diario..... 1  A la semana.....2  No responde.....8  No sabe .....9</p>	<p>[ ] [ ]  <b>Veces</b>  [ ] [ ]  <b>Frecuencia</b></p>
<p>4.8 ¿Actualmente lleva algún otro tratamiento para controlar su azúcar?</p> <p><b>PUEDE ANOTAR MÁS DE UNA OPCIÓN</b></p>	<p><b>Sí, ¿Cuál?</b>  Plan de alimentación (dieta)..... 01  Realiza algún ejercicio fisico..... 02  Homeopatía (Chochos)..... 03  Herbolaria..... 04  Hemoterapia..... 05  Otros..... 77  No..... 07</p> <p>→ PASE A P. 4.9</p>	<p>[ ] [ ]  [ ] [ ]  [ ] [ ]  [ ] [ ]  [ ] [ ]  [ ] [ ]  PASE A P. 4.9</p>
<p>4.9 ¿Qué exámenes se hace o le ordena su médico para vigilar su azúcar?</p> <p><b>PUEDE ANOTAR MÁS DE UNA OPCIÓN</b></p>	<p>Tiras reactivas en orina..... 1  Tiras reactivas en sangre..... 2  Examen general de orina..... 3  Determinación de glucosa en sangre venosa..... 4  Determinación de hemoglobina glucosilada..... 5  Otro ..... 7  Ninguno..... 6</p> <p>→ PASE A P. 4.11</p>	<p><b>Examen</b>  [ ] [ ]  [ ] [ ]  [ ] [ ]  [ ] [ ]  [ ] [ ]  [ ] [ ]  PASE A P. 4.11</p>
<p>4.10 ¿Cuántas veces y con que frecuencia se realiza esta prueba?</p> <p><b>PREGUNTE PARA CADA UNO DE LOS EXÁMENES QUE LE RESPONDIÓ EN LA PREGUNTA 4.9</b></p>	<p>Semanal.....1  Mensual.....2  Anual.....3  No sabe.....9</p>	<p><b>Veces</b>      <b>Frecuencia</b>  [ ] [ ]      [ ] [ ]  [ ] [ ]      [ ] [ ]  [ ] [ ]      [ ] [ ]  [ ] [ ]      [ ] [ ]  [ ] [ ]      [ ] [ ]  [ ] [ ]      [ ] [ ]</p>

<p>4.11 Debido a la diabetes, ¿qué medidas preventivas ha seguido para evitar complicaciones?</p> <p style="text-align: center;"><b>PUEDA ANOTAR MÁS DE UNA OPCIÓN</b></p>	<p>Revisión oftalmológica..... 1  Toma una aspirina diario..... 2  Revisión de pies.....3  Examen de riñón.....4  No realiza ninguna medida preventiva.....5  Otro.....7</p> <p style="text-align: center;">Especifique</p>	<p style="text-align: center;">[ ]  [ ]  [ ]</p>																														
<p>4.12 ¿Debido a la diabetes ...</p>	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="width: 10%; text-align: center;">Sí</th> <th style="width: 10%; text-align: center;">No</th> </tr> </thead> <tbody> <tr> <td><b>ha tenido úlceras en piernas o pies que tarden en sanar más de 4 semanas?.....</b></td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td><b>le han amputado alguna parte del cuerpo?.....</b></td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td><b>le ha disminuido su visión?.....</b></td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td><b>ha sufrido daño en la retina?.....</b></td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td><b>ha perdido la vista?.....</b></td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td><b>le han hecho diálisis?.....</b></td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td><b>ha sufrido de un infarto?.....</b></td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td><b>sufrió de un coma diabético?.....</b></td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td><b>perdió la sensibilidad en alguna parte del cuerpo?.....</b></td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> </tbody> </table>		Sí	No	<b>ha tenido úlceras en piernas o pies que tarden en sanar más de 4 semanas?.....</b>	1	2	<b>le han amputado alguna parte del cuerpo?.....</b>	1	2	<b>le ha disminuido su visión?.....</b>	1	2	<b>ha sufrido daño en la retina?.....</b>	1	2	<b>ha perdido la vista?.....</b>	1	2	<b>le han hecho diálisis?.....</b>	1	2	<b>ha sufrido de un infarto?.....</b>	1	2	<b>sufrió de un coma diabético?.....</b>	1	2	<b>perdió la sensibilidad en alguna parte del cuerpo?.....</b>	1	2	<p style="text-align: center;">[ ]  [ ]  [ ]  [ ]  [ ]  [ ]  [ ]  [ ]</p>
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## 5. HIPERTENSIÓN ARTERIAL

<p>5.1 ¿Algún médico le ha dicho que tiene la presión alta?</p>	<p>Si ..... 1</p> <p>No ..... 2</p>	<p>[ ]</p> <p>PASE A P. 5.9</p>
<p>5.2 ¿Hace cuánto tiempo le dijo su médico que tiene la presión alta?</p>	<p>Menos de un mes ..... 00</p> <p>No sabe ..... 99</p>	<p>Meses [ ][ ]</p> <p>Años [ ][ ]</p>
<p><b>Entrevistador : SI ES MUJER CONTINÚE, SI ES HOMBRE PASE A LA PREGUNTA 5.5</b></p>		
<p>5.3 ¿Estaba embarazada cuando le dijeron que su presión estaba alta?</p>	<p>Si ..... 1</p> <p>No ..... 2</p>	<p>[ ]</p> <p>PASE A P. 5.5</p>
<p>5.4 ¿Algún médico o personal de salud le diagnóstico preeclampsia solamente durante el tiempo en que estuvo embarazada?</p>	<p>Si ..... 1</p> <p>No ..... 2</p>	<p>PASE A P. 5.9</p>
<p>5.5 ¿Actualmente toma alguna medicina (pastillas) para controlar su presión alta?</p>	<p>Si ..... 1</p> <p>No ..... 2</p> <p>No sabe ..... 9</p>	<p>[ ]</p> <p>PASE A P. 5.8</p>
<p>5.6 ¿Cuánto tiempo tiene tomando este medicamento?</p>	<p>Menos de un mes .....00</p> <p>No sabe .....99</p>	<p>Meses [ ][ ]</p> <p>Años [ ][ ]</p>
<p>5.7 ¿En dónde se atiende para controlar su presión alta?</p>	<p>IMSS OPORTUNIDADES .....01</p> <p>IMSS .....02</p> <p>Secretaría de Salud.....03</p> <p>SEGURO POPULAR (SSA).....04</p> <p>DIF, CRUZ ROJA, INI .....05</p> <p>ISSSTE, ISSSTE ESTATAL .....06</p> <p>MARINA/DEFENSA, PEMEX .....07</p> <p>PARTICULAR .....08</p> <p>HOSPITAL CIVIL .....09</p> <p>INSTITUTOS NACIONALES .....10</p> <p>OTRA INSTITUCIÓN .....77</p> <p>NO SABE .....99</p>	<p>[ ][ ]</p>
<p>5.8 ¿Actualmente lleva otro tratamiento para controlar su presión alta?</p>	<p><b>Si, ¿Cuál?</b></p> <p>Plan de alimentación .....1</p> <p>Realiza algún ejercicio físico .....2</p> <p>Homeopatía (chochos) .....3</p> <p>Herbolaria .....4</p> <p>Disminución en el consumo de sal .....5</p> <p>Otros .....7</p> <p>No .....6</p>	<p>[ ][ ]</p> <p>[ ][ ]</p> <p>[ ][ ]</p> <p>[ ][ ]</p> <p>[ ][ ]</p>

5.9 ¿Cuántas veces y con que frecuencia se toma o le toman la presión?	Semanal.....	1	<input type="text"/> <b>Frecuencia</b>  <input type="text"/> <b>Cantidad</b>
	Mensual.....	2	
	Anual.....	3	
	No Sabe.....	8	
	No se la toma(n).....	4	

## 6. ENFERMEDAD CARDIOVASCULAR

Posible infarto  6.1 ¿Ha tenido alguna vez un dolor fuerte en el pecho, con falta de aire o gran malestar que durara media hora o más?	Si .....	1	<input type="text"/>	
	No .....	2		
6.2 ¿Le ha dicho el médico que usted tiene (o tuvo) ...		<b>Si</b>	<b>No</b>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
	un infarto? .....	1	2	
	angina de pecho? .....	1	2	
	insuficiencia cardiaca? .....	1	2	
	otra enfermedad del corazón? .....	1	2	

**Entrevistador: SI EN LA PREGUNTA ANTERIOR LA RESPUESTA ES QUE SI PRESENTÓ UN INFARTO (CÓDIGO 1) CONTINÚE, SI NO PASE A LA PREGUNTA 7.1**

6.3 ¿Lo hospitalizaron para atender el infarto que presentó?	Si .....	1	<input type="text"/>
	No .....	2	
6.4 ¿A qué edad tuvo el primer infarto?	No responde.....	88	<input type="text"/> <b>Edad</b>
	No sabe .....	99	
6.5 ¿Actualmente esta tomando algún medicamento por el infarto?	Si .....	1	<input type="text"/>
	No .....	2	
	No responde.....	8	
	No sabe .....	9	

## 7. ENFERMEDAD RENAL, HIPERCOLESTEROLEMIA Y NEUROMUSCULAR

7.1 ¿Alguna vez un médico le ha dicho que padece de alguna enfermedad del riñón como ...		<b>Si</b>	<b>No</b>	<input type="text"/> <input type="text"/> <input type="text"/>
	infección de vías urinarias en más de una ocasión? .....	1	2	
	cálculos renales? .....	1	2	
	insuficiencia renal? .....	1	2	

Entrevistador: SI EN ALGUNA DE LAS RESPUESTAS DE LA PREGUNTA ANTERIOR RESPONDIÓ SÍ (CÓDIGO 1) CONTINÚE; SI NO ES ASÍ, PASE A PREGUNTA 7.4

<p>7.3. ¿El tipo de tratamiento que tiene para su enfermedad renal es ...</p>	<table border="0"> <thead> <tr> <th></th> <th>Sí</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>dieta sin sal? .....</td> <td>1</td> <td>2</td> </tr> <tr> <td>medicamentos? .....</td> <td>1</td> <td>2</td> </tr> <tr> <td>diálisis? .....</td> <td>1</td> <td>2</td> </tr> <tr> <td>homeopático? .....</td> <td>1</td> <td>2</td> </tr> <tr> <td>hemodiálisis?.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>acupuntura? .....</td> <td>1</td> <td>2</td> </tr> <tr> <td>naturista? .....</td> <td>1</td> <td>2</td> </tr> <tr> <td>Otro .....</td> <td>1</td> <td>2</td> </tr> <tr> <td>Ninguno.....</td> <td>1</td> <td></td> </tr> </tbody> </table>		Sí	No	dieta sin sal? .....	1	2	medicamentos? .....	1	2	diálisis? .....	1	2	homeopático? .....	1	2	hemodiálisis?.....	1	2	acupuntura? .....	1	2	naturista? .....	1	2	Otro .....	1	2	Ninguno.....	1		<table border="0"> <tr><td><input type="checkbox"/></td></tr> <tr><td><input type="checkbox"/></td></tr> <tr><td><input type="checkbox"/></td></tr> <tr><td><input type="checkbox"/></td></tr> <tr><td><input type="checkbox"/></td></tr> <tr><td><input type="checkbox"/></td></tr> <tr><td><input type="checkbox"/></td></tr> <tr><td><input type="checkbox"/></td></tr> </table>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<p>7.5 ¿Ha tenido tratamiento para el colesterol alto?</p> <p><b>PUEDA ANOTAR MÁS DE UNA OPCIÓN</b></p>	<table border="0"> <tr> <td>Sí</td> <td></td> </tr> <tr> <td>Medicamento.....</td> <td>1</td> </tr> <tr> <td>Dieta.....</td> <td>2</td> </tr> <tr> <td>Aumento de actividad física.....</td> <td>3</td> </tr> <tr> <td>Remedios caseros.....</td> <td>4</td> </tr> <tr> <td>No .....</td> <td>5</td> </tr> </table> <p>→ PASE A P. 7.6</p>	Sí		Medicamento.....	1	Dieta.....	2	Aumento de actividad física.....	3	Remedios caseros.....	4	No .....	5	<table border="0"> <tr><td><input type="checkbox"/></td></tr> <tr><td><input type="checkbox"/></td></tr> <tr><td><input type="checkbox"/></td></tr> <tr><td><input type="checkbox"/></td></tr> </table>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																						
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## 8. CÁNCER

8.1 ¿Alguna vez le ha dicho un médico o un dentista que tiene (tuvo) cáncer o un tumor maligno de cualquier tipo?		Si ..... 1 No..... 2 No sabe..... 9		<div style="border: 1px solid black; padding: 5px; display: inline-block;">                 PASE A P. 9.1             </div>						
8.2. ¿Qué tipo de cáncer le dijeron que tenía?  <div style="border: 1px solid gray; padding: 5px; width: fit-content;">                     SI LA RESPUESTA ES NEGATIVA (Código 2) PASE AL SIGUIENTE INCISO                 </div> <div style="border: 1px solid gray; padding: 5px; width: fit-content; margin-top: 5px;">                     REALICE LA PREGUNTA SEGÚN EL SEXO DEL ENTREVISTADO CUANDO ESTE INDICADO                      H= Hombre                      M= Mujer                 </div>		8.3 ¿A qué edad le diagnosticaron cáncer de (MENCIONE CADA UNA DE LAS OPCIONES AFIRMATIVAS DE LA 8.2)?  Sí No Edad en años No sabe.....99		8.4 ¿Recibió tratamiento médico para atender el cáncer de (MENCIONE CADA UNA DE LAS OPCIONES AFIRMATIVAS DE LA 8.2)?  Sí No		8.5 ¿Cuál fue el motivo por el que no recibió tratamiento médico?  No tiene dinero.....1 La unidad medica está muy lejos.....2 Fue pero no lo(a) atendieron.3 Enfermedad avanzada.....4 No quiso tratarse.....5 Aún no recibe tratamiento....6		8.6 ¿Cuál es la situación actual del cáncer?  Con enfermedad...1 Sin enfermedad ....2 El cáncer está cediendo, va mejor (en remisión).....3 No sabe.....9		
				<div style="border: 1px solid black; padding: 5px; display: inline-block;">                 PASE A P. 8.6             </div>						
01) Piel (melanoma)		1	2	[ ]	1	2	[ ]	[ ]	[ ]	
02) Cervix o cuello uterino		M	1	2	[ ]	[ ]	1	2	[ ]	[ ]
03) Mama			1	2	[ ]	[ ]	1	2	[ ]	[ ]
04) Próstata		H	1	2	[ ]	[ ]	1	2	[ ]	[ ]
05) Estómago			1	2	[ ]	[ ]	1	2	[ ]	[ ]
06) Pulmón			1	2	[ ]	[ ]	1	2	[ ]	[ ]
07) Leucemia/sangre			1	2	[ ]	[ ]	1	2	[ ]	[ ]
77) Otro _____ Especifique			1	2	[ ]	[ ]	1	2	[ ]	[ ]
8.7 Durante los últimos dos años, ¿ha recibido tratamiento de... (LEA CADA OPCIÓN) por el cáncer que le diagnosticaron?										
						Sí No No sabe				
						Quimioterapia o medicamento ..... 1 2 9		[ ]		
						Cirugía y/o biopsia ..... 1 2 9		[ ]		
						Radiación o Rayos X ..... 1 2 9		[ ]		
						Medicamentos o tratamiento para síntomas como dolor, náusea, vómito, diarrea o estreñimiento (tratamiento paliativo)..... 1 2 9		[ ]		
						Medicina alternativa..... 1 2 9		[ ]		



Entrevistador: ESTA PRIMERA PARTE ESTÁ DIRIGIDA A MUJERES, SI EL INFORMANTE ES HOMBRE, PASE AL FILTRO QUE ESTÁ ANTES DE LA PREGUNTA 9.19

### 9. SALUD REPRODUCTIVA

A continuación le haré algunas preguntas sobre su menstruación.

<p>9.1 ¿A qué edad tuvo su primera regla o menstruación?</p>	<p>No ha comenzado..... 00</p>	<p>PASE A P. 10.1</p> <p>[ ][ ] Edad</p>
<p>9.2 ¿Hace cuánto tiempo fue su última regla o menstruación?</p>	<p>Menos de un mes..... 96 Actualmente está reglando..... 97 No Sabe ..... 99</p>	<p>PASE A P. 9.5</p> <p>[ ][ ] Mes(es) [ ][ ] Año(s)</p>
<p><b>FILTRO: SI LA ÚLTIMA MENSTRUACIÓN FUE HACER MENOS DE TRES MESES PASE A 9.5, SI FUE HACER TRES MESES O MÁS CONTINÚE</b></p>		
<p>9.3 ¿Cuál fue la razón por la que usted dejó de reglar?</p>	<p>Está amamantando o en puerperio..... 01 Actualmente está embarazada..... 02</p> <p>Por menopausia natural..... 03 Le quitaron la matriz o los ovarios..... 04 Recibió radiaciones en la pelvis..... 05 Tomó medicamentos o quimioterapia.... 06 Otras razones ..... 77 No Sabe..... 99 No Responde..... 88</p>	<p>PASE A P. 9.7</p> <p>[ ][ ]</p>
<p>9.4 ¿Cuántos años cumplidos tenía usted cuando dejó de reglar?</p>	<p>No Sabe ..... 99 No Responde..... 88</p>	<p>[ ][ ] Años</p>
<p>9.5 ¿Ha tenido pérdida de dos o más ciclos menstruales en el último año?</p>	<p>Si ..... 1 No..... 2 No sabe..... 9</p>	<p>[ ]</p>
<p>9.6 ¿Alguna vez ha estado embarazada?</p>	<p>Si ..... 1 No..... 2 No sabe..... 9</p>	<p>[ ]</p> <p>PASE A P. 10.1</p>
<p>9.7 ¿Cuántos embarazos en total ha tenido?</p> <p><b>NO OMITA EL EMBARAZO ACTUAL AUNQUE ESTE SEA EL PRIMERO</b></p>	<p>No Responde..... 88</p>	<p>[ ][ ]</p>
<p>9.8 ¿De estos embarazos cuántos han sido...</p>	<p>nacidos vivos?..... [ ][ ] nacidos vivos, que hayan fallecido antes de cumplir un año de edad?..... [ ][ ] nacidos muertos?..... [ ][ ] abortos?..... [ ][ ] Embarazo actual por primera vez.....98</p>	<p>[ ][ ]</p> <p>PASE A P. 10.1</p>

9.9 ¿Alguno de sus hijos a pesado más de 4 kg. al nacer?	Si ..... 1 No..... 2 No sabe..... 9	[ ]																								
<b>FILTRO: APLICAR SÓLO A MUJERES CON HIJOS NACIDOS VIVOS (PREGUNTA 9.8); SINO PASE A PREGUNTA 9.19</b>																										
9.10 ¿En que mes y año nació su último(a) hijo(a) nacido(a) vivo(a)?	Menos de un mes ..... 00 0000 No recuerda .....88 8888	[ ] [ ] Mes [ ] [ ] [ ] [ ] Año																								
<b>Entrevistador: SÓLO MUJERES CUYO ÚLTIMO HIJO NACIÓ VIVO DEL AÑO 2000 A LA FECHA; SI NO, PASE AL FILTRO QUE ESTÁ ANTES DE LA PREGUNTA 9.19</b>																										
9.11 Cuando estuvo embarazada de su último hijo, ¿quién y cuántas veces la revisó por el embarazo?	Médico.....1 Enfermera.....2 Promotora, auxiliar o asistente de salud.....3 Partera.....4 Otro personal .....5 Nadie.....6 No responde.....8	[ ] [ ] Persona Veces [ ] [ ] Persona Veces PASE A P. 9.14																								
<b>ANOTE HASTA DOS OPCIONES</b>																										
9.12 ¿Cuántos meses de embarazo tenía cuando la revisaron por primera vez?	No recuerda.....88	[ ] [ ] Meses																								
<b>Entrevistador : PREGUNTA 9.11 CÓDIGOS DE RESPUESTA 4 Y 5 PASE A LA PREGUNTA 9.14</b>																										
9.13 Durante el embarazo, cuando visitó al médico, enfermera o algún otro personal de salud, ¿Se le realizó algo de lo siguiente al menos una vez...	<table border="0"> <thead> <tr> <th></th> <th>Sí</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>la midieron y la pesaron?.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>le tomaron la presión arterial?.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>le mandaron vitaminas, hierro, ácido fólico o algún suplemento alimenticio?.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>la vacunaron contra el tétanos (toxide tetánico)?.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>le mandaron análisis (estudios de laboratorio de sangre, de orina, etc.)? .....</td> <td>1</td> <td>2</td> </tr> <tr> <td>le hicieron un ultrasonido?.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>le explicaron los síntomas que se presentan cuando hay complicaciones durante el embarazo?.....</td> <td>1</td> <td>2</td> </tr> </tbody> </table>		Sí	No	la midieron y la pesaron?.....	1	2	le tomaron la presión arterial?.....	1	2	le mandaron vitaminas, hierro, ácido fólico o algún suplemento alimenticio?.....	1	2	la vacunaron contra el tétanos (toxide tetánico)?.....	1	2	le mandaron análisis (estudios de laboratorio de sangre, de orina, etc.)? .....	1	2	le hicieron un ultrasonido?.....	1	2	le explicaron los síntomas que se presentan cuando hay complicaciones durante el embarazo?.....	1	2	[ ] [ ] [ ] [ ] [ ] [ ] [ ]
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9.14 ¿Quién la atendió de su último parto?	Médico.....1 Enfermera.....2 Promotora, auxiliar o asistente de salud.....3 Partera.....4 Otro personal .....5 Nadie.....6 No responde.....8	[ ] PASE AL FILTRO ANTES DE LA PREGUNTA 9.19																								

9.15 ¿En dónde la atendieron de su último parto?	IMSS OPORTUNIDADES .....01 IMSS .....02 Secretaría de Salud .....03 SEGURO POPULAR (SSA).....04 DIF, , CRUZ ROJA, INI .....05 ISSSTE, ISSSTE ESTATAL .....06 MARINA/DEFENSA, PEMEX .....07 PARTICULAR .....08 HOSPITAL CIVIL .....09 INSTITUTOS NACIONALES .....10 Casa de la partera.....11 Casa de la entrevistada.....12 Otro lugar.....13 OTRA INSTITUCIÓN .....77 NO SABE .....99	<input type="checkbox"/>																																							
9.16 ¿Usted eligió el lugar de atención?	Sí..... 1 No..... 2 No responde.....8	<input type="checkbox"/>																																							
9.17 ¿Tuvo alguna complicación al momento del parto?	Sí..... 1 No..... 2 No responde.....8	<input type="checkbox"/>																																							
9.18 ¿Su ultimo parto fue ...	<b>natural?</b> .....1 <b>cesárea por urgencias?</b> ..... 2 <b>cesárea programada?</b> .....3	<input type="checkbox"/>																																							
<p style="text-align: center;"> <b>ENTREVISTADOR: SOLO PARA HOMBRES Y MUJERES DE 20 A 49 AÑOS DE EDAD</b> → <b>CONTINÚE</b>  <b>HOMBRES Y MUJERES QUE TENGAN 50 AÑOS O MÁS</b> → <b>PASE A 10.1</b> </p>																																									
9.19 ¿Actualmente, ¿Usted o su pareja están haciendo algo para no tener hijos?	Sí .....1 No.....2 No tiene pareja actualmente.....3	<input type="checkbox"/> <div style="border: 1px solid black; padding: 2px; display: inline-block;">PASE A P. 10.1</div>																																							
9.20 ¿Qué están haciendo actualmente usted o su pareja para no tener hijos?	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="width: 5%; text-align: center;">Sí</th> <th style="width: 15%; text-align: center;">No</th> </tr> </thead> <tbody> <tr><td>Operación femenina o ligadura.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Operación masculina o vasectomía .....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Pastillas o píldoras.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Inyecciones.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Norplant.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Dispositivo, DIU.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Preservativo o condón.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Óvulos, jalea o espumas.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Ritmo, calendario, abstinencia periódica, termómetro, billings.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Retiro o coito interrumpido.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Pastilla de emergencia.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td>Otro.....</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> </tbody> </table>		Sí	No	Operación femenina o ligadura.....	1	2	Operación masculina o vasectomía .....	1	2	Pastillas o píldoras.....	1	2	Inyecciones.....	1	2	Norplant.....	1	2	Dispositivo, DIU.....	1	2	Preservativo o condón.....	1	2	Óvulos, jalea o espumas.....	1	2	Ritmo, calendario, abstinencia periódica, termómetro, billings.....	1	2	Retiro o coito interrumpido.....	1	2	Pastilla de emergencia.....	1	2	Otro.....	1	2	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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**10. PROGRAMAS PREVENTIVOS**

<p>10.1 ¿Durante los últimos 12 meses acudió al módulo de medicina preventiva para ...</p> <p>Si..... 1 No..... 2</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>PASE A LA SIGUIENTE PRUEBA DE DETECCIÓN</p> </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p><b>SI EL INFORMANTE ES HOMBRE INICIE EN EL INCISO C</b></p> </div>	<p>10.2 ¿En qué institución le dieron el servicio?</p> <p>IMSS OPORTUNIDADES..... 01 IMSS..... 02 Secretaría de Salud..... 03 SEGURO POPULAR (SSA) ... 04 DIF, CRUZ ROJA, INI ..... 05 ISSSTE, ISSSTE ESTATAL ... 06 MARINA/DEFENSA, PEMEX .. 07 PARTICULAR..... 08 HOSPITAL CIVIL ..... 09 INSTITUTOS NACIONALES ... 10 OTRA INSTITUCIÓN ..... 77 NO SABE..... 88</p>	<p>10.3 ¿Presentaba algún síntoma por el que le realizaron la prueba de detección?</p> <p>Si..... 1 No..... 2</p>	<p>10.4 ¿Le entregaron el resultado del estudio?</p> <p>Si..... 1 No..... 2</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>PASE A SIGUIENTE PRUEBA DE DETECCIÓN</p> </div>
<p><b>EL SIGUIENTE INCISOS ES SOLO PARA MUJERES Y ADEMAS REVISE LA RESPUESTA DEL INCISO B DE LA PREGUNTA 8.2 SI LA RESPUESTA ES SI (CÓDIGO 1) PASE AL SIGUIENTE PROGRAMA PREVENTIVO.</b></p>			
<p>a) Prueba de papanicolaou <input type="checkbox"/></p>	<p><input type="checkbox"/></p>	<p><input type="checkbox"/></p>	<p><input type="checkbox"/></p>
<p><b>EL SIGUIENTE INCISOS ES SOLO PARA MUJERES</b></p>			
<p>b) Detección de cáncer de mama (Mastografía) <input type="checkbox"/></p>	<p><input type="checkbox"/></p>	<p><input type="checkbox"/></p>	<p><input type="checkbox"/></p>
<p><b>INCISO PARA MUJERES Y HOMBRES</b></p>			
<p>c) Detección de tuberculosis (análisis de flema o esputo) <input type="checkbox"/></p>	<p><input type="checkbox"/></p>	<p><input type="checkbox"/></p>	<p><input type="checkbox"/></p>
<p><b>EL SIGUIENTE INCISO ES PARA HOMBRES Y MUJERES Y ADEMAS REVISE LA PREGUNTA 4.1, SI LA RESPUESTA ES SI (CÓDIGO 1) PASE AL SIGUIENTE PROGRAMA PREVENTIVO</b></p>			
<p>d) Detección de diabetes (prueba del azúcar) <input type="checkbox"/></p>	<p><input type="checkbox"/></p>	<p><input type="checkbox"/></p>	<p><input type="checkbox"/></p>
<p><b>EL SIGUIENTE INCISO ES PARA HOMBRES Y MUJERES Y ADEMAS REVISE LA PREGUNTA 5.1, SI LA RESPUESTA ES SI (CÓDIGO 1) PASE AL SIGUIENTE PROGRAMA PREVENTIVO</b></p>			
<p>e) Detección de hipertensión (toma de presión arterial) <input type="checkbox"/></p>	<p><input type="checkbox"/></p>	<p><input type="checkbox"/></p>	<p><input type="checkbox"/></p>
<p><b>EL SIGUIENTE INCISOS ES SOLO PARA HOMBRES Y ADEMÁS REVISE LA RESPUESTA DEL INCISO D DE LA PREGUNTA 8.2 SI LA RESPUESTA ES SI (CÓDIGO 1) PASE A LA PREGUNTA 10.8</b></p>			
<p>f) Detección de Cáncer de próstata (análisis de sangre para detectar antígenos prostáticos) <input type="checkbox"/></p>	<p><input type="checkbox"/></p>	<p><input type="checkbox"/></p>	<p><input type="checkbox"/></p>

<p style="text-align: center;"><b>SI EL INFORMANTE ES HOMBRE INICIE EN EL INCISO C</b></p>	<p>10.5 ¿Qué diagnóstico le dieron?</p> <p>Positivo..... 1          Negativo..... 2          No sabe..... 8          No responde..... 9</p> <p style="text-align: center;">PASE A SIGUIENTE PRUEBA DE DETECCIÓN</p>	<p>10.6 ¿Recibió tratamiento?</p> <p>Si..... 1          No..... 2</p> <p style="text-align: center;">PASE A SIGUIENTE PRUEBA DE DETECCIÓN</p>	<p>10.7 ¿Cuál es la causa por la que no recibió tratamiento?</p> <p>No hay donde atenderse..... 01          Es caro.....02          No tenía dinero..... 03          La unidad médica le queda lejos... 04          Falta de confianza..... 05          Tratan mal..... 06          No tuvo tiempo..... 07          Fue pero no lo atendieron..... 08          Otro..... 77          No Sabe..... 88          No Responde..... 99</p>
	<b>EL SIGUIENTE INCISOS ES SÓLO PARA MUJERES Y ADEMÁS REVISE LA RESPUESTA DEL INCISO B DE LA PREGUNTA 8.2 SI LA RESPUESTA ES SI (CÓDIGO 1) PASE AL SIGUIENTE PROGRAMA PREVENTIVO.</b>		
a) Prueba de papanicolaou	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>EL SIGUIENTE INCISOS ES SÓLO PARA MUJERES</b>			
b) Detección de cáncer de mama (Mastografía)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>INCISO PARA MUJERES Y HOMBRES</b>			
c) Detección de tuberculosis (Análisis de flema o esputo)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>EL SIGUIENTE INCISO ES PARA HOMBRES Y MUJERES Y ADEMÁS REVISE LA PREGUNTA 4.1, SI LA RESPUESTA ES SI (CÓDIGO 1) PASE AL SIGUIENTE PROGRAMA PREVENTIVO</b>			
d) Detección de diabetes (prueba del azúcar)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>EL SIGUIENTE INCISO ES PARA HOMBRES Y MUJERES Y ADEMÁS REVISE LA PREGUNTA 5.1, SI LA RESPUESTA ES SI (CÓDIGO 1) PASE AL SIGUIENTE PROGRAMA PREVENTIVO</b>			
e) Detección de hipertensión (toma de presión arterial)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>EL SIGUIENTE INCISOS ES SÓLO PARA HOMBRES Y ADEMÁS REVISE LA RESPUESTA DEL INCISO D DE LA PREGUNTA 8.2 SI LA RESPUESTA ES SI (CÓDIGO 1) PASE A LA PREGUNTA 10.8</b>			
f) Detección de Cáncer de próstata (análisis de sangre para detectar antígenos prostáticos)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<p>10.8 ¿Tiene su Cartilla Nacional de Salud y/o la Cartilla de PREVENIMSS?</p> <p style="text-align: center; border: 1px solid black; padding: 5px;"><b>SI NO LA MUESTRA O NO LA RECUERDA, PIDA AL ENTREVISTADO QUE LA IDENTIFIQUE DEL CATALOGO</b></p>	<p>Sí .....1          No la tiene.....2          La extravió.....3          No responde.....8          No sabe.....9</p>	<p style="text-align: center;"><b>Cartilla Nacional de Salud</b></p> <p style="text-align: center;">[ ]</p> <p style="text-align: center;"><b>PREVENIMSS</b></p> <p style="text-align: center;">[ ]</p>
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**11. ACCIDENTES**

<p>11.1 ¿Sufrió usted algún daño a su salud a causa de un accidente <i>en los últimos 12 meses</i>?</p>	<p>Sí..... 1          No..... 2          No responde ..... 8          No sabe ..... 9</p>	<p style="text-align: center;">[ ]</p> <p style="text-align: center;">→ <b>PASE A P. 12.1</b></p>
<p>11.2 ¿Cómo fue que se accidentó?</p> <p style="text-align: center; border: 1px solid black; padding: 5px;"><b>REVISE EL LISTADO DE EJEMPLOS PARA SELECCIONAR EL CÓDIGO</b></p>	<p>Choque de o entre vehículos de transporte.....01          Atropellamiento .....02          Otros accidentes de transporte .....03          Caída de un mismo nivel .....04          Exposición a fuerzas mecánicas inanimadas .....06          Caída de un nivel a otro .....05          Exposición a fuerzas mecánicas animada .....07          Exposición a corriente eléctrica, radiación, temperatura y presión atmosférica extremas .....08          Exposición al fuego, humo y llamas.....09          Contacto con calor y sustancias calientes.....10          Exposición a fuerzas de la naturaleza.....11          Contacto traumático con animales y plantas venenosos.....12          Envenenamiento accidental .....13          Ahogamiento y sumersión accidental .....14          Otros accidentes que obstruyen la respiración .....15          Exposición accidental a otros factores .....16          No responde .....88          No sabe .....99</p>	<p style="text-align: center;">[ ] [ ]</p>
<p>11.3 ¿Qué hizo o quién lo (la) atendió cuando ocurrió el accidente?</p>	<p>Nada o nadie.....01          Remedios caseros, automedicación.....02          Curandero(a) o yerbero(a).....03          Huesero(a) o sobador(a).....04          Encargado(a) de la comunidad.....05          Psicólogo, terapeuta.....06          Médico, consultorio.....07          Otro personal de salud.....08          Clínica, sanatorio u hospital.....09          Otro.....77          No responde.....88</p>	<p style="text-align: center;">[ ] [ ]</p>

## 12. AGRESIÓN O VIOLENCIA

<p>12.1 ¿Sufrió usted algún daño a su salud por robo, agresión o violencia en los últimos 12 meses?</p>	<p>Si.....1                  No.....2                  No responde .....8</p>	<p>[ ]                  PASE A                  P. 13.1</p>
<p>12.2 ¿Qué fue lo que le pasó?</p> <p><b>ANOTE OPCIÓN MÁS IMPORTANTE</b></p>	<p>Agresiones con sustancias.....01                  Sofocación, estrangulamiento, ahogamiento .....02                  Arma de fuego.....03                  Objetos cortantes .....04                  Empujón desde lugar elevado.....05                  Golpes, patadas, puñetazos..06                  Agresión sexual .....07                  Otras agresiones o maltrato.....08                  Otro .....77                  Especifique                  No responde .....88</p>	<p>[ ] [ ]</p>
<p>12.3 ¿Qué hiciste o quién te atendió cuando ocurrió la agresión o violencia?</p>	<p>Nada o nadie.....01                  Remedios caseros, automedicación.....02                  Curandero(a) o yerbero(a).....03                  Huesero (a) o sobador(a).....04                  Encargado(a) de la comunidad.....05                  Psicólogo, terapeuta.....06                  Médico, consultorio.....07                  Otro personal de salud .....08                  Clínica, sanatorio u hospital.....09                  Otro .....77                  No responde.....88</p>	<p>[ ] [ ]</p>

## 13. FACTORES DE RIESGO

<p>13.1 ¿Ha fumado usted por lo menos cien cigarrillos (5 cajetillas) de tabaco durante toda su vida?</p>	<p>Si.....1                  No.....2                  Nunca ha fumado.....3</p>	<p>[ ]                  PASE A                  P. 13.5</p>
<p>13.2 ¿Actualmente fuma?</p>	<p>Si.....1                  No.....2</p>	<p>[ ]</p>
<p>13.3 ¿Cuántos cigarrillos fuma (fumaba) y con qué frecuencia?</p>	<p>Diario.....1                  Semanal .....2                  Mensual .....3                  Ocasional.....4                  No responde .....8                  No sabe .....9</p>	<p>[ ]  <b>Frecuencia</b>                  [ ] [ ]  <b>Cantidad</b></p>
<p>13.4 ¿Durante cuánto tiempo ha fumado (fumó) regularmente?</p>	<p>Menos de un mes .....00                  No responde.....88                  No sabe .....99</p>	<p><b>Meses</b> [ ] [ ]  <b>Años</b> [ ] [ ]</p>

13.5 ¿Actualmente toma?	Nunca ha tomado .....0 Si .....1 No .....2	PASE A P. 14.1 [ ]
13.6 Aproximadamente, ¿cuántas copas toma (tomaba) y con que frecuencia?	Diario..... 1 Semanal ..... 2 Mensual ..... 3 Ocasional..... 4 No responde..... 8 No sabe ..... 9	[ ] <b>Frecuencia</b> [ ] <b>Cantidad</b>
13.7 ¿Durante cuánto tiempo ha bebido (o bebió) usted esa cantidad regularmente?	Menos de un mes ..... 00 No responde..... 88 No sabe..... 99	<b>Meses</b> [ ] [ ] <b>Años</b> [ ] [ ]
13.8 Considerando todo tipo de bebidas alcohólicas, ¿cuántas veces durante los últimos 30 días, tomó 5 copas o más en una ocasión?	Actualmente ya no toma .....98 No responde..... 88 No sabe..... 99	[ ] [ ] <b>No. de veces</b>

#### 14. MOVILIDAD, CUIDADO PERSONAL, ACTIVIDADES COTIDIANAS, DOLOR/MALESTAR, ANSIEDAD/DEPRESIÓN, SALUD VISUAL

Ahora le preguntare sobre su estado de salud del día de hoy

<b>Movilidad</b> 14.1 ¿Usted considera que <i>el día de hoy</i> ...	ha tenido algunos problemas para caminar?..... 1 tiene que estar en cama?..... 2 no tiene problemas para caminar?..... 3 No aplica..... 4 No responde..... 8	[ ]
<b>Cuidado Personal</b> 14.2 ¿Usted diría que <i>el día de hoy</i> ...	no tuvo problemas para lavarse o vestirse? ..... 1 ..... 2 tuvo algunos problemas para lavarse o vestirse?..... 3 no pudo lavarse o vestirse?..... 8 No responde.....	[ ]
<b>Actividades Cotidianas</b> Una actividad cotidiana puede ser: trabajar, estudiar, hacer tareas domésticas actividades familiares o recreativas 14.3 ¿Usted diría que <i>el día de hoy</i> ...	no tuvo problemas para realizar sus actividades cotidianas? ..... 1 tuvo algunos problemas para realizar sus actividades cotidianas? ..... 2 no pudo realizar sus actividades cotidianas? ..... 3 No responde..... 8	[ ]
<b>Dolor/Malestar</b> 14.4 ¿ <i>El día de hoy</i> a sentido ...	algún dolor o malestar moderado? ..... 1 ..... 2 mucho dolor o malestar?..... 3 No tiene ningún dolor ni malestar ..... 8 No responde.....	[ ]
<b>Ansiedad/Depresión</b> 14.5 ¿ <i>El día de hoy</i> se a sentido ...	moderadamente ansioso o deprimido? ..... 1 muy ansioso o deprimido? ..... 2 No esta ansioso ni deprimido..... 3 No responde..... 8	[ ]



<p>14.6 ¿Cuándo fue la última vez que sus ojos fueron examinados por un médico profesional?</p>	<p>Dentro de los últimos 12 meses ..... 1  De 1 a 2 años ..... 2  De 3 a 4 años ..... 3  Hace 5 años ..... 4  Hace más de 5 años ..... 5  Nunca ..... 6  No sabe ..... 9</p>	<p>[ ]</p>
<p>14.7 ¿Usa anteojos o lentes de contacto?</p>	<p>Si..... 1  No..... 2  No responde..... 8</p>	<p>[ ]</p> <p>PASE A P. 14.12</p>
<p>14.8 Con los anteojos o lentes de contactos puestos, ¿qué tanta dificultad ha tenido para ver y reconocer del otro lado de la calle a una persona conocida suya (por ejemplo a 20 metros de distancia)?</p>	<p>Ninguna..... 1  Poca..... 2  Regular ..... 3  Severa ..... 4  Extrema/ no puede hacerlo..... 5</p>	<p>[ ]</p>
<p>14.9 Con los anteojos o lentes de contactos puestos, ¿qué tanta dificultad ha tenido para ver y reconocer un objeto a un brazo de distancia o para leer?</p>	<p>Ninguna..... 1  Poca..... 2  Regular ..... 3  Severa ..... 4  Extrema/ no puede hacerlo..... 5</p>	<p>[ ]</p>
<p>14.10 Sin los anteojos o lentes de contacto puestos, ¿qué tanta dificultad ha tenido para ver y reconocer del otro lado de la calle a una persona conocida suya (por ejemplo a 20 metros de distancia)?</p>	<p>Ninguna..... 1  Poca..... 2  Regular ..... 3  Severa ..... 4  Extrema/ no puede hacerlo..... 5</p>	<p>[ ]</p>
<p>14.11 Sin los anteojos o lentes de contacto puestos, ¿qué tanta dificultad ha tenido para ver y reconocer un objeto a un brazo de distancia o para leer?</p>	<p>Ninguna..... 1  Poca..... 2  Regular ..... 3  Severa ..... 4  Extrema/ no puede hacerlo..... 5</p>	<p>[ ]</p> <p>PASE A P. 15.1</p>
<p>14.12 ¿Qué tanta dificultad ha tenido para ver y reconocer del otro lado de la calle a una persona conocida suya (por ejemplo a 20 metros de distancia)?</p>	<p>Ninguna..... 1  Poca..... 2  Regular ..... 3  Severa ..... 4  Extrema/ no puede hacerlo..... 5</p>	<p>[ ]</p>
<p>14.13 ¿Qué tanta dificultad ha tenido para ver y reconocer un objeto a un brazo de distancia o para leer?</p>	<p>Ninguna..... 1  Poca..... 2  Regular ..... 3  Severa ..... 4  Extrema/ no puede hacerlo..... 5</p>	<p>[ ]</p>

### 15. PERCEPCIÓN DEL ESTADO DE SALUD PARA PERSONAS DE 60 AÑOS O MÁS

A continuación le realizaré algunas preguntas sobre su salud.

<p>15.1 ¿Diría usted que su salud es...</p> <p style="text-align: center;"><b>LEA TODAS LAS OPCIONES DE RESPUESTA.</b></p>	<p>muy buena? ..... 1                      buena? ..... 2                      regular? ..... 3                      mala? ..... 4                      muy mala? ..... 5                      No sabe ..... 9</p>	<p style="text-align: center;">[ ]</p>																																																
<p>15.2 Comparando su <u>salud actual con los últimos 12 meses</u>, ¿diría usted que su salud ahora está...</p> <p style="text-align: center;"><b>LEA TODAS LAS OPCIONES DE RESPUESTA.</b></p>	<p>mucho mejor? ..... 1                      algo mejor? ..... 2                      más o menos igual? ..... 3                      algo peor? ..... 4                      mucho peor? ..... 5                      No sabe ..... 9</p>	<p style="text-align: center;">[ ]</p>																																																
<p>15.3 Durante los últimos 2 años, <u>¿ha tenido frecuentemente problemas o molestias como ...</u></p> <p style="text-align: center;"><b>LEA TODAS LAS OPCIONES Y ANOTE CADA RESPUESTA.</b></p>	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="width: 10%; text-align: center;">Si</th> <th style="width: 10%; text-align: center;">No</th> <th style="width: 10%; text-align: center;">No responde</th> </tr> </thead> <tbody> <tr> <td>dificultad para dormir? .....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> <tr> <td>dificultad en respirar cuando está acostado(a)? .....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> <tr> <td>fatiga severa o agotamiento?.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> <tr> <td>jadeo, tos seca o con flemas cuando camina o después de caminar? ...</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> <tr> <td>dolor o molestia al sentarse? .....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> <tr> <td>dificultad para morder masticar o deglutir?.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> <tr> <td>pérdida involuntaria de orina? ....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> <tr> <td>dolor, ardor o quemazón al orinar?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> <tr> <td>sangrado al orinar o ir al baño? ...</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> <tr> <td>dificultad para escuchar?.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> <tr> <td>dificultad para ver, leer o realizar cualquier actividad a causa de su vista?.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">8</td> </tr> </tbody> </table>		Si	No	No responde	dificultad para dormir? .....	1	2	8	dificultad en respirar cuando está acostado(a)? .....	1	2	8	fatiga severa o agotamiento?.....	1	2	8	jadeo, tos seca o con flemas cuando camina o después de caminar? ...	1	2	8	dolor o molestia al sentarse? .....	1	2	8	dificultad para morder masticar o deglutir?.....	1	2	8	pérdida involuntaria de orina? ....	1	2	8	dolor, ardor o quemazón al orinar?	1	2	8	sangrado al orinar o ir al baño? ...	1	2	8	dificultad para escuchar?.....	1	2	8	dificultad para ver, leer o realizar cualquier actividad a causa de su vista?.....	1	2	8	<p style="text-align: center;">[ ]</p> <p style="text-align: center;">[ ]</p> <p style="text-align: center;">[ ]</p> <p style="text-align: center;">[ ]</p> <p style="text-align: center;">[ ]</p> <p style="text-align: center;">[ ]</p> <p style="text-align: center;">[ ]</p> <p style="text-align: center;">[ ]</p> <p style="text-align: center;">[ ]</p> <p style="text-align: center;">[ ]</p> <p style="text-align: center;">[ ]</p> <p style="text-align: center;">[ ]</p>
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<p><b>Vacunación</b></p> <p>15.4 Durante el último año le han puesto la vacuna contra la gripe (INFLUENZA)?</p>	<p>Sí ..... 1                      No..... 2                      No responde ..... 8                      No sabe..... 9</p>	<p style="text-align: center;">[ ]</p>																																																



**SECRETARÍA DE SALUD**  
**ENCUESTA NACIONAL DE SALUD Y**  
**NUTRICIÓN 2005**  
**CUESTIONARIO HOGAR**



**IDENTIFICACIÓN GEOGRÁFICA**

Entidad Federativa

Municipio o Delegación

Localidad

Clave AGEB.....

Manzana .....

U.P.M .....

Ciudad .....

Estrato .....  1-Urbano 2-Rural

Nivel Socioeconómico.....  1-Bajo 2-Medio 3-Alto

**CONTROL DE CUESTIONARIO**

Núm. de cuestionario:

**CONTROL DE CUESTIONARIO**

Hogar.....  de   
 DE LA VIVIENDA

Cuestionario.....  de   
 DEL HOGAR

Número Progresivo  
 de Vivienda.....

**DIRECCIÓN DE LA VIVIENDA**

\_\_\_\_\_  
 (CALLE, AVENIDA, CALLEJÓN, CARRETERA, CAMINO, BOULEVARD, KM)

No. EXTERIOR  No. INTERIOR  (COLONIA, FRACCIONAMIENTO, BARRIO, UNIDAD HABITACIONAL)

CÓDIGO POSTAL

**RESULTADO DE LA VISITA**

NÚMERO DE VISITA	1ª.	2ª.	3ª.
NOMBRE Y CLAVE DEL ENTREVISTADOR	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
FECHA (dd mm aa)	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
HORA DE INICIO	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>
HORA DE TÉRMINO	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>
DURACIÓN	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>
RESULTADO (*)	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>

**(\*) CÓDIGO PARA EL RESULTADO DE LA VISITA**

- |                                     |  |  |
|-------------------------------------|--|--|
| 01 ENTREVISTA COMPLETA              | 05 AUSENCIA DE OCUPANTES AL VISITARLOS | 08 VIVIENDA DE USO TEMPORAL            |
| 02 ENTREVISTA INCOMPLETA            | 06 SE NEGÓ A DAR INFORMACIÓN           | 09 NO HABLE ESPAÑOL                    |
| 03 INFORMANTE INADECUADO            | 07 VIVIENDA DESHABITADA                | 10 NO ES VIVIENDA                      |
| 04 ENTREVISTA APLAZADA (HACER CITA) |  | 11 OTRO (ESPECIFICAR EN OBSERVACIONES) |

Nombre del supervisor \_\_\_\_\_ Nombre del codificador \_\_\_\_\_

**TIPO DE SUPERVISIÓN**

1. Reentrevista
2. Revisión de cuestionario
3. Acompañamiento
4. Otros \_\_\_\_\_

Fecha de supervisión:    |   |

Día Mes Año

Fecha de captura:    |   |

Día Mes Año

*Finalizar*

Buenos días (tardes) mi nombre es \_\_\_\_\_ y trabajo en la Encuesta Nacional de Salud y Nutrición del Instituto Nacional de Salud Pública de la Secretaría de Salud. Estamos visitando los hogares para platicar sobre su salud, educación, vivienda y algunos temas relacionados con estos aspectos. La información que nos proporcione será confidencial y solamente será utilizada para fines estadísticos, es decir, ningún resultado que se presente de este estudio hará referencia a personas en particular. La información que usted nos proporcione ayudará para mejorar los programas sociales, de educación y de salud.

### SECCIÓN 1. IDENTIFICACIÓN DE HOGARES

<p><b>1.1 NÚMERO DE PERSONAS QUE VIVEN EN LA VIVIENDA</b></p> <p>¿Cuántas personas normalmente viven en esta vivienda, contando a los niños pequeños y a los ancianos?</p> <p><b>INCLUYA TAMBIÉN A LOS EMPLEADOS DOMÉSTICOS QUE DUERMEN EN ESTA VIVIENDA</b></p>	<p>[ ][ ] Total de personas</p>	
<p><b>1.3 IDENTIFICACIÓN DE NÚMERO DE HOGARES</b></p> <p>Entonces, ¿cuántos hogares o grupos de personas tienen gasto separado para la comida, contando el de usted?</p>	<p>[ ] Número de hogares</p>	

**CUANDO EN LA VIVIENDA EXISTA MÁS DE UN HOGAR O GRUPO DE PERSONAS, APLIQUE UN CUESTIONARIO PARA CADA HOGAR**

## SECCIÓN 2. CARACTERÍSTICAS SOCIODEMOGRÁFICAS

PARA TODAS LAS PERSONAS					
NOMBRE		VERIFICACIÓN			RESPONSABLE DEL HOGAR
2.01 NÚMERO DE REGISTRO	2.02 Sin olvidar a los niños chiquitos, los ancianos y empleados domésticos que duermen aquí, por favor dígame el nombre completo de cada una de las personas que viven normalmente en este hogar, <u>empezando por el jefe de familia</u> y luego del mayor al menor.  <b>SI EN EL HOGAR EXISTEN MÁS DE 12 PERSONAS, UTILICE OTRO CUESTIONARIO Y CONTINUÉ CON LA LISTA</b>	2.03 Entonces actualmente, ¿son... [ ] [ ] integrantes?			2.05a Por favor dígame el nombre del o la responsable de este hogar  Nombre  [ ] [ ]  Número de registro del (la) responsable del hogar
		SEXO	EDAD		
		2.04 Sexo	2.05 ¿Cuántos años cumplidos tiene actualmente (NOMBRE)?		
		Hombre.....1 Mujer.....2	Menores de un año.....00 No responde...88 No sabe.....99		
	Nombre(s) (Apellidos Paterno Materno)	Hombre	Mujer	Años	SELECCIÓN
01		1	2	[ ] [ ]	<b>TRANSCRIBA EL NÚMERO DE REGISTRO DE LAS PERSONAS SELECCIONADAS PARA LOS CUESTIONARIOS INDIVIDUALES</b>  [ ] [ ] 00-09 años [ ] [ ] 10-19 años [ ] [ ] 20 y más años [ ] [ ] más de 60 años  [ ] [ ] utilizador de servicios de salud (después de la pregunta 6.14)  Número de registro de las personas seleccionadas
02		1	2	[ ] [ ]	
03		1	2	[ ] [ ]	
04		1	2	[ ] [ ]	
05		1	2	[ ] [ ]	
06		1	2	[ ] [ ]	
07		1	2	[ ] [ ]	
08		1	2	[ ] [ ]	
09		1	2	[ ] [ ]	
10		1	2	[ ] [ ]	
11		1	2	[ ] [ ]	
12		1	2	[ ] [ ]	

PARA TODAS LAS PERSONAS													
FECHA DE NACIMIENTO			PARENTESCO		CONDICIÓN DE RESIDENCIA		SEGURO MÉDICO			VERIFICACIÓN DE SEGURO MÉDICO			
N Ú M E R O  D E  R E G I S T R O	2.06 ¿En qué día, mes y año nació (NOMBRE)?			2.07 ¿Qué es (NOMBRE) del(la) jefe(a) del hogar?		2.07a ¿(NOMBRE)...		2.08 ¿Está (NOMBRE) afiliado o inscrito a algún seguro médico?			2.09 Actualmente, ¿por algún familiar o pariente (NOMBRE) recibe servicios médicos o alguna pensión en el...		
	NO SABE DÍA ..... 99 NO SABE MES ..... 99 NO SABE AÑO ..... 9999			Jefe(a).....01		LEA TODAS LAS OPCIONES		Si... ¿En qué institución o programa?			LEA TODAS LAS OPCIONES		
				Esposo(a) o compañero(a).....02 Hijo(a).....03 Padre o Madre.....04 Abuelo(a).....05 Hermano(a).....06 Cuñado(a).....07 Yerno(a).....08 Nieto(a).....09 Sobrino(a).....10 Primo(a).....11 Suegro(a).....12 Tio(a).....13 Hijo(a) adoptivo(a).....14 Padrastro o madrastra.....15 Hijastro(a) o entenado(a).....16 Bisnieto(a).....17 Abuelo político.....18 Otro parentesco.....19 Sirviente.....20 No sabe.....88 No responde.....99		vive en otro lugar, por que está estudiando, trabajando o por otras razones?.....1  vive temporalmente aquí por que no tiene otro lugar donde vivir?.....2  vive aquí, aunque por ahora está en otro lugar?.....3  vive normalmente aquí?.....4  No responde.....9		IMSS .....01 SEGURO POPULAR (SSA) .....02 ISSSTE ESTATAL .....03 ISSSTE .....04 MARINA/DEFENSA .....05 PEMEX .....06 PARTICULAR .....07  OTRA INSTITUCIÓN.....77 Especifique			IMSS? .....01 SEGURO POPULAR(SSA)?.....02 ISSSTE ESTATAL?.....03 ISSSTE?.....04 MARINA/DEFENSA? ..05 PEMEX?.....06 PARTICULAR?.....07  OTRA INSTITUCIÓN.....77 Especifique		
								OTRA INSTITUCIÓN.....77 Especifique			No .....11 No responde.....88 No sabe .....99		
								No .....11 No responde.....88 No sabe .....99			Filtro pregunta 2.08 códigos 11,88,99 pregunta 2.09 códigos 11,88,99 PASE A 2.11		
				AÑO	CÓDIGO	CÓDIGO	OPCIÓN 1	OPCIÓN 2	ESPECIFIQUE	OPCIÓN 1	OPCIÓN 2	OPCIÓN 3	
	01	[ ] [ ]	[ ] [ ]	[ ] [ ] [ ] [ ]	Jefe o Jefa [ 0 ] [ 1 ]	[ ]	[ ] [ ]	[ ] [ ]		[ ] [ ]	[ ] [ ]	[ ] [ ]	
	02	[ ] [ ]	[ ] [ ]	[ ] [ ] [ ] [ ]	[ ]	[ ]	[ ] [ ]	[ ] [ ]		[ ] [ ]	[ ] [ ]	[ ] [ ]	
	03	[ ] [ ]	[ ] [ ]	[ ] [ ] [ ] [ ]	[ ]	[ ]	[ ] [ ]	[ ] [ ]		[ ] [ ]	[ ] [ ]	[ ] [ ]	
	04	[ ] [ ]	[ ] [ ]	[ ] [ ] [ ] [ ]	[ ]	[ ]	[ ] [ ]	[ ] [ ]		[ ] [ ]	[ ] [ ]	[ ] [ ]	
	05	[ ] [ ]	[ ] [ ]	[ ] [ ] [ ] [ ]	[ ]	[ ]	[ ] [ ]	[ ] [ ]		[ ] [ ]	[ ] [ ]	[ ] [ ]	
	06	[ ] [ ]	[ ] [ ]	[ ] [ ] [ ] [ ]	[ ]	[ ]	[ ] [ ]	[ ] [ ]		[ ] [ ]	[ ] [ ]	[ ] [ ]	
07	[ ] [ ]	[ ] [ ]	[ ] [ ] [ ] [ ]	[ ]	[ ]	[ ] [ ]	[ ] [ ]		[ ] [ ]	[ ] [ ]	[ ] [ ]		
08	[ ] [ ]	[ ] [ ]	[ ] [ ] [ ] [ ]	[ ]	[ ]	[ ] [ ]	[ ] [ ]		[ ] [ ]	[ ] [ ]	[ ] [ ]		
09	[ ] [ ]	[ ] [ ]	[ ] [ ] [ ] [ ]	[ ]	[ ]	[ ] [ ]	[ ] [ ]		[ ] [ ]	[ ] [ ]	[ ] [ ]		
10	[ ] [ ]	[ ] [ ]	[ ] [ ] [ ] [ ]	[ ]	[ ]	[ ] [ ]	[ ] [ ]		[ ] [ ]	[ ] [ ]	[ ] [ ]		
11	[ ] [ ]	[ ] [ ]	[ ] [ ] [ ] [ ]	[ ]	[ ]	[ ] [ ]	[ ] [ ]		[ ] [ ]	[ ] [ ]	[ ] [ ]		
12	[ ] [ ]	[ ] [ ]	[ ] [ ] [ ] [ ]	[ ]	[ ]	[ ] [ ]	[ ] [ ]		[ ] [ ]	[ ] [ ]	[ ] [ ]		

PARA TODAS LAS PERSONAS							SÓLO PERSONAS DE 5 AÑOS CUMPLIDOS O MÁS	
	FUENTE DE ASEGURAMIENTO			ASUMIRSE INDÍGENA	LENGUA INDÍGENA		HABLA ESPAÑOL	ALFABETISMO
N Ú M E R O	2.10 ¿(NOMBRE) tiene seguro médico, (MENCIONE RESPUESTA DE 2.08) por...			2.11 ¿(NOMBRE) se considera indígena?  Sí .....1 No .....2  No responde ...8 No sabe.....9	2.12 ¿ Habla alguna lengua indígena (NOMBRE)?  Sí ... ¿Cuál?...  Náhuatl.....01 Maya .....02 Zapoteco.....03 Mixteco .....04 Tzotzil/tzetzal .....05 Otomí .....06 Totonaca .....07 Mazateco.....08 Chol.....09 Huasteco.....10 Chinanteco.....11 Mazahua.....12 Mixe.....13 Otro .....77		2.13 ¿(NOMBRE) también habla español?  Sí.....1 No.....2  No responde...8 No sabe.....9	2.14 ¿[NOMBRE] sabe leer y escribir un recado?  Sí.....1 No.....2  No responde....8 No sabe.....9
	D E	prestación laboral en el trabajo?... 1 algún familiar en el hogar? ..... 2 por muerte del asegurado? ..... 3 por ser estudiante? ..... 4 por contratación propia? ..... 5 algún familiar de otro hogar? ..... 6 se lo otorga gratuitamente El gobierno?.....7 No responde.....8 No sabe.....9			No .....14			
R E G I S T R O	LEA TODAS LAS OPCIONES			ANOTE HASTA DOS OPCIONES		PASE A 2.14		
	OPCIÓN 1	OPCIÓN 2	OPCIÓN 3	CÓDIGO	CÓDIGO 1	CÓDIGO 2	CÓDIGO	CÓDIGO
01	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
02	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
03	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
04	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
05	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
06	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
07	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
08	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
09	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
10	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
11	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
12	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

SÓLO PERSONAS DE 5 AÑOS CUMPLIDOS O MÁS				PERSONAS DE 12 AÑOS CUMPLIDOS O MÁS	
		ASISTENCIA	ESCOLARIDAD	ESTADO CONYUGAL	
N Ú M E R O  D E  R E G I S T R O	2.15a ¿Alguna vez (NOMBRE) ha ido a la escuela?  Sí..... 1  No.....2  No responde..9	2.15 ¿(NOMBRE) actualmente va a la escuela?  Sí.....1 No..... 2 No sabe .....9 No responde.....8	2.16 ¿Cuál es el último año y grado que (NOMBRE) pasó (aprobó) en la escuela?	2.17 ¿Actualmente (NOMBRE) ...  <b>LEA LAS OPCIONES HASTA OBTENER UNA RESPUESTA AFIRMATIVA</b>  vive con su pareja en unión libre?.....1 es casado(a)?.....2 es separado(a)?.....3 es divorciado(a)?.....4 es viudo(a)?.....5 es soltero(a)?.....6  No responde.....8 No sabe .....9	
			GRADO AÑO Ninguno..... 00..... 0 Preescolar o Kinder.... 01 Primaria.....02 Secundaria.....03 Secundaria técnica..... 04 Carrera técnica o comercial (después de secundaria)..... 05 Normal básica.....06 Preparatoria o vocacional.....07 Bachillerato técnico.....08 Carrera técnica o comercial (después de preparatoria).....09 Normal superior.....10 Licenciatura..... 11 Maestría.....12 Doctorado.....13  No responde..... 99 No sabe..... 88		
	CÓDIGO	CÓDIGO	AÑO	GRADO	CÓDIGO
01	[ ]	[ ]	[ ]	[ ]	[ ]
02	[ ]	[ ]	[ ]	[ ]	[ ]
03	[ ]	[ ]	[ ]	[ ]	[ ]
04	[ ]	[ ]	[ ]	[ ]	[ ]
05	[ ]	[ ]	[ ]	[ ]	[ ]
06	[ ]	[ ]	[ ]	[ ]	[ ]
07	[ ]	[ ]	[ ]	[ ]	[ ]
08	[ ]	[ ]	[ ]	[ ]	[ ]
09	[ ]	[ ]	[ ]	[ ]	[ ]
10	[ ]	[ ]	[ ]	[ ]	[ ]
11	[ ]	[ ]	[ ]	[ ]	[ ]
12	[ ]	[ ]	[ ]	[ ]	[ ]



**PERSONAS DE 12 AÑOS CUMPLIDOS O MÁS**

	CONDICIÓN DE ACTIVIDAD	VERIFICACIÓN DE ACTIVIDAD	INGRESO(S) POR TRABAJO(S)		
N Ú M E R O  D E  R E G I S T R O	<b>2.18 ¿La semana pasada (NOMBRE) ...</b>  <b>LEA LAS OPCIONES HASTA OBTENER UNA RESPUESTA AFIRMATIVA</b>  trabajó?..... 01 tenía trabajo, pero no trabajó?..... 02  buscó trabajo?..... 03 es estudiante?..... 04 se dedica a los quehaceres del hogar?.....05 es jubilado (a) o pensionado?.....06 está incapacitado (a) permanentemente para trabajar?... 07 no trabaja?..... 08 trabajó ayudando en el negocio, predio o rancho de la familia sin recibir pago?.....09  No responde.....88 No sabe.....99	<b>2.19 Además de (CONDICIÓN de 2.18) ¿la semana pasada (NOMBRE) ...</b>  <b>LEA LAS OPCIONES HASTA OBTENER UNA RESPUESTA AFIRMATIVA</b>  ayudó en un negocio familiar? ..... 1 vendió o ayudó a vender algún producto (ropa, alimentos)? ..... 2 hizo o ayudó a hacer algún producto para vender (comida, artesanías)?..... 3 ayudó trabajando en el campo o en la cría de animales?..... 4 a cambio de un pago realizó otro tipo de actividad (lavar, planchar, cuidar coches)?.....5 cuidó enfermos o discapacitados?.....6  no trabaja? ..... 7  <b>PASE A 2.22</b>	<b>2.20 En total, ¿cuánto gana o recibe (NOMBRE) por su(s) trabajo(s) o actividad(es)?</b>  <b>ANOTE LA CANTIDAD Y PREGUNTE</b>  ¿Cada cuándo recibe esa cantidad?  PERIODO Al mes..... 1 Cada 15 días ..... 2 A la semana ..... 3 Diario ..... 4 Otro..... 7  No recibe ingresos.....0 No responde.....8 No sabe.....9		
		CÓDIGO 2	CÓDIGO	CANTIDAD	PERIODO
	01	[ ][ ]	[ ]	[ ][ ][ ][ ]	[ ]
	02	[ ][ ]	[ ]	[ ][ ][ ][ ]	[ ]
	03	[ ][ ]	[ ]	[ ][ ][ ][ ]	[ ]
	04	[ ][ ]	[ ]	[ ][ ][ ][ ]	[ ]
	05	[ ][ ]	[ ]	[ ][ ][ ][ ]	[ ]
	06	[ ][ ]	[ ]	[ ][ ][ ][ ]	[ ]
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11	[ ][ ]	[ ]	[ ][ ][ ][ ]	[ ]	
12	[ ][ ]	[ ]	[ ][ ][ ][ ]	[ ]	

PERSONAS DE 12 AÑOS CUMPLIDOS O MÁS						PARA TODAS LAS PERSONAS	
N Ú M E R O  D E  R E G I S T R O	INGRESOS POR PRESTACIONES SOCIALES			OTROS INGRESOS			ESTADO DE SALUD
		2.21 <i>En el último año, ¿cuánto recibió en total (NOMBRE) por ...</i>  <b>LEA TODAS LAS OPCIONES</b>  aguinaldo? reparto de utilidades? ahorro para el retiro? fondo de ahorro para la vivienda? indemnización por suspensión de actividades? jubilaciones y/o pensiones? indemnización por accidente? por cobro de algún seguro de vida?  <b>SI RECIBE MÁS DE UN INGRESO, SÚMELOS</b>			2.22 En total, ¿cuánto dinero recibió (NOMBRE) <i>en el último mes</i> por ...  <b>LEA TODAS LAS OPCIONES</b>  indemnizaciones? regalos y donativos originados dentro del país? ingresos provenientes de otros países? renta (casas, terrenos, locales), intereses bancarios, préstamos a terceros? venta de algún bien? algún otro ingreso no mencionado anteriormente?  <b>SI RECIBIÓ MÁS DE UN INGRESO, SÚMELOS</b>		
	CÓDIGO	NO SABE	CANTIDAD	NO RECIBE	NO SABE	CANTIDAD	CÓDIGO
	01	[ ] 9	[ ] [ ] [ ] [ ] [ ] [ ]	0	9	[ ] [ ] [ ] [ ] [ ] [ ]	[ ]
	02	[ ] 9	[ ] [ ] [ ] [ ] [ ] [ ]	0	9	[ ] [ ] [ ] [ ] [ ] [ ]	[ ]
	03	[ ] 9	[ ] [ ] [ ] [ ] [ ] [ ]	0	9	[ ] [ ] [ ] [ ] [ ] [ ]	[ ]
	04	[ ] 9	[ ] [ ] [ ] [ ] [ ] [ ]	0	9	[ ] [ ] [ ] [ ] [ ] [ ]	[ ]
	05	[ ] 9	[ ] [ ] [ ] [ ] [ ] [ ]	0	9	[ ] [ ] [ ] [ ] [ ] [ ]	[ ]
	06	[ ] 9	[ ] [ ] [ ] [ ] [ ] [ ]	0	9	[ ] [ ] [ ] [ ] [ ] [ ]	[ ]
	07	[ ] 9	[ ] [ ] [ ] [ ] [ ] [ ]	0	9	[ ] [ ] [ ] [ ] [ ] [ ]	[ ]
	08	[ ] 9	[ ] [ ] [ ] [ ] [ ] [ ]	0	9	[ ] [ ] [ ] [ ] [ ] [ ]	[ ]
	09	[ ] 9	[ ] [ ] [ ] [ ] [ ] [ ]	0	9	[ ] [ ] [ ] [ ] [ ] [ ]	[ ]
	10	[ ] 9	[ ] [ ] [ ] [ ] [ ] [ ]	0	9	[ ] [ ] [ ] [ ] [ ] [ ]	[ ]
	11	[ ] 9	[ ] [ ] [ ] [ ] [ ] [ ]	0	9	[ ] [ ] [ ] [ ] [ ] [ ]	[ ]
	12	[ ] 9	[ ] [ ] [ ] [ ] [ ] [ ]	0	9	[ ] [ ] [ ] [ ] [ ] [ ]	[ ]

## SECCIÓN 4. CARACTERÍSTICAS DE LA VIVIENDA

<p><b>4.01 PROPIEDAD DE LA VIVIENDA</b></p> <p>¿Esta vivienda es ...</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p><b>LEA LAS OPCIONES HASTA OBTENER UNA RESPUESTA AFIRMATIVA</b></p> </div>	<p>propia y totalmente pagada? .....1  propia y la están pagando? .....2  rentada o alquilada?.....3  recibida como prestación?.....4  regalada o donada?.....5  prestada?.....6  No responde.....8  No sabe .....9</p>	<p style="text-align: center;">[ ]</p>
<p><b>4.02 PISO</b></p> <p>¿De qué material es la mayor parte del piso de esta vivienda?</p>	<p>Tierra .....1  Cemento o firme ..... 2  Mosaico, madera u otros recubrimientos .....3</p>	<p style="text-align: center;">[ ]</p>
<p><b>4.03 TECHO</b></p> <p>¿De qué material es la mayor parte del techo de esta vivienda?</p>	<p>Cartón, hule, tela, llantas .....01  Lámina de cartón.....02  Palma, tejamanil o madera.....03  Lámina metálica, fibra de vidrio, plástico o mica.....04  Lamina de asbesto.....05  Carrizo, bambú, o terrado.....06  Teja.....07  Losas de concreto o similar .....08  Tabique, Ladrillo o tabicón.....09  Block.....10</p>	<p style="text-align: center;">[ ] [ ] [ ]</p>
<p><b>4.4 PAREDES</b></p> <p>¿De qué material es la mayor parte de las paredes o muros de esta vivienda?</p>	<p>Cemento, ladrillo, piedra o madera.....1  Ladrillo de barro.....2  Paja y similares.....3  Lámina de plástico.....4  Hoja de metal.....5  Otro .....6  <p style="text-align: center;">Especifique</p></p>	<p style="text-align: center;">[ ]</p>
<p><b>4.05 CUARTOS DORMITORIO</b></p> <p>¿Cuántos cuartos se usan para dormir sin contar pasillos?</p>	<p style="text-align: center;">[ ] [ ] [ ]  <b>Cuartos dormitorio</b></p> <p>No responde.....98</p>	<p style="text-align: center;">[ ] [ ] [ ]</p>
<p><b>4.06 NÚMERO DE CUARTOS</b></p> <p>Sin contar el baño, la cocina y los pasillos, ¿cuántos cuartos tiene en total esta vivienda?</p>	<p style="text-align: center;">[ ] [ ] [ ]  <b>Total de cuartos</b></p> <p>No responde.....98</p>	<p style="text-align: center;">[ ] [ ] [ ]</p>
<p><b>4.07 LUGAR EN DONDE COCINA</b></p> <p>¿Dónde acostumbra <u>cocinar</u>?</p>	<p>En una habitación en la que se convive o se duerme.....1  En una habitación independiente utilizada como cocina.....2  En una construcción independiente utilizada como cocina.....3  Al aire libre.....4</p>	<p style="text-align: center;">[ ]</p>
<p><b>4.08 PRINCIPAL FUENTE DE AGUA</b></p> <p>¿Cuál es la <u>principal fuente de agua</u> para los miembros del hogar?</p>	<p>Agua entubada con una conexión en la casa o el jardín.....1  Caño vertical público.....2  Pozo protegido o agujero perforado en el suelo.....3  Pozo subterráneo protegido o fuente protegida.....4  Pozo subterráneo sin protección o fuente sin protección.....5  Agua de lluvia (en depósito o sistema).....6  Agua recogida directamente de una charca o arroyo.....7  Agua de pipa.....8</p>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p><b>PASE A 4.10</b></p> </div> <p style="text-align: center;">[ ]</p>

<b>4.09 AGUA ENTUBADA AL INTERIOR</b> ¿Llega el agua entubada al interior de la vivienda?	Sí.....1 No.....2	<input type="checkbox"/>
<b>4.10 TRATAMIENTO DE AGUA</b> ¿Qué tratamiento le hacen al agua que usan para beber? <div style="background-color: #cccccc; padding: 2px; display: inline-block;">CIRCULE HASTA DOS CÓDIGOS</div>	La usan tal y como la obtienen .....1 La hierven.....2 Le echan cloro .....3 Utilizan filtro.....4 Compran agua embotellada o en garrafones .....5 Le agregan plata coloidal .....6 Usan otro desinfectante .....7 No sabe.....8	<input type="checkbox"/>
<b>4.11 ¿Dispone de al menos 20 litros de agua por persona para beber, cocinar, higiene personal, etc.?</b>	Sí.....1 No.....2	<input type="checkbox"/>
<b>4.12 ¿Qué tipo de <u>sanitarios</u> tiene su hogar?</b>	Desagüe al sistema de alcantarillado.....1 Desagüe a fosa séptica.....2 Letrina con desagüe.....3 Letrina seca cubierta (con intimidad).....4 Letrina seca descubierta (sin intimidad).....5 Letrina de cubo (los excrementos se retiran manualmente).....6 No hay sanitarios (Defecan al aire libre).....7 Otro.....8 Especifique	<input type="checkbox"/> <div style="border: 1px solid black; padding: 2px; display: inline-block;">PASE A 4.14</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">PASE A 4.16</div>
<b>CONEXIÓN DE AGUA</b> <b>4.13 ¿Tiene su baño conexión de agua?</b>	Sí.....1 No.....2	<input type="checkbox"/> <div style="border: 1px solid black; padding: 2px; display: inline-block;">PASE A 4.15</div>
<b>4.14 ¿El (SERVICIO SANITARIO) es para uso exclusivo de los integrantes de este hogar?</b>	Sí.....1 No.....2	<input type="checkbox"/>
<b>4.15 DRENAJE</b> ¿Esta vivienda tiene drenaje ...	<b>Sí</b> Está conectado a la calle?.....1 Está conectado a una fosa séptica?.....2 Está conectado a un río, lago o barranca?.....3 <b>No</b> .....4	<input type="checkbox"/>
<b>4.16 ENERGÍA ELÉCTRICA</b> ¿Cuenta su vivienda con <u>electricidad</u> ?	Sí.....1 No.....2	<input type="checkbox"/>
<b>4.17 COMBUSTIBLE PARA COCINAR</b> ¿Qué tipo de <u>combustible</u> suelen utilizar para cocinar?	Gas.....01 Electricidad.....02 Queroseno.....03 Carbón.....04 Carbón vegetal.....05 Madera.....06 Residuos agrícolas o de cultivos.....07 Estiércol animal.....08 Matojos o hierba.....09 Otro.....10 Especifique	<input type="checkbox"/> <input type="checkbox"/>
<b>4.18 TIPO DE ESTUFA</b> ¿Qué tipo de estufa se utiliza en su casa para cocinar?	Fuego abierto u horno sin chimenea ni campana.....1 Fuego abierto u horno con chimenea o campana.....2 Horno cerrado con chimenea.....3 Estufa de gas.....4 Otro.....5 Especifique	<input type="checkbox"/>

<b>4.19 CALEFACCIÓN</b> Cuando hace frío ¿Utiliza algún sistema de calefacción?	Sí.....1 No.....2	<input type="checkbox"/>
<b>4.20 COMBUSTIBLE PARA LA CALEFACCIÓN</b> ¿Qué tipo de energía se acostumbra utilizar para la calefacción de su hogar?	Gas.....01 Electricidad.....02 Queroseno.....03 Carbón.....04 Carbón vegetal.....05 Madera.....06 Residuos agrícolas o de cultivos.....07 Estiércol animal.....08 Matojos o hierba.....09 Otro.....10 Especificar	<input type="checkbox"/>
<b>4.21 TIPO DE CALEFACCIÓN</b> ¿Qué tipo de calefacción se utiliza en su casa para calentarse?	Aparato de calefacción.....1 Calentón.....2 Brasero.....3 Resistencia.....4 Otro.....5 Especificar	<input type="checkbox"/>
<b>4.22 AIRE ACONDICIONADO</b> Cuando hace calor, ¿acostumbran utilizar aire acondicionado para bajar la temperatura en su hogar?	Sí.....1 No.....2	<input type="checkbox"/>
<b>4.23 TIPO DE COMBUSTIBLE</b> ¿El aire acondicionado funciona con ...	gas?.....1 electricidad?.....2	<input type="checkbox"/>
<b>4.24 ANIMALES DOMÉSTICOS</b> ¿En esta vivienda conviven con ...	aves (pericos, canarios, pichones)?.....1 perros?.....2 gatos?.....3	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

## SECCIÓN 5. ACTIVOS DEL HOGAR

Ahora quisiera hacerle algunas preguntas sobre los bienes que son propiedad de usted o de alguno de los miembros del hogar.

POSESIÓN DE ACTIVOS															
5.01 ¿Podría decirme si en este hogar cuentan con ...															
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 1px solid black; padding: 2px; background-color: #cccccc;">LEA TODAS LAS OPCIONES</div> <div style="text-align: right;"> <p>Sí..... 1</p> <p>No.....2</p> <p>No responde .....8</p> <p>No sabe .....9</p> </div> </div>															
ACTIVOS				Sí	No	NR	NS	ACTIVOS				Sí	No	NR	NS
BIENES DEL HOGAR															
01	casa propia ocupada por este hogar?	1	2	8	9		13	refrigerador?	1	2	8	9			
02	otra casa, construcción, inmueble o terreno?	1	2	8	9		14	estufa de gas?	1	2	8	9			
03	automóvil propio?	1	2	8	9		15	estufa de otro combustible o parrilla eléctrica?	1	2	8	9			
04	camioneta propia?	1	2	8	9		16	lavadora automática para ropa ?	1	2	8	9			
05	vehículos como: motocicletas, motonetas o bicicleta .	1	2	8	9		17	calentador de gas para agua (boiler)?	1	2	8	9			
06	otros vehículos como: lanchas, trajineras, canoas, etcétera	1	2	8	9		18	computadora?	1	2	8	9			
07	televisión blanco y negro?	1	2	8	9		19	horno de microondas?	1	2	8	9			
08	televisor a color?	1	2	8	9		20	teléfono?	1	2	8	9			
09	antena parabólica						21	otro bien que en el hogar considere importante? _____ Especifique	1	2	8	9			
10	radio?	1	2	8	9		22	Licuadora	1	2	8	9			
11	Modulares o consola?	1	2	8	9		23	Videocassetera	1	2	8	9			
12	otros aparatos electrónicos ( plancha o batidora, etc.)?	1	2	8	9		24	Ventilador o abanico eléctrico	1	2	8	9			
							25	Tractor	1	2	8	9			

## SECCIÓN 6. SITUACIÓN DE SALUD Y UTILIZACIÓN DE SERVICIOS DE SALUD

PARA TODAS LAS PERSONAS				
	MORBILIDAD	PROBLEMAS DE SALUD	PERCEPCIÓN DEL PROBLEMA	
N Ú M E R O  D E  R E G I S T R O	<p><b>6.01 <i>En las últimas dos semanas</i> ¿(NOMBRE) ha tenido algún problema de salud, por enfermedad, lesiones físicas por accidente o agresiones?</b></p> <p>Sí.....1</p> <p>No.....2</p> <p>No responde.....8</p> <p>No sabe.....9</p> <div style="text-align: center; margin-top: 10px;"> </div>	<p><b>6.02 ¿Podría decirme cuál fue el último problema de salud que tuvo (NOMBRE) <i>en las últimas dos semanas</i>?</b></p> <p>Infecciones respiratorias.....01</p> <p>Neumonía o Bronconeumonía.....02</p> <p>Enfermedad pulmonar obstructiva crónica (bronquitis crónica o enfisema).....03</p> <p>Cáncer o tumores malignos.....04</p> <p>Tos, catarro, dolor de garganta.....05</p> <p>Tuberculosis.....06</p> <p>Enfermedades del corazón.....07</p> <p>Fiebre reumática.....08</p> <p>Infección de oído.....09</p> <p>Conjuntivitis.....10</p> <p>Asma.....11</p> <p>Diarrea.....12</p> <p>Enfermedades renales.....13</p> <p>Infección de vías urinarias.....14</p> <p>Gastritis o úlcera gástrica.....15</p> <p>Colitis.....16</p> <p>Parasitosis intestinal.....17</p> <p>Obesidad.....18</p> <p>Dolor de cabeza o cefalea sin otra manifestación.....19</p> <p>Fiebre sin otra manifestación.....20</p> <p>Enfermedad exantemática (varicela, rubéola escarlatina).....21</p> <p>Hepatitis.....22</p> <p>Infección de transmisión sexual.....23</p> <p>VIH/SIDA.....24</p> <p>Diabetes.....25</p> <p>Hipertensión arterial.....26</p> <p>Embolia o derrame cerebral.....27</p> <p>Artritis.....28</p> <p>Alergias.....29</p> <p>Problemas de la piel.....30</p> <p>Enfermedad buco dental.....31</p> <p>Paludismo.....32</p> <p>Dengue.....33</p> <p>Intoxicación por veneno de alacrán, serpiente o araña.....34</p> <p>Alcoholismo.....35</p> <p>Tabaquismo.....36</p> <p>P padecimientos generados por consumo de drogas.....37</p> <p>Lesión física por accidente.....38</p> <p>Lesión física por agresión.....39</p> <p>Pérdida de la memoria.....40</p> <p>Estrés.....41</p> <p>Depresión.....42</p> <p>Susto, empacho, mal de ojo o aire.....43</p> <p>Otro problema.....77</p> <p style="text-align: center;">Especifique</p> <p>No responde.....88</p> <p>No sabe.....99</p>	<p><b>6.03 En el momento en que (NOMBRE) presentó ese problema de salud, ¿pensó usted que era ...</b></p> <p>muy leve?.....1</p> <p>leve?.....2</p> <p>moderado?.....3</p> <p>grave?.....4</p> <p>muy grave?.....5</p> <p>No responde.....8</p> <p>No sabe.....9</p>	
		CÓDIGO	CÓDIGO	ESPECIFIQUÉ
	01	[ ]	[ ]	[ ]
	02	[ ]	[ ]	[ ]
	03	[ ]	[ ]	[ ]
	04	[ ]	[ ]	[ ]
	05	[ ]	[ ]	[ ]
	06	[ ]	[ ]	[ ]
	07	[ ]	[ ]	[ ]
	08	[ ]	[ ]	[ ]
	09	[ ]	[ ]	[ ]
	10	[ ]	[ ]	[ ]
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12	[ ]	[ ]	[ ]	

PARA TODAS LAS PERSONAS

	TIPO DE RECURSOS HUMANOS	MOTIVO DE NO ATENCIÓN	INSTITUCIÓN DE ATENCIÓN
N Ú M E R O D E R E G I S T R O	<b>6.04 ¿Quién atendió a (NOMBRE) ?</b>	<b>6.05 ¿Por qué no se atendió (NOMBRE) con un médico, enfermera o algún otro personal de salud?</b>	<b>6.06 ¿En qué institución de salud se atendió (NOMBRE)?</b>
	Familiar.....01	No fue necesario.....01	IMSS OPORTUNIDADES.....01
	Amigo(a)/vecino(a).....02	No hay dónde atenderse.....02	IMSS.....02
	Farmacéutico.....03	Es caro.....03	SSA.....03
	Curandero.....04	No tenía dinero.....04	Seguro Popular (SSA).....04
	Partera.....05	Está muy lejos.....05	DIF.....05
	Yerbero.....06	Falta de confianza.....06	ISSSTE ESTATAL.....06
	Homeópata.....08	Tratan mal.....07	ISSSTE.....07
	Naturista.....09	No tuvo tiempo.....08	MARINA/DEFENSA.....08
	Acupunturista.....10	Fue pero no lo atendieron.....09	PEMEX.....09
	Encargado de la comunidad/promotor /auxiliar de salud.....07	Otro.....77	PARTICULAR.....10
	Médico.....11	Especifique	CRUZ ROJA.....11
Dentista.....12	No responde.....88	HOSPITAL CIVIL.....12	
Enfermera.....13	No sabe.....99	INSTITUTOS NACIONALES.....13	
Otro.....77		OTRA INSTITUCIÓN.....77	
Especifique		Especifique	
Nadie.....20		NO RESPONDE.....88	
No responde.....88		NO SABE.....99	
No sabe.....99			

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6.06

	CÓDIGO	ESPECIFIQUÉ	CÓDIGO	ESPECIFIQUÉ	CÓDIGO	ESPECIFIQUE
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12						



PARA TODAS LAS PERSONAS					
	TIPO DE DISCAPACIDAD			UTILIZADORES DE SERVICIOS DE SALUD AMBULATORIOS	
N Ú M E R O  D E  R E G I S T R O	6.07 ¿(NOMBRE) tiene limitación o dificultad permanente para ...			6.08 En las <u>últimas dos semanas</u> [USTED/NOMBRE] ¿buscó o recibió atención médica (ambulatoria), ya sea por prevención, enfermedad, lesión o accidente?	
	<p style="text-align: center;"><b>LEA TODAS LAS OPCIONES Y ESCRIBA LOS CÓDIGOS DE LAS RESPUESTAS AFIRMATIVAS</b></p>			<p style="text-align: center;"><b>NO INCLUYA HOSPITALIZACIÓN</b></p>	
		moverse, caminar o lo hace con ayuda?.....		.01	Sí.....1
		usar sus manos o brazos?.....		.02	No.....2
		es sordo(a) o usa un aparato para oír?.....		.03	No responde..... 8
		es mudo(a)?.....		.04	No sabe..... 9
		es ciego o sólo ve sombras?.....		.05	
		tiene algún retraso o deficiencia mental? .....		.06	
		tiene otra limitación?.....		.77	
		Entonces, no tiene limitación física o mental .....		.10	
		No responde.....		.88	
		No sabe .....		.99	
	<p style="text-align: center;"><b>REGISTRE HASTA 3 OPCIONES</b></p>				
	OPCIÓN 1	OPCIÓN 2	OPCIÓN 3	CÓDIGO	
	01	[ ] [ ]	[ ] [ ]	[ ]	
	02	[ ] [ ]	[ ] [ ]	[ ]	
	03	[ ] [ ]	[ ] [ ]	[ ]	
	04	[ ] [ ]	[ ] [ ]	[ ]	
	05	[ ] [ ]	[ ] [ ]	[ ]	
	06	[ ] [ ]	[ ] [ ]	[ ]	
	07	[ ] [ ]	[ ] [ ]	[ ]	
	08	[ ] [ ]	[ ] [ ]	[ ]	
	09	[ ] [ ]	[ ] [ ]	[ ]	
	10	[ ] [ ]	[ ] [ ]	[ ]	
	11	[ ] [ ]	[ ] [ ]	[ ]	
	12	[ ] [ ]	[ ] [ ]	[ ]	

**PARA TODAS LAS PERSONAS**

ENFERMEDADES CRÓNICAS				DONADORES DE SANGRE
N Ú M E R O  D E R E G I S T R O	<p><b>6.09 Además del problema de salud que comentó, ¿durante el último año algún médico le diagnosticó a usted o alguna persona del hogar ...</b></p> <p align="center"><b>LEA TODAS LAS OPCIONES</b></p> <p>Cuando la respuesta sea <b>Sí</b> pregunte ¿A quién?</p> <p align="center"><b>TRANSCRIBA EL CÓDIGO DE LA RESPUESTA EN EL RENGLÓN QUE CORRESPONDE PARA CADA UNA DE LAS PERSONAS</b></p>			<p><b>6.10 Durante el último año ¿Ha donado sangre?</b></p> <p>Si...</p> <p align="center"><b>¿Por que motivo?</b></p> <p>Participación en una campaña.....1 Para apoyar a algún familiar que la requirió por estar enfermo.....2 Para obtener recursos económicos.....3 Otro.....7</p> <p align="center">Especifique</p> <p>No.....4</p> <p>No responde .....8 No sabe.....9</p>
	asma?.....01			
	tuberculosis?.....02			
	presión alta (hipertensión)?.....03			
	diabetes (azúcar alta en la sangre)?.....04			
	artritis?.....05			
	artrosis?.....06			
	enfermedad del corazón.....07			
	fiebre reumática?.....08			
	enfermedad renal?.....09			
	derrame cerebral (sangrado cerebral)?.....10			
	depresión o ansiedad?.....11			
	gastritis o úlcera gástrica?.....12			
	colitis?.....13			
	tumores, cáncer?.....14			
SIDA?.....15				
Otra enfermedad con duración mayor a 3 meses.....77				
Especifique				
No .....20				
No responde.....88				
No sabe.....99				
	<b>OPCIÓN 1</b>	<b>OPCIÓN 2</b>	<b>OPCIÓN 3</b>	<b>CÓDIGO</b>
01	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
02	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
03	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
04	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
05	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
06	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
07	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
08	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
09	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
10	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
11	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
12	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]

PARA TODAS LAS PERSONAS		PARA TODOS LOS HOSPITALIZADOS EN EL ÚLTIMO AÑO				
HOSPITALIZACIONES EN EL ÚLTIMO AÑO		MOTIVO DE LA ÚLTIMA HOSPITALIZACIÓN		INSTITUCIÓN	NÚMERO DE HOSPITALIZACIONES	
N Ú M E R O  D E  R E G I S T R O	<p><b>6.11 Durante este último año, ¿alguna persona de este hogar estuvo hospitalizado o internado?</b></p> <p>Sí.....1</p> <p>¿Quién?</p> <p>No.....2</p> <p>No responde...8</p> <p>No sabe.....9</p> <p><b>PASE A 7.01</b></p>	<p>Ahora le preguntaré por la última vez que estuvo hospitalizado (USTED/NOMBRE),</p> <p><b>6.12 ¿Por qué motivo fue hospitalizado (NOMBRE)?</b></p> <p>Cirugía.....01</p> <p>Enfermedad.....02</p> <p>Lesiones físicas por accidente.....03</p> <p>Lesiones físicas por agresiones.....04</p> <p>Parto.....05</p> <p>Cesárea.....06</p> <p>Problemas por el embarazo y puerperio.....07</p> <p>Examen/chequeo.....08</p> <p>Otro.....77</p> <p>    Especifique</p> <p>No responde.....88</p> <p>No sabe.....99</p>		<p><b>6.13 El hospital donde estuvo internado (NOMBRE), ¿a qué institución pertenece?</b></p> <p>IMSS OPORTUNIDADES.....01</p> <p>IMSS.....02</p> <p>SSA.....03</p> <p>SEGURO POPULAR (SSA).....04</p> <p>DIF.....05</p> <p>ISSSTE ESTATAL.....06</p> <p>ISSSTE.....07</p> <p>MARINA/DEFENSA.....18</p> <p>PEMEX.....09</p> <p>PARTICULAR.....10</p> <p>CRUZ ROJA.....11</p> <p>HOSPITAL CIVIL.....12</p> <p>INSTITUTOS NACIONALES.....13</p> <p>OTRA INSTITUCIÓN.....77</p> <p>No responde.....88</p> <p>No sabe.....99</p>	<p><b>6.14 En total, ¿cuántas veces estuvo hospitalizado (NOMBRE) en el último año?</b></p> <p>7 y más.....07</p> <p>No responde.....88</p> <p>No sabe.....99</p>	
		<b>CÓDIGO</b>	<b>CÓDIGO</b>	<b>ESPECIFIQUE</b>	<b>CÓDIGO</b>	<b>VECES</b>
	01	[ ]	[ ]		[ ]	[ ]
	02	[ ]	[ ]		[ ]	[ ]
	03	[ ]	[ ]		[ ]	[ ]
	04	[ ]	[ ]		[ ]	[ ]
	05	[ ]	[ ]		[ ]	[ ]
	06	[ ]	[ ]		[ ]	[ ]
	07	[ ]	[ ]		[ ]	[ ]
	08	[ ]	[ ]		[ ]	[ ]
	09	[ ]	[ ]		[ ]	[ ]
	10	[ ]	[ ]		[ ]	[ ]
11	[ ]	[ ]		[ ]	[ ]	
12	[ ]	[ ]		[ ]	[ ]	

PARA TODOS LOS HOSPITALIZADOS EN EL ÚLTIMO AÑO					
NÚMERO DE REGISTRO	DÍAS DE HOSPITALIZACIÓN	TRANSFUSIONES	SATISFACCIÓN POR ATENCIÓN	MOTIVO DE LA INSATISFACCIÓN	
		<b>6.15 En total, ¿cuántos días estuvo (lleva) internado (NOMBRE) en el último año?</b>  No responde...888 No sabe.....999	<b>6.16 La última vez que estuvo hospitalizado (a) (USTED/NOMBRE) requirió de alguna transfusión de sangre?</b>  Si... <b>¿Cómo la consiguió?...</b>  Por donación de un familiar.....1 La proporcionó la unidad médica.....2 La compró con algún donante.....3 Otra.....7 Especifique  No.....4  No responde.....8 No sabe.....9	<b>6.17 Si [USTED/NOMBRE] tuvieron la oportunidad de escoger ¿regresaría a ese mismo lugar para la hospitalización?</b>  Si.....1 <div style="border: 1px solid black; padding: 2px; display: inline-block;">PASE A 6.19</div>  No.....2  No responde...8 No sabe.....9	<b>6.18 ¿Por qué no regresaría?</b>  Lo trataron mal.....01 No estuvo de acuerdo con el diagnóstico .....02 No estuvo de acuerdo con el tratamiento.....03 No mejoró.....04 Era caro el servicio.....05 Estaba lejos de su casa.....06 No había medicamentos.....07 No había materiales.....08 No dejaron entrar a sus familiares.....09  Otro .....77 Especifique  No responde .....88 No sabe.....99
	NÚMERO DE DÍAS	CÓDIGO	CÓDIGO	CÓDIGO	ESPECIFIQUÉ
	01 [ ][ ][ ][ ]	[ ]	[ ]	[ ][ ]	
	02 [ ][ ][ ][ ]	[ ]	[ ]	[ ][ ]	
	03 [ ][ ][ ][ ]	[ ]	[ ]	[ ][ ]	
	04 [ ][ ][ ][ ]	[ ]	[ ]	[ ][ ]	
	05 [ ][ ][ ][ ]	[ ]	[ ]	[ ][ ]	
	06 [ ][ ][ ][ ]	[ ]	[ ]	[ ][ ]	
	07 [ ][ ][ ][ ]	[ ]	[ ]	[ ][ ]	
	08 [ ][ ][ ][ ]	[ ]	[ ]	[ ][ ]	
	09 [ ][ ][ ][ ]	[ ]	[ ]	[ ][ ]	
	10 [ ][ ][ ][ ]	[ ]	[ ]	[ ][ ]	
	11 [ ][ ][ ][ ]	[ ]	[ ]	[ ][ ]	
	12 [ ][ ][ ][ ]	[ ]	[ ]	[ ][ ]	

**PARA TODOS LOS HOSPITALIZADOS EN EL ÚLTIMO AÑO**

	CALIDAD DE LA ATENCIÓN	MOTIVOS BUENA CALIDAD	MOTIVOS MALA CALIDAD	
N Ú M E R O  D E  R E G I S T R O	<b>6.19 ¿En general la calidad de la atención que recibió fue...</b>  muy buena?..... 1  buena?..... 2  regular?..... 3  mala?..... 4  muy mala?..... 5   No responde..... 8 No sabe..... 9	<b>6.20 ¿Por qué le pareció (MUY BUENA O BUENA) la atención que recibió?</b>  Es barato.....01 El personal está bien preparado.....02 El personal tiene experiencia.....03 Lo trataron bien.....04 Medicamento, material y equipo es suficiente/limpio o de buena calidad.....05 La operación o tratamiento estuvo bien.....06 Buenos resultados en su salud/ se curó/Se mejoró.....07  Otro..... 77 Especifique  No responde.....88 No sabe.....99	<b>6.21 ¿Por qué le pareció (REGULAR, MALA O MUY MALA) la atención que recibió?</b>  Es caro el servicio.....01 El personal no tiene experiencia.....02 Lo trataron mal.....03 El material/medicinas o equipo es insuficiente o de mala calidad.....04 La operación o tratamiento fue malo.....05 Malos resultados en su salud/no se curó/no mejoró/ no se alivió.....06 No lo atendieron como esperaba.....07 Otro..... 77 Especifique  No responde.....88 No sabe.....99	
		P A S E A  6.21		
		P A S E A  7.01	P A S E A  7.01	P A S E A  7.01
			ANOTE HASTA DOS OPCIONES	ANOTE HASTA DOS OPCIONES

	CÓDIGO	OPCIÓN 1	OPCIÓN 2	ESPECIFIQUE	OPCIÓN 1	OPCIÓN 2	ESPECIFIQUE
01	[ ]	[ ]	[ ]		[ ]	[ ]	
02	[ ]	[ ]	[ ]		[ ]	[ ]	
03	[ ]	[ ]	[ ]		[ ]	[ ]	
04	[ ]	[ ]	[ ]		[ ]	[ ]	
05	[ ]	[ ]	[ ]		[ ]	[ ]	
06	[ ]	[ ]	[ ]		[ ]	[ ]	
07	[ ]	[ ]	[ ]		[ ]	[ ]	
08	[ ]	[ ]	[ ]		[ ]	[ ]	
09	[ ]	[ ]	[ ]		[ ]	[ ]	
10	[ ]	[ ]	[ ]		[ ]	[ ]	
11	[ ]	[ ]	[ ]		[ ]	[ ]	
12	[ ]	[ ]	[ ]		[ ]	[ ]	





7.30 en viajes (transporte aéreo y terrestre, alojamiento, comida, viajes al extranjero, etcétera?)	Monto ..... [ ] [ ] [ ] [ ] [ ] [ ] No sabe ..... 88888 No responde ..... 99999	[ ] [ ] [ ] [ ] [ ] [ ]
7.31 en compra de vehículos, como automóviles, camionetas, motocicletas, bicicletas, etcétera?	Monto ..... [ ] [ ] [ ] [ ] [ ] [ ] No sabe ..... 88888 No responde ..... 99999	[ ] [ ] [ ] [ ] [ ] [ ]
7.32 en otros gastos no mencionados?	Monto ..... [ ] [ ] [ ] [ ] [ ] [ ] No sabe ..... 88888 No responde ..... 99999	[ ] [ ] [ ] [ ] [ ] [ ]
<b>En los últimos 12 meses, ¿cuál de los siguientes recursos financieros utilizó el hogar para pagar los gastos en salud?</b>		
7.33 ¿Utilizó ingresos de los miembros del hogar para pagar los gastos en salud del hogar?	Si ..... 1 No ..... 2 No sabe ..... 8 No responde ..... 9	[ ] [ ] [ ] [ ] [ ] [ ] PASE A 7.35
7.34 ¿Qué cantidad de ingreso utilizó para pagar los gastos de salud de los últimos 12 meses?	Monto ..... [ ] [ ] [ ] [ ] [ ] [ ] No sabe ..... 88888 No responde ..... 99999	[ ] [ ] [ ] [ ] [ ] [ ]
7.35 ¿Utilizó ahorros (por ejemplo una cuenta bancaria) para pagar los gastos en salud del hogar?	Si ..... 1 No ..... 2 No sabe ..... 8 No responde ..... 9	[ ] [ ] [ ] [ ] [ ] [ ] PASE A 7.37
7.36 ¿Qué cantidad de ahorros utilizó para pagar los gastos de salud de los últimos 12 meses?	Monto ..... [ ] [ ] [ ] [ ] [ ] [ ] No sabe ..... 88888 No responde ..... 99999	[ ] [ ] [ ] [ ] [ ] [ ]
7.37 ¿Vendió objetos (por ejemplo muebles, animales, joyas, etc.) para pagar los gastos en salud del hogar?	Si ..... 1 No ..... 2 No sabe ..... 8 No responde ..... 9	[ ] [ ] [ ] [ ] [ ] [ ] PASE A 7.39
7.38 ¿Cuánto dinero obtuvo de la venta de objetos para pagar los gastos de salud de los últimos 12 meses?	Monto ..... [ ] [ ] [ ] [ ] [ ] [ ] No sabe ..... 88888 No responde ..... 99999	[ ] [ ] [ ] [ ] [ ] [ ]
7.39 ¿Utilizó préstamos o envíos de familiares, amigos u otras personas fuera del hogar para pagar los gastos en salud del hogar?	Si ..... 1 No ..... 2 No sabe ..... 8 No responde ..... 9	[ ] [ ] [ ] [ ] [ ] [ ] PASE A 7.41
7.40 ¿Cuánto pidió prestado para pagar los gastos de salud de los últimos 12 meses?	Monto ..... [ ] [ ] [ ] [ ] [ ] [ ] No sabe ..... 88888 No responde ..... 99999	[ ] [ ] [ ] [ ] [ ] [ ]
7.41 ¿Utilizó otras fuentes que no le haya mencionado?	Si ..... 1 No ..... 2 No sabe ..... 8 No responde ..... 9	[ ] [ ] [ ] [ ] [ ] [ ] PASE A 7.44
7.42 ¿Usted o alguno de sus familiares ha dejado de percibir ingresos durante un periodo de enfermedad?	Si ..... 1 No ..... 2 No sabe ..... 8 No responde ..... 9	[ ] [ ] [ ] [ ] [ ] [ ]
7.43 ¿A que cantidad de dinero ha tenido que renunciar debido a esta enfermedad?	Monto ..... [ ] [ ] [ ] [ ] [ ] [ ] No sabe ..... 88888 No responde ..... 99999	[ ] [ ] [ ] [ ] [ ] [ ]
7.44 ¿Algún profesional de salud de una institución pública (doctor, enfermera, dentista, especialista, alguien de la farmacia, etc.) le ha pedido a usted o a algún miembro de su familia un pago informal (diferente a la cuota de recuperación) en los últimos 12 meses?	Si ..... 1 No ..... 2 No sabe ..... 8 No responde ..... 9	[ ] [ ] [ ] [ ] [ ] [ ]



## SECCIÓN 8. DIFUSIÓN, ACEPTACIÓN Y UTILIZACIÓN DEL SEGURO POPULAR

Ahora le realizaré algunas preguntas sobre el Seguro Popular

**FILTRO:** Entrevistador conteste el siguiente filtro v siga las indicaciones

Alguna persona del hogar está actualmente inscrita al Seguro Popular de Salud? (verifique en pregunta 2.08 )	
CIRCULE EL CÓDIGO CORRESPONDIENTE	Si pregunta 2.08 <u>igual</u> a código 02 → Pase a 8.2
	Si pregunta 2.08 es <u>diferente</u> a código 02 → Continúe

8.01 ¿Ha escuchado hablar del Seguro Popular?	Sí ..... 1 No ..... 2	PASE A 8.3 [ ]
8.02 ¿Cómo se enteró del Seguro Popular?	Radio .....01 Televisión .....02 Periódico .....03 Folletos, carteles, etc. ....04 Le informó un personal de salud en una unidad médica.....05 Le informó un familiar, una amistad, un vecino.....06 Reuniones de información en su localidad (Comunitaria, Procampo, Oportunidades, Ejidal).....07 Vocearon .....08 Fue informado en su hogar a través de las brigadas de salud.....09 Otro .....77	[ ] [ ]
8.03 ¿Alguna de las personas que componen su hogar ha estado inscrita en el Seguro Popular de Salud?	Sí ..... 1 No ..... 2	PASE A 8.30 [ ]
8.04 ¿En qué fecha se inscribieron al Seguro Popular?	[ ] [ ] Mes [ ] [ ] [ ] [ ] Año No sabe .....99 ..... 9999	[ ] [ ] [ ] [ ] [ ] [ ]

### SOLO HOGARES ACTUALMENTE INSCRITOS O ALGUNA VEZ INSCRITOS AL SEGURO POPULAR

Ahora le preguntare sobre el tipo de información que le proporcionaron cuando se inscribió al Seguro Popular.

	Si No No sabe	
8.05 ¿Le entregaron su ...	contrato de inscripción?..... 1 2 9 carta de derechos y obligaciones?..... 1 2 9 catálogo de beneficios médicos?.. 1 2 9	[ ] [ ] [ ]
8.06 En su opinión, ¿la información que recibió al inscribirse al Seguro Popular le permite conocer sus derechos y obligaciones como afiliados al programa?	Sí ..... 1 No..... 2	[ ]
8.07 ¿Solicitó información sobre los derechos y obligaciones que adquirió al incorporarse al Seguro Popular?	Sí ..... 1 No..... 2	[ ]

8.08 Cuando se inscribió al Seguro Popular ¿le dijeron que podría solicitar citas por anticipado?	Sí ..... 1 No ..... 2	<input type="checkbox"/>
8.09 En la unidad médica a donde asiste (asistía) a solicitar atención por parte del Seguro Popular ¿puede (podía) solicitar citas con anticipación?	Sí ..... 1 No ..... 2	<input type="checkbox"/>
8.10 Cuando se inscribió al Seguro Popular ¿le dijeron que podría elegir al médico de su preferencia?	Sí ..... 1 No ..... 2	<input type="checkbox"/>
8.11 En la unidad médica en donde se atienden ¿pueden elegir al médico de su preferencia?	Sí ..... 1 No ..... 2	<input type="checkbox"/>
8.12 En el tiempo que lleva (estuvo) inscrito al Seguro Popular, ¿alguna persona de su hogar necesitó atención médica en días u horarios en que el Centro de Salud no da servicio?	Sí ..... 1 No ..... 2	<input type="checkbox"/> <b>PASE A 8.14</b>
8.13 La última vez que ocurrió esto, ¿qué hizo para resolver sus necesidades de atención?	Recurrió a un consultorio / hospital privado .....01 Pospusó su atención para cuando el Centro de Salud estuviera abierto.....02 Se trasladó a un hospital del Seguro Popular.....03 Fue al área de urgencias de otra unidad médica de la Secretaría de Salud .....04 Compró medicamentos(se autorecetó).....05 Acudió con un curandero .....06 Fue con un médico tradicional.....07 Se tomó un remedio casero .....08 No hizo nada, se curó solo .....09 No hizo nada, todavía esta enfermo..... 10 Otro ..... 77	<input type="checkbox"/>

Ahora le realizare algunas preguntas sobre la atención que han solicitado las personas que en su hogar están (estuvieron) inscritas al Seguro Popular

8.14 Durante el tiempo que han estado (estuvieron) inscritos al Seguro Popular, ¿alguna de las personas de su hogar solicitó atención médica?	Sí ..... 1 No ..... 2	<input type="checkbox"/> <b>PASE A 8.18</b>																								
8.15 La atención que solicitaron durante el tiempo que han estado (estuvieron) inscritos al Seguro Popular ¿fue ...	<table border="0"> <tr> <td></td> <td style="text-align: center;">Si</td> <td style="text-align: center;">No</td> <td></td> </tr> <tr> <td>en el servicio de medicina preventiva? ....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td><input type="checkbox"/></td> </tr> <tr> <td>en el área de consulta externa en un centro de salud? .....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td><input type="checkbox"/></td> </tr> <tr> <td>en consulta externa en un hospital? .....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td><input type="checkbox"/></td> </tr> <tr> <td>en hospitalización? .....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td><input type="checkbox"/></td> </tr> <tr> <td>en el área de urgencias? .....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td><input type="checkbox"/></td> </tr> </table>		Si	No		en el servicio de medicina preventiva? ....	1	2	<input type="checkbox"/>	en el área de consulta externa en un centro de salud? .....	1	2	<input type="checkbox"/>	en consulta externa en un hospital? .....	1	2	<input type="checkbox"/>	en hospitalización? .....	1	2	<input type="checkbox"/>	en el área de urgencias? .....	1	2	<input type="checkbox"/>	
	Si	No																								
en el servicio de medicina preventiva? ....	1	2	<input type="checkbox"/>																							
en el área de consulta externa en un centro de salud? .....	1	2	<input type="checkbox"/>																							
en consulta externa en un hospital? .....	1	2	<input type="checkbox"/>																							
en hospitalización? .....	1	2	<input type="checkbox"/>																							
en el área de urgencias? .....	1	2	<input type="checkbox"/>																							
8.15a En la última ocasión que alguna persona de su hogar solicitó atención médica por parte del Seguro Popular, ¿le recetaron medicamentos?	Sí..... 1 No..... 2	<input type="checkbox"/> <b>PASE A 8.15e</b>																								

<p><b>8.15b ¿Le dieron todos los medicamentos en el lugar donde lo atendieron?</b></p>	<p>Todos..... 1</p> <p>Casi todos ..... 2</p> <p>Algunos ..... 3</p> <p>Muy pocos ..... 4</p> <p>Ninguno ..... 5</p>	<p><b>PASE A 8.15e</b></p> <p>[ ]</p>
<p><b>8.15c ¿Por qué motivo no le dieron los medicamentos que le recetaron?</b></p>	<p>Los medicamentos no están incluidos en el Seguro Popular..... 01</p> <p>El medicamento no se maneja en la institución ..... 02</p> <p>No había en la farmacia del lugar en donde lo atendieron..... 03</p> <p>Se los van a dar en otra farmacia de la misma institución..... 04</p> <p>La atención no incluye los medicamentos..... 05</p> <p>El médico le dijo que los comprara..... 06</p> <p>No los solicitó..... 07</p> <p>Otro ..... 77</p> <p>Especifique</p>	<p>[ ] [ ]</p>
<p><b>8.15d ¿Qué hizo para conseguir los medicamentos?</b></p>	<p>Regresó otro día por los medicamentos..... 1</p> <p>Tuvo que ir a otro lugar (farmacia) de la misma institución para que se los dieran ..... 2</p> <p>Los compró..... 3</p> <p>Se los regaló un amigo o familiar..... 4</p> <p>No consiguió los medicamentos..... 5</p> <p>No le dieron los medicamentos..... 6</p> <p>Otro ..... 7</p>	<p>[ ]</p>
<p><b>8.15e ¿La última atención que solicitaron fue ...</b></p> <p><b>LEA LAS OPCIONES HASTA OBTENER UNA RESPUESTA AFIRMATIVA</b></p>	<p><b>en el área de medicina preventiva?</b>..... 1</p> <p><b>en el área de consulta externa en un centro de salud?</b> ..... 2</p> <p><b>en consulta externa en un hospital?</b> ..... 3</p> <p><b>en hospitalización?</b> ..... 4</p> <p><b>en el área de urgencias?</b> ..... 5</p>	<p>[ ]</p>
<p><b>8.16 La última vez que usted o alguien de su hogar solicitó atención por parte del Seguro Popular y no la obtuvo ¿cuál fue el motivo principal?</b></p>	<p>Le dijeron que el seguro no cubría la enfermedad que tenía .....01</p> <p>Le solicitaron un pase de referencia y no lo pudo conseguir .....02</p> <p>En el lugar a donde lo enviaron no atendían a las personas que tienen Seguro Popular .....03</p> <p>La unidad médica estaba cerrada.....04</p> <p>No alcanzó ficha/había mucha gente .....05</p> <p>Le dijeron que su problema no era urgente...06</p> <p>Le dijeron que tenía que pagar por la atención y los medicamentos .....07</p> <p>En la unidad médica no tenían el equipo necesario para atender su padecimiento .....08</p> <p>La unidad a donde la mandaron estaba muy lejos .....09</p> <p>No había servicio en el horario en que lo necesitaba.....10</p> <p>Los trámites eran muy tardados .....11</p> <p>El tiempo para pasar a consulta era muy largo .....12</p> <p>El tiempo para ser hospitalizado era muy largo .....13</p> <p>Otro ..... 77</p>	<p><b>CONTINÚE</b></p> <p>[ ] [ ]</p> <p><b>PASE A 8.18</b></p>

8.17 ¿Me puede decir el nombre de la enfermedad que le dijeron que no podían atender porque no está cubierta por el programa?	<p style="text-align: center;">ESCRIBA TEXTUALMENTE</p> No sabe .....99	[ ]
8.18 Estando inscrito al Seguro Popular, ¿usted o alguien de su hogar necesitó atención con un médico especialista?	Sí ..... 1 No ..... 2	<b>PASE A 8.22</b> [ ]
8.19 ¿Solicitó la atención que necesitaba en alguna clínica u hospital del Seguro Popular?	Sí ..... 1 No ..... 2	[ ]
8.20 ¿Obtuvo la atención que solicitó con el médico especialista?	Sí ..... 1 No ..... 2	<b>PASE A 8.22</b> [ ]
8.21 ¿Pagaron por la atención con el especialista?	Sí ..... 1 No ..... 2	[ ]
8.22 ¿Cuánto pagaron por el Seguro Popular?	[ ] [ ] [ ] [ ] [ ] No paga .....0000	<b>PASE A 8.24</b>
8.23 ¿Cada cuándo paga (pagaron) esa cantidad?	Mensual ..... 1 Cada 2 meses ..... 2 Cada 3 meses ..... 3 Cada 6 meses ..... 4 Cada año ..... 5	<b>PASE A 8.25</b>
8.24 ¿Cuál es la razón por la que no paga (pagaron) por el Seguro Popular?	Lo paga el gobierno ..... 1 Lo cubre el programa OPORTUNIDADES ..... 2 Lo cubre el programa PROCAMPO ..... 3 Lo cubre el programa REPECOS ..... 4 Sólo le dijeron que no iba a pagar ..... 5 Lo paga un familiar externo al hogar ..... 6 Otro ..... 7	<b>PASE A FILTRO ANTES DE 8.27</b>
8.25 ¿El costo del Seguro Popular le parece (pareció) ...	<b>muy caro?</b> ..... 1 <b>caro?</b> ..... 2 <b>está bien?</b> ..... 3 <b>barato?</b> ..... 4 <b>muy barato?</b> ..... 5	<b>PASE A 8.27</b>
8.26 ¿Me puede mencionar la razón por la que le pareció caro el Seguro Popular?	De acuerdo a sus posibilidades es elevado el costo .. 1 No le han dado los medicamentos ..... 2 Los medicamentos no sirven ..... 3 Ha tenido que comprar medicamentos ..... 4 Tardan mucho en atender ..... 5 No está abierto cuando se necesita ..... 6 El personal no tiene experiencia ..... 8 Tratan mal, el personal es grosero ..... 9 Otro ..... 7	[ ]

FILTRO: ENTREVISTADOR CONTESTE EL SIGUIENTE FILTRO Y SIGA LAS INDICACIONES

Señale la situación actual del hogar con respecto al Seguro Popular (Pregunta 2.08, código 03)		
Actualmente afiliado al Seguro Popular .....	1	Continúe
No afiliado al Seguro Popular, pero con antecedente de afiliación .....	2	Pase a 8.28

<b>8.27 ¿Piensa volver a inscribirse al Seguro Popular cuando termine su periodo de cobertura?</b>	Sí ..... 1 → No ..... 2	<b>PASE A 8.29</b> <input type="text"/>
<b>8.28 ¿Porqué motivos?</b>  <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <b>ESCUCHE Y ANOTE HASTA DOS OPCIONES</b> </div>	No le dieron los medicamentos ..... 01 El Seguro no cubre las enfermedades que presentan algunas personas en su hogar ..... 02 Le han negado la atención ..... 03 Le cobraron los medicamentos ..... 04 Tuvo que pagar por análisis y estudios de laboratorio..... 05 Las clínicas no están bien equipadas..... 06 Tardan mucho en programar la atención hospitalaria ..... 07 Le hacen esperar mucho para pasar a consulta ..... 08 No le gustó como lo trataron ..... 09 Considera que los médicos que trabajan ahí son malos...10 Las clínicas/hospitales están sucios .....11 Los centros de salud se encuentran lejos de su hogar.....12 No hay servicio en el horario que lo necesitan.....13 Porque no se enferma, no lo utiliza ..... 14 → Ya no lo necesita, sólo lo contrató porque alguien de su familia necesitaba atención (cirugía, enfermedad, parto, etc) ..... 15 No le informaron bien sobre los servicios que ofrece el Seguro Popular ..... 16 Cobran mucho ..... 17 No le alcanza el dinero ..... 18 El gobierno lo estaba pagando y ya lo dejo de pagar..... 19 No ha tenido tiempo de renovar su inscripción ..... 20 Se le pasó el periodo de inscripciones ..... 21 Ahora ya tiene IMSS, ISSSTE, etc..... 22 En su trabajo le dijeron que le van a dar IMSS, ISSSTE, etc. .... 23 Otro ..... 77	<input type="text"/> <input type="text"/>  <b>PASE A 8.32</b>
<b>8.29 ¿Me puede decir el principal motivo por el que se volverá a inscribir al Seguro Popular?</b>	Lo atienden bien .....01 No tiene que pagar al momento por la atención .....02 Ahora gastan menos por atender su salud .....03 Le dan los medicamentos .....04 El personal está bien preparado .....05 Las clínicas/hospitales están bien equipados .....06 Puede atender emergencias .....07 Una mujer del hogar está embarazada.....08 → Alguien en el hogar está enfermo o necesita una cirugía .....09 Es buena opción para preveer gastos en salud .....10 La unidad médica está cerca de su casa .....11 Lo atienden rápido .....12 Porque no cuentan con otro tipo de seguro médico .....13 Otro ..... 77	<input type="text"/> <input type="text"/>  <b>PASE A 8.32</b>

**SÓLO HOGARES NUNCA INSCRITOS AL SEGURO POPULAR**

<b>8.30 ¿Le han ofrecido inscribirse al Seguro Popular?</b>	Sí ..... 1 No..... 2 →	<input type="text"/> <b>PASE A 8.32</b>
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8.31 ¿Cuáles fueron las razones por las que no se inscribió al Seguro Popular?	Es derechohabiente (IMSS, ISSSTE, etc)..... 01	
	No le gusta el trato que se da en las unidades médicas de la Secretaría de Salud ..... 02	
	Considera que los médicos que trabajan ahí son malos..... 03	[ ] [ ]
	Las clínicas no están bien equipadas y no dan servicio en el horario que lo necesita..... 04	
	Los centros de salud se encuentran lejos de su hogar ..... 05	[ ] [ ]
	Piensa que no le van a cumplir lo que le ofrecieron o le platicaron que no le conviene..... 06	
	Cobran mucho, no le alcanza el dinero ..... 07	
	No le dieron suficiente información ..... 08	
	Está en trámite/ le faltan documentos..... 09	
	Otra ..... 77	

**PARA TODOS LOS HOGARES**

8.32 Si los servicios de atención médica fueran gratuitos, ¿en que institución preferiría atenderse?	IMSS .....01	
	SSA.....02	
	SEGURO POPULAR (SSA) .....03	
	ISSSTE ESTATAL.....04	
	ISSSTE .....05	[ ] [ ]
	MARINA/DEFENSA.....06	
	PEMEX .....07	
	PARTICULAR .....08	
	OTRA INSTITUCIÓN ..... 77	
	Especifique	
No responde.....88		
No sabe.....99		
8.33 De acuerdo a la calidad de atención que actualmente otorgan, ¿cómo calificaría a las siguientes instituciones?  <div style="border: 1px solid black; padding: 5px; background-color: #cccccc; width: fit-content;"> MUESTRE LA TARJETA Y SOLICITE AL ENTREVISTADO QUE ORDENE EN FORMA DESCENDENTE LAS INSTITUCIONES, ANOTE 08 PARA LA QUE CONSIDERE EL ENTREVISTADO COMO LA MEJOR Y 01 PARA LA QUE CONSIDERE DE MENOR CALIFICACIÓN </div>	IMSS .....01	[ ] [ ] [ ]
	IMSS Oportunidades.....02	[ ] [ ] [ ]
	ISSSTE ESTATAL.....03	[ ] [ ] [ ]
	ISSSTE .....04	[ ] [ ] [ ]
	SSA.....05	[ ] [ ] [ ]
	SEGURO POPULAR (SSA) .....06	[ ] [ ] [ ]
	PEMEX .....07	[ ] [ ] [ ]
	MARINA/DEFENSA.....08	[ ] [ ] [ ]
	No responde.....88	
	No sabe.....99	
8.34 De acuerdo a su opinión ¿quién es el responsable de la creación del Seguro Popular?	Cámara de Diputados/Senadores .....1	<div style="border: 1px solid black; padding: 10px; background-color: #cccccc; width: fit-content;"> <b>FIN DE LA ENTREVISTA</b> </div>
	El Presidente de la República.....2	
	Gobernador estatal .....3	
	Secretario de Salud Nacional (federal).....4	
	Secretario de Salud Estatal.....5	
	No responde.....8	
No sabe.....9		



INSTITUTO NACIONAL DE SALUD PÚBLICA  
ENCUESTA NACIONAL DESALUD Y NUTRICIÓN 2005  
DIETA-FRECUENCIA DE CONSUMO- ADULTO (> 12 AÑOS)

En los últimos 7 días...

LEA TODOS LOS ALIMENTOS		FRECUENCIA DE CONSUMO								Tamaño de Porción (*)	Número de Porciones		
		DÍAS DE LA SEMANA					VECES AL DÍA						
		a) ¿Cuántos días comió (tomó) usted?					b) ¿Cuántas veces al día comió (tomó)...?						
ALIMENTO	PORCIÓN	Nunca	1	2-4	5-6	7	1	2-3	4-5	6			
		(01)	(02)	(03)	(04)	(05)	(06)	(07)	(08)	(09)			
<b>1. PRODUCTOS LÁCTEOS</b>													
1.1	Leche Liconsá	1 vaso (240 ml)	01	02	03	04	05	06	07	08	09	□□□	□□□
1.2	Otra Leche (especifique la marca)											□□□	□□□
	a _____	1 vaso (240 ml)	01	02	03	04	05	06	07	08	09	□□□	□□□
	b _____	1 vaso (240 ml)	01	02	03	04	05	06	07	08	09	□□□	□□□
	c _____	1 vaso (240 ml)	01	02	03	04	05	06	07	08	09	□□□	□□□
1.3	Leche preparada de sabor (chocolate u otro sabor)	1 vaso (240 ml)	01	02	03	04	05	06	07	08	09	□□□	□□□
1.4	Agregado a la leche												
	a) Azúcar	1 cucharada cafetera copeteada (10g)	01	02	03	04	05	06	07	08	09		□□□
	b) Chocolate u otro saborizante	1 cucharada cafetera copeteada (10g)	01	02	03	04	05	06	07	08	09		□□□
1.5	Queso	1 rebanada (40 g)	01	02	03	04	05	06	07	08	09		□□□
1.6	Yogurt	1 vaso típico de yogurt (150g)	01	02	03	04	05	06	07	08	09		□□□
1.7	Danonino o similar	1 envase (45g)	01	02	03	04	05	06	07	08	09		□□□
1.8	Yakult o similares	1 envase (80ml)	01	02	03	04	05	06	07	08	09		□□□
<b>2. FRUTAS</b>													
2.1	Plátano	1 pieza mediana (176g)	01	02	03	04	05	06	07	08	09	□□□	□□□
2.2	Plátano frito	½ pieza mediana (113g)	01	02	03	04	05	06	07	08	09	□□□	□□□
2.3	Jicama	½ pieza mediana (163g)	01	02	03	04	05	06	07	08	09	□□□	□□□
2.4	Naranja o mandarina	1 pieza grande(206g)	01	02	03	04	05	06	07	08	09	□□□	□□□
2.5	Manzana o pera	1 pieza mediana (140g)	01	02	03	04	05	06	07	08	09	□□□	□□□
2.6	Melón o sandía	1 rebanada ó 3/4 taza (115g)	01	02	03	04	05	06	07	08	09	□□□	□□□
2.7	Guayaba	1 pieza mediana(75g)	01	02	03	04	05	06	07	08	09	□□□	□□□
2.8	Mango	1 pieza mediana (185g)	01	02	03	04	05	06	07	08	09	□□□	□□□
2.9	Papaya	1 rebanada (100g) ó ½ taza	01	02	03	04	05	06	07	08	09	□□□	□□□
2.10	Piña	1 rebanada mediana (150 g)	01	02	03	04	05	06	07	08	09	□□□	□□□
2.11	Toronja	1 pieza chica (270 g)	01	02	03	04	05	06	07	08	09	□□□	□□□
2.12	Fresa	1 taza (140 g)	01	02	03	04	05	06	07	08	09		□□□
2.13	Otra fruta	1 pieza mediana	01	02	03	04	05	06	07	08	09	□□□	□□□
<b>3. VERDURAS</b>													
3.1	Tortitas de verduras capeadas	1 pieza (72g)	01	02	03	04	05	06	07	08	09		□□□
3.2	Jitomate	½ pieza chica (30g) en ensalada	01	02	03	04	05	06	07	08	09	□□□	□□□

(\*) TAMAÑO DE PORCIÓN:

LECHE, CARNES, BEBIDAS: Muy chico (MC); Chico (C); Mediano (M); Grande (G); Muy Grande (MG); Estándar (E).  
FRUTAS, VERDURAS, COMIDA R: Chico (C); Mediano (M); Grande (G); Estándar (E).

LEA TODOS LOS ALIMENTOS			FRECUENCIA DE CONSUMO												Tamaño de Porción (*)	Número de Porciones
			DÍAS DE LA SEMANA a) ¿Cuántos días comió (tomó) usted?					VECES AL DÍA b) ¿Cuántas veces al día comió (tomó)...?								
			Nunca	1	2-4	5-6	7	1	2-3	4-5	6					
ALIMENTO	PORCIÓN	(01)	(02)	(03)	(04)	(05)	(06)	(07)	(08)	(09)						
3.3	Hojas Verdes (acelgas, espinacas, quelites)	½ plato (85g) cocidas o 1 plato crudas	01	02	03	04	05	06	07	08	09		□.□.□			
3.4	Chayote	¼ pieza chica (50g) ó 1/3 taza	01	02	03	04	05	06	07	08	09	□□□	□.□.□			
3.5	Zanahoria	1 pieza mediana ó ½ taza (80g)	01	02	03	04	05	06	07	08	09	□□□	□.□.□			
3.6	Calabacita	½ pieza mediana (50g)	01	02	03	04	05	06	07	08	09	□□□	□.□.□			
3.7	Brócoli o coliflor	¼ taza (35g)	01	02	03	04	05	06	07	08	09		□.□.□			
3.8	Col	¼ taza (35 g)	01	02	03	04	05	06	07	08	09		□.□.□			
3.9	Ejotes	¼ taza ó 5 pieza (30g)	01	02	03	04	05	06	07	08	09		□.□.□			
3.10	Elote	½ pieza chica (50g)	01	02	03	04	05	06	07	08	09	□□□	□.□.□			
3.11	Lechuga	½ taza o 1 hoja (30g)	01	02	03	04	05	06	07	08	09		□.□.□			
3.12	Nopales	1 pieza grande (100g) ó 1 taza	01	02	03	04	05	06	07	08	09	□□□	□.□.□			
3.13	Pepino	1/2 pieza grande (150g)	01	02	03	04	05	06	07	08	09	□□□	□.□.□			
3.14	Aguacate	1 rebanada ó 1 pieza de criollo chico (33 g)	01	02	03	04	05	06	07	08	09	□□□	□.□.□			
3.15	Otra verdura	1 pieza o 1 taza	01	02	03	04	05	06	07	08	09	□□□	□.□.□			
<b>4. COMIDA RÁPIDA HECHA EN CASA</b>																
4.1	Torta o sándwich	1 pieza mediana (130g)	01	02	03	04	05	06	07	08	09	□□□	□.□.□			
4.2	Hamburguesa	1 pieza mediana(240g)	01	02	03	04	05	06	07	08	09	□□□	□.□.□			
4.3	Pizza	1 rebanada chica(92g)	01	02	03	04	05	06	07	08	09	□□□	□.□.□			
4.4	Hot dog	1 pieza mediana (110g)	01	02	03	04	05	06	07	08	09	□□□	□.□.□			
<b>5. CARNES, EMBUTIDOS Y HUEVO</b>																
5.1	Carne de puerco	1 bistec mediano (90g)	01	02	03	04	05	06	07	08	09	□□□	□.□.□			
5.2	Carne de res	1 bistec mediano (90g)	01	02	03	04	05	06	07	08	09	□□□	□.□.□			
5.3	Carne de res seca (machaca)	1 plato	01	02	03	04	05	06	07	08	09		□.□.□			
5.4	Longaniza o chorizo	½ trozo (30g)	01	02	03	04	05	06	07	08	09		□.□.□			
5.5	Salchicha de puerco, pavo o combinado, jamón de puerco o pavo o mortadela (a parte de en torta, sándwich o hot dog)	1 pieza de salchicha ó 1 reb. de jamón (30g)	01	02	03	04	05	06	07	08	09		□.□.□			
5.6	Pollo	a) 1 pieza (pierna, muslo) ó ½ pieza de pechuga chica (90g)	01	02	03	04	05	06	07	08	09	□□□	□.□.□			
		b) 1pieza de ala, 2 piezas de patas (70g)	01	02	03	04	05	06	07	08	09	□□□	□.□.□			
		c) 1 pieza de higadito o molleja (30g)	01	02	03	04	05	06	07	08	09	□□□	□.□.□			
5.7	Huevo	a) 1 pieza entera de huevo tibio o cocido (62g)	01	02	03	04	05	06	07	08	09		□.□.□			
		b) 1 pieza entera de huevo frito, estrellado o revuelto (55g)	01	02	03	04	05	06	07	08	09		□.□.□			
<b>6. PESCADOS Y MARISCOS</b>																
6.1	Pescado fresco	1 filete mediano o mojarra chica (90 g)	01	02	03	04	05	06	07	08	09	□□□	□.□.□			
6.2	Pescado seco	1plato	01	02	03	04	05	06	07	08	09		□.□.□			
6.3	Atún y sardina	¼ lata ó 40g	01	02	03	04	05	06	07	08	09		□.□.□			

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LEA TODOS LOS ALIMENTOS			FRECUENCIA DE CONSUMO											
			DÍAS DE LA SEMANA a) ¿Cuántos días comió (tomó) usted?					VECES AL DÍA b) ¿Cuántas veces al día comió (tomó)...?				Tamaño de Porción (*)	Número de Porciones	
ALIMENTO	PORCIÓN	Nunca	1	2-4	5-6	7	1	2-3	4-5	6				
		(01)	(02)	(03)	(04)	(05)	(06)	(07)	(08)	(09)				
6.4	Algún marisco (camarón, ostiones, etc.)	1 plato (100g)	01	02	03	04	05	06	07	08	09			
<b>7. LEGUMINOSAS</b>														
7.1	Frijoles	a) 1 plato ó 1 taza de la olla (100g) b) 1 plato ó 1 taza refritos (100g)	01	02	03	04	05	06	07	08	09			
7.2	Lenteja, garbanzo, haba amarilla o alubia	1 plato ó 1 taza (100g)	01	02	03	04	05	06	07	08	09			
<b>8. CEREALES Y TUBÉRCULOS</b>														
8.1	Arroz	1 taza ó 1 plato (100g)	01	02	03	04	05	06	07	08	09			
8.2	Pan blanco	2 rebanadas ó 1 bolillo (70g)	01	02	03	04	05	06	07	08	09			
8.3	Pan integral	2 rebanadas ó 1 bolillo (70g)	01	02	03	04	05	06	07	08	09			
8.4	Pan dulce (excepto donas y churros)	1 pieza (70g)	01	02	03	04	05	06	07	08	09			
8.5	Donas y churros de panadería	1 pieza (70 g)	01	02	03	04	05	06	07	08	09			
8.6	Galletas Saladas	4 piezas (20g)	01	02	03	04	05	06	07	08	09			
8.7	Papas	a) ½ pieza mediana cocida (40g) b) ½ pieza mediana frita o tortita de papa (40g)	01	02	03	04	05	06	07	08	09			
8.8	Cereal de caja													
	a) Básicos (Corn Flakes, Arroz inflado sin sabor)	1 taza (seco 30 g)	01	02	03	04	05	06	07	08	09			
	b) Adicionados con Azúcar	1 taza (seco 30 g)	01	02	03	04	05	06	07	08	09			
	c) Chocolate Otros (corn flakes, arroz inflado)	1 taza (seco 30 g)	01	02	03	04	05	06	07	08	09			
	d) Altos en Fibra (Bran/avena)	1 taza (seco 30 g)	01	02	03	04	05	06	07	08	09			
	e) Light (Special K/Fitness)	1 taza (seco 30 g)	01	02	03	04	05	06	07	08	09			
	f) Multi-ingredientes (grano entero, frutas)	1 taza (seco 30 g)	01	02	03	04	05	06	07	08	09			
	g) Saborizados (Froot Loops(Lucky Charms)	1 taza (seco 30 g)	01	02	03	04	05	06	07	08	09			
8.9	Bebida (Nutrivid) del programa OPORTUNIDADES	4 ½ cucharadas soperas copeteadas (52g)	01	02	03	04	05	06	07	08	09			
<b>9. PRODUCTOS DE MAÍZ</b>														
9.1	Sopes, quesadillas, tlacoyos, enchiladas, tacos, o gorditas de comal (sin freír)	100 g	01	02	03	04	05	06	07	08	09			
9.2	Sopes, quesadillas, tlacoyos, enchiladas, tacos, flautas o gorditas frito(a)	100 g	01	02	03	04	05	06	07	08	09			
9.3	Pozole	1 plato (100 g)	01	02	03	04	05	06	07	08	09			
9.4	Tamal (todos tipos)	1 pza (200 g)	01	02	03	04	05	06	07	08	09			
9.5	Atole de maíz	1 taza (240ml)	01	02	03	04	05	06	07	08	09			
<b>10. BEBIDAS</b>														
10.1	Refresco Normal	1 vaso (240 ml)	01	02	03	04	05	06	07	08	09			
10.2	Refresco Dieta	1 vaso (240 ml)	01	02	03	04	05	06	07	08	09			

(\*) TAMAÑO DE PORCIÓN:

LECHE, CARNES, BEBIDAS: Muy chico (MC); Chico (C); Mediano (M); Grande (G); Muy Grande (MG); Estándar (E).  
FRUTAS, VERDURAS, COMIDA R: Chico (C); Mediano (M); Grande (G); Estándar (E).

LEA TODOS LOS ALIMENTOS		FRECUENCIA DE CONSUMO								Tamaño de Porción (*)	Número de Porciones	
		DÍAS DE LA SEMANA a) ¿Cuántos días comió (tomó) usted?					VECES AL DÍA b) ¿Cuántas veces al día comió (tomó)...?					
		Nunca	1	2-4	5-6	7	1	2-3	4-5			6
ALIMENTO	PORCIÓN	(01)	(02)	(03)	(04)	(05)	(06)	(07)	(08)	(09)		
<b>10.3 Café</b>												
a) Café sin azúcar	1 taza (240 ml)	01	02	03	04	05	06	07	08	09		
b) Café con azúcar	1 taza (240 ml)	01	02	03	04	05	06	07	08	09		
<b>10.4 Té o infusión</b>												
a) Té con azúcar	1 taza (240 ml)	01	02	03	04	05	06	07	08	09		
b) Té sin azúcar	1 taza (240 ml)	01	02	03	04	05	06	07	08	09		
<b>10.5 Jugos naturales sin azúcar</b>												
Jugos naturales sin azúcar	1 vaso (240 ml)	01	02	03	04	05	06	07	08	09		
<b>10.6 Jugos o aguas de frutas con azúcar</b>												
Jugos o aguas de frutas con azúcar	1 vaso (240 ml)	01	02	03	04	05	06	07	08	09		
<b>10.7 Bebidas o aguas de sabor sin azúcar (incluyendo dietéticas como Clight, Be-light, etc.)</b>												
Bebidas o aguas de sabor sin azúcar	1 vaso (240 ml)	01	02	03	04	05	06	07	08	09		
<b>10.8 Bebidas o aguas de sabor con azúcar</b>												
Bebidas o aguas de sabor con azúcar	1 vaso (240 ml)	01	02	03	04	05	06	07	08	09		
<b>10.9 Agua sola</b>												
Agua sola	1 vaso (240 ml)	01	02	03	04	05	06	07	08	09		
<b>10.10 Bebidas alcohólicas</b>												
Bebidas alcohólicas	1 vaso (240 ml) de cerveza, vino, pulque, cuba o copa sólo con tequila, mezcal u otro	01	02	03	04	05	06	07	08	09		
<b>11. BOTANAS, DULCES Y POSTRES</b>												
11.1	Chocolate	1 trozo ó a cucharada sopera (10g)	01	02	03	04	05	06	07	08	09	
11.2	Dulce	1 pieza (30g)	01	02	03	04	05	06	07	08	09	
11.3	Frituras	1 paquete individual o bolsa chica (35g)	01	02	03	04	05	06	07	08	09	
11.4	Gelatina, flan	1 pieza o rebanada (125g)	01	02	03	04	05	06	07	08	09	
11.5	Pastel o pay	1 rebanada mediana (125g)	01	02	03	04	05	06	07	08	09	
11.6	Cacahuates, habas o pepitas	1 puño (de la mano)	01	02	03	04	05	06	07	08	09	
11.7	Pastelillos y donas indust.	1 pieza (70g)	01	02	03	04	05	06	07	08	09	
11.8	Galletas Dulces	2 piezas (32g)	01	02	03	04	05	06	07	08	09	
11.9	Barras de cereal	1 pieza (25g)	01	02	03	04	05	06	07	08	09	
<b>12. SOPAS, CREMAS Y PASTAS</b>												
12.1	Caldo de pollo, res o verduras (sólo caldo)	1 taza (240 ml)	01	02	03	04	05	06	07	08	09	
12.2	Sopa o caldo con verduras	1 plato	01	02	03	04	05	06	07	08	09	
12.3	Sopa de pasta	a) 1 plato ó 1 taza sopa caldosa (100g)	01	02	03	04	05	06	07	08	09	
		b) 1 plato sopa seca (100g)	01	02	03	04	05	06	07	08	09	
12.4	Crema de verduras	1 plato	01	02	03	04	05	06	07	08	09	

(\*) TAMAÑO DE PORCIÓN:

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FRUTAS, VERDURAS, COMIDA R: Chico (C); Mediano (M); Grande (G); Estándar (E).

b) En los últimos 7 días, ¿Cuántos días comió o tomó (NOMBRE) los siguientes alimentos dentro de algún guisado o preparación?

LEA TODOS LOS ALIMENTOS		FRECUENCIA DE CONSUMO								Tamaño De Porción (*)	Número de Porciones	
		DÍAS DE LA SEMANA					VECES AL DÍA					
		a) ¿Cuántos días comió (tomó) (NOMBRE DEL ADULTO)...?					b) ¿Cuántas veces al día comió (tomó)...?					
ALIMENTO	PORCIÓN	Nunca	1	2-4	5-6	7	1	2-3	4-5	6		
		(01)	(02)	(03)	(04)	(05)	(06)	(07)	(08)	(09)		
<b>13. MISCELANEOS</b>												
13.1	Limón por ejemplo en ensaladas, caldos, o carnes											
13.2	Cebolla por ejemplo en salsas, tacos, o guisados (molido o entero)											
13.3	Chiles por ejemplo en salsas, tacos, guisados (molido o entero)											
13.4	Tomate verde y jitomate por ejemplo en salsas, tacos, o guisados											
13.5	Azúcar (a parte de la agregada a las bebidas, leche, té, café, agua de frutas) por ejemplo en fresas o plátanos con crema											□□.□□
13.6	Margarina	1 cucharada sopera (10g)										□□.□□
13.7	Mantequilla	1 cucharada sopera (10g)										□□.□□
13.8	Mayonesa	1 cucharada sopera (10g)										□□.□□
13.9	Crema	1 cucharada sopera (10g)										□□.□□

En los últimos 7 días,

<b>14. TORTILLAS</b>							
14.1	A parte de las tortillas consumidas en enchiladas u otro antojito, ¿con qué frecuencia comió tortilla de maíz?					¿Cuántas tortillas comió cada día que las consumió?	
	a) de nixtamal (hecho en casa)	01	02	03	04	05	□□□□.□□□□
	b) de harina MASECA o MINSAL (hecha en casa)	01	02	03	04	05	□□□□.□□□□
	c) de masa (comprada) o de tortillería	01	02	03	04	05	□□□□.□□□□
14.2	¿Con qué frecuencia comió tortilla de harina de trigo?	01	02	03	04	05	□□□□.□□□□
14.3	<b>PESO PROMEDIO DE TORTILLA DE MAÍZ</b>	GRAMOS:					□□□□.□□□□
14.4	<b>PESO PROMEDIO DE TORTILLA DE TRIGO</b>	GRAMOS:					□□□□.□□□□

<b>15. CANTIDAD DE CONSUMO REPORTADA</b>	
¿Considera usted que el consumo que reportó fue semejante a lo que come normalmente? O ¿fue mayor o menor? (ya que su consumo pudo haber variado por enfermedad y comer poco o haber tenido fiesta y comer más)	IGUAL.....1
	MAYOR.....2
	MENOR.....3

16. CONSUMO DE SUPLEMENTOS										
En los últimos siete días, consumió...		Nunca (01)	1 (02)	2-4 (03)	5-6 (04)	7 (05)	1 (06)	2-3 (07)	4-5 (08)	6 (09)
16.1	Algún suplemento de vitaminas y/o minerales que le hayan entregado en el centro de salud o por parte de algún programa a qué pertenece (1 Cápsula, tableta, ampolleta, o cucharada)	01	02	03	04	05	06	07	08	09
16.2	Algún suplemento de vitaminas y/o minerales que haya comprado o que le hayan regalado amigos o familiares (1 Cápsula, tableta, ampolleta, o cucharada)	01	02	03	04	05	06	07	08	09
16.3	Algún complemento nutricio (tipo ensure, complan) (1 cucharada ó una medida en envase individual)	01	02	03	04	05	06	07	08	09
16.4	Algún otro tipo de suplemento (hierbas naturales etc, que no incluye vitaminas ni minerales) (1 Cápsula, tableta, ampolleta, o cucharada)	01	02	03	04	05	06	07	08	09

17. CONSUMO DE GRASAS							
¿Qué tipo de grasa usa para preparar los siguientes guisados?							
PARA CADA PREPARACIÓN, MARQUE 1 SI LA GRASA ES UTILIZADA Y 0 SI NO SE UTILIZA							
	1 No consume la preparación	2 No usa grasa	3 Aceite vegetal	4 Manteca de cerdo	5 Manteca vegetal	6 Margarina	7 Mantequilla
17.1 arroz guisado	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.2 sopa de pasta frita	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.3 frijoles de olla	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.4 frijoles refritos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.5 plátanos fritos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.6 huevos estrellados o revueltos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.7 carnes guisadas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.8 verduras capeadas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.9 Tortitas de papa y papas fritas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.10 tortitas de carne o pollo capeadas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.11 empanizados (pollo o carnes rojas)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.12 antojitos mexicanos (quesadillas, tacos, flautas, gorditas, sopes, tamales)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NOTA: SI SE USA MÁS DE UN TIPO DE GRASA EN CADA GUIADO, MARQUE LAS CASILLAS CORRESPONDIENTES

OBSERVACIONES

*Instrucciones: Este formulario esta integrado por tres apartados: A. se especifican las preguntas, el B se refieren a la información sobre frecuencia habitual y el C al número de días de consumo fuera de casa durante la semana pasada. El cuestionario se debe llenar de manera horizontal, para cada pregunta se llena el apartado B y luego el C, excepto en los casos indicados con pases o con sombreado. Una vez contestado, se pasará a la siguiente pregunta. En los apartados B se debe especificar en el recuadro marcado el número de frecuencias de consumo (con rango de 0-7) y en el C de días durante la semana pasada que la persona comió fuera de casa.*

**Ficha de Identificación**

Preguntas		Respuestas	
<b>A. CONSUMO DE ALIMENTOS FUERA DE CASA.</b>  <i>Ahora le quiero preguntar sobre los alimentos que consume fuera de su casa, o en algún puesto o restaurante.</i>		<b>B. FRECUENCIA DE CONSUMO</b>	
		<b>C. DÍAS DE CONSUMO DE ALIMENTOS FUERA DE CASA.</b> <i>Cuantos días durante los últimos 7 días consumió...</i> N/A=9	
1	¿En su lugar de trabajo/estudios le proporcionan <i>desayuno</i> ?	Si = 1 (pase a la pregunta 1.1) NO = 2 (pase a la pregunta 3) No trabaja fuera de la casa = 9	<input type="checkbox"/>
1.1	¿El desayuno se lo proporcionan...	Diariamente = 3 A veces = 4	<input type="checkbox"/>
2	¿Habitualmente se come lo que le dan de <i>desayunar</i> en su lugar de trabajo/estudios?	SI = 1 NO = 2 No trabaja fuera de la casa = 9	<input type="checkbox"/>
3	¿En su lugar de trabajo/estudios le proporcionan la <i>comida</i> ?	Si = 1 (pase a la pregunta 3.1) NO = 2 (pase a la pregunta 5) No trabaja fuera de la casa = 9	<input type="checkbox"/>
3.1	¿La comida se la proporcionan...	Diariamente = 3 A veces = 4	<input type="checkbox"/>
4	¿Acostumbra a <i>comerse</i> lo que le dan de comida en su lugar de trabajo/estudios?	SI = 1 NO = 2 No trabaja fuera de la casa = 9	<input type="checkbox"/>

5	¿Con qué frecuencia acostumbra <i>desayunar</i> en algún puesto de comida corrida o restaurante?	Más de 1 vez al día.....1 1 vez al día.....2 <input type="checkbox"/> 4 a 6 veces a la semana.....3 1 a 3 veces a la semana.....4 1 a 3 veces al mes.....5 Menos de 1 vez al mes.....6 Nunca.....7	<input type="checkbox"/>
6	¿Con qué frecuencia acostumbra <i>comer</i> en algún puesto de comida corrida o restaurante?	Más de 1 vez al día.....1 1 vez al día.....2 <input type="checkbox"/> 4 a 6 veces a la semana.....3 1 a 3 veces a la semana.....4 1 a 3 veces al mes.....5 Menos de 1 vez al mes.....6 Nunca.....7	<input type="checkbox"/>
7	¿Con qué frecuencia acostumbra <i>cenar</i> en algún puesto de comida corrida o restaurante?	Más de 1 vez al día.....1 1 vez al día.....2 <input type="checkbox"/> 4 a 6 veces a la semana.....3 1 a 3 veces a la semana.....4 1 a 3 veces al mes.....5 Menos de 1 vez al mes.....6 Nunca.....7	<input type="checkbox"/>
8	¿Con qué frecuencia acostumbra <i>desayunar, comer</i> o <i>cenar</i> en algún <i>puesto de comida rápida</i> en la calle (tipo quesadilla, gorditas, tacos, tortas, tamales, etc.)?	Más de 1 vez al día.....1 1 vez al día.....2 <input type="checkbox"/> 4 a 6 veces a la semana.....3 1 a 3 veces a la semana.....4 1 a 3 veces al mes.....5 Menos de 1 vez al mes.....6 Nunca.....7	<input type="checkbox"/>
9	¿Con qué frecuencia acostumbra <i>comprar alguna botana</i> como frituras, pastelitos o galletitas, dulces, helados o paletas en alguna tiendita o puesto (no incluir los alimentos comprados como parte de las compras habituales para su casa)?	Más de 1 vez al día.....1 1 vez al día.....2 <input type="checkbox"/> 4 a 6 veces a la semana.....3 1 a 3 veces a la semana.....4 1 a 3 veces al mes.....5 Menos de 1 vez al mes.....6 Nunca.....7	<input type="checkbox"/>
10	¿Con qué frecuencia acostumbra <i>comprar alguna bebida</i> como refresco, jugo, aguas de fruta o de sabor, café en alguna tiendita	Más de 1 vez al día.....1 1 vez al día.....2 <input type="checkbox"/>	<input type="checkbox"/>

	o puesto (no incluir los alimentos comprados como parte de las compras habituales para su casa)?	4 a 6 veces a la semana.....3 1 a 3 veces a la semana.....4 1 a 3 veces al mes.....5 Menos de 1 vez al mes.....6 Nunca .....7	
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**Appendix 5: NHANES 2007-2008 Questionnaires**

3/27/07

NHANES 2007  
Questionnaire: SP

**DEMOGRAPHICS INFORMATION – DMQ – SP**  
Target Group: SPs Birth +

**BOX 1A**

CHECK ITEM DMQ.030:  
IF SP AGE >= 8, CONTINUE.  
OTHERWISE, GO TO DMQ.061.

DMQ.141 What is the highest grade or level of school (you have/SP has) completed or the highest degree (you have/s/he has) received?

HAND CARD DMQ1  
READ HAND CARD CATEGORIES IF NECESSARY.  
ENTER HIGHEST LEVEL OF SCHOOL.

NEVER ATTENDED/KINDERGARTEN ONLY.....	0	(BOX 1B)
1ST GRADE.....	1	
2ND GRADE.....	2	
3RD GRADE.....	3	
4TH GRADE.....	4	
5TH GRADE.....	5	
6TH GRADE.....	6	
7TH GRADE.....	7	
8TH GRADE.....	8	
9TH GRADE.....	9	
10TH GRADE.....	10	
11TH GRADE.....	11	
12TH GRADE, NO DIPLOMA.....	12	
HIGH SCHOOL GRADUATE.....	13	
GED OR EQUIVALENT.....	14	
SOME COLLEGE, NO DEGREE.....	15	
ASSOCIATE DEGREE: OCCUPATIONAL, TECHNICAL, OR VOCATIONAL PROGRAM.....	16	
ASSOCIATE DEGREE: ACADEMIC PROGRAM.....	17	
BACHELOR'S DEGREE (EXAMPLE: BA, AB, BS, BBA).....	18	
MASTER'S DEGREE (EXAMPLE: MA, MS, MEng, MEd, MBA).....	19	
PROFESSIONAL SCHOOL DEGREE (EXAMPLE: MD, DDS, DVM, JD).....	20	
DOCTORAL DEGREE (EXAMPLE: PhD, EdD).....	21	
REFUSED.....	77	
DON'T KNOW.....	99	

BOX 1AA

CHECK ITEM DMQ.035:  
IF SP AGE <= 19, CONTINUE  
OTHERWISE, GO TO DMQ.051.

DMQ.037 {Are you/Is SP} now . . .

- going to school, ..... 1
- on vacation from school (between  
grades), or ..... 2
- neither?..... 3
- REFUSED ..... 7
- DON'T KNOW ..... 9

BOX 1B

CHECK ITEM DMQ.040:  
IF SP AGE >= 17, CONTINUE.  
OTHERWISE, GO TO DMQ.061.

DMQ.051 Did {you/SP} ever serve in the Armed Forces of the United States?

- YES ..... 1
- NO ..... 2
- REFUSED ..... 7
- DON'T KNOW ..... 9

DMQ.061 {Do you/Does SP} usually go by **another** first name besides {DISPLAY FIRST NAME FROM DMQ.040}?

CAPI INSTRUCTION:  
DISPLAY "FIRST NAME:" AND FIRST NAME FROM DMQ.040 AS LEFT HEADER.

- YES ..... 1
- NO ..... 2 (BOX 1BB)
- REFUSED ..... 7 (BOX 1BB)
- DON'T KNOW ..... 9 (BOX 1BB)

DMQ.071 What is this other first name?

VERIFY SPELLING

\_\_\_\_\_  
ENTER NAME

- REFUSED ..... 7
- DON'T KNOW ..... 9



**BOX 1BB**

**CHECK ITEM DMQ.073a:**  
IF AGE >= 14, CONTINUE.  
OTHERWISE, GO TO BOX 1D.

DMQ.380 {Are you/Is SP} now married, widowed, divorced, separated, never married or living with a partner?

- MARRIED ..... 1
- WIDOWED ..... 2
- DIVORCED ..... 3
- SEPARATED ..... 4
- NEVER MARRIED ..... 5 (BOX 1D)
- LIVING WITH PARTNER ..... 6
- REFUSED ..... 7
- DON'T KNOW ..... 9

**BOX 1C**

**CHECK ITEM DMQ.075A:**  
IF SP IS MALE OR CODED AS 'NEVER MARRIED' IN DMQ.380, GO TO  
BOX 1D.  
OTHERWISE, CONTINUE.

DMQ.081 {Do you/Does SP} have a maiden name?

ASK IF NOT KNOWN

- YES ..... 1
- NO ..... 2 (BOX 1D)
- REFUSED ..... 7 (BOX 1D)
- DON'T KNOW ..... 9 (BOX 1D)

DMQ.090 What is {your/SP's} maiden name?  
G/Q

VERIFY SPELLING

CAPI INSTRUCTION:  
DISPLAY "LAST NAME:" AND SP'S CURRENT LAST NAME FROM DMQ.060 AS LEFT HEADER.

- 
- ENTER MAIDEN NAME
  - or
  - SAME AS CURRENT LAST NAME ..... 2
  - REFUSED ..... 7
  - DON'T KNOW ..... 9
-

BOX 1D

CHECK ITEM DMQ.094:  
IF SP AGE >= 16, CONTINUE.  
OTHERWISE, GO TO DMQ.107.

DMQ.101 What is {your/SP's} father's last name?  
G/Q

VERIFY SPELLING

CAPI INSTRUCTION:

DISPLAY "LAST NAME:" AND SP'S CURRENT LAST NAME FROM DMQ.060 AS LEFT HEADER.  
IF MAIDEN NAME ENTERED IN DMQ.090G/Q, AND MAIDEN NAME IS DIFFERENT FROM CURRENT  
LAST NAME, ALSO DISPLAY "MAIDEN NAME:" AND MAIDEN NAME FROM DMQ.090G/Q AS LEFT  
HEADER.

CAPI INSTRUCTION:

HARD EDIT: IF SP MALE, DO NOT ALLOW RESPONSE 3.

---

ENTER NAME  
or  
SAME AS CURRENT LAST NAME ..... 2  
SAME AS MAIDEN NAME ..... 3  
REFUSED ..... 7  
DON'T KNOW ..... 9

DMQ.107 In what country {were you/was SP} born?

UNITED STATES ..... 1 (DMQ.130)  
OTHER COUNTRY ..... 2  
REFUSED ..... 7 (BOX 3)  
DON'T KNOW ..... 9 (BOX 3)

---

DMQ.112 SELECT COUNTRY OF BIRTH

ARGENTINA.....	1	(DMQ.160 M/Y)
BELIZE .....	2	(DMQ.160 M/Y)
BOLIVIA .....	3	(DMQ.160 M/Y)
BRAZIL.....	4	(DMQ.160 M/Y)
CHILE.....	5	(DMQ.160 M/Y)
COLOMBIA.....	6	(DMQ.160 M/Y)
COSTA RICA.....	7	(DMQ.160 M/Y)
CUBA .....	8	(DMQ.160 M/Y)
DOMINICAN REPUBLIC .....	9	(DMQ.160 M/Y)
ECUADOR.....	10	(DMQ.160 M/Y)
EL SALVADOR.....	11	(DMQ.160 M/Y)
GUATEMALA .....	12	(DMQ.160 M/Y)
HONDURAS .....	13	(DMQ.160 M/Y)
MEXICO .....	14	(DMQ.160 M/Y)
NICARAGUA .....	15	(DMQ.160 M/Y)
PANAMA .....	16	(DMQ.160 M/Y)
PARAGUAY.....	17	(DMQ.160 M/Y)
PERU .....	18	(DMQ.160 M/Y)
PHILIPPINES .....	19	(DMQ.160 M/Y)
PUERTO RICO.....	20	(DMQ.160 M/Y)
SPAIN.....	21	(DMQ.160 M/Y)
URUGUAY.....	22	(DMQ.160 M/Y)
VENEZUELA .....	23	(DMQ.160 M/Y)
OTHER COUNTRY (CAPI INSTRUCTION: DO NOT SPECIFY).....	40	(DMQ.160 M/Y)

DMQ.130 In what state (were you/was SP) born?

ENTER 2 LETTER STATE ABBREVIATION TO START THE LOOKUP.  
 SELECT STATE FROM CAPI STATE LIST.  
 PRESS ENTER TO ACCEPT SELECTION.

CAPI INSTRUCTION:  
 DISPLAY FIPS STATE LIST. INTERVIEWER ONLY SHOULD BE ABLE TO SELECT 1 STATE FROM  
 LIST. DON'T KNOW AND REFUSED SHOULD BE VALID OPTIONS. THE STATE LOOKUP IN THE SP  
 AND FAMILY QUESTIONNAIRES SHOULD WORK EXACTLY THE SAME.

<p><b>BOX 3</b></p> <p>CHECK ITEM DMQ.150: GO TO DMQ.241.</p>
---

DMQ.160 In what month and year did {you/SP} come to the United States to stay?  
M/Y

\_\_\_\_\_  
ENTER MONTH NUMBER

REFUSED ..... 7777  
DON'T KNOW ..... 9999

\_\_\_\_\_  
ENTER 4-DIGIT YEAR

REFUSED ..... 777777  
DON'T KNOW ..... 999999

DMQ.170 {Are you/Is SP} a citizen of the United States?

[Information about citizenship is being collected by the Centers for Disease Control and Prevention to perform health related research. Providing this information is voluntary and is collected under the authority of the Public Health Service Act. There will be no effect on pending immigration or citizenship petitions.]

HAND CARD DMQ2

YES, BORN IN UNITED STATES ..... 1  
YES, BORN IN PUERTO RICO, GUAM,  
AMERICAN VIRGIN ISLANDS, OR  
OTHER U.S. TERRITORY ..... 2  
YES, BORN ABROAD TO AMERICAN  
PARENTS ..... 3  
YES, U.S. CITIZEN BY NATURALIZATION.. 4  
NO, NOT A CITIZEN OF THE UNITED  
STATES ..... 5  
REFUSED ..... 7  
DON'T KNOW ..... 9

---

DMQ.241 {Do you/Does SP} consider {yourself/himself/herself} to be Hispanic or Latino?

READ IF NECESSARY: Where {do you/does his/does her} ancestors come from?

- Puerto Rican
- Cuban/Cuban American
- Dominican Republic
- Mexican/Mexican American
- Central/South American
- Other Latin American
- Other Hispanic or Latino

YES ..... 1  
NO ..... 2  
REFUSED ..... 7  
DON'T KNOW ..... 9

HELP SCREEN:

SPANISH, HISPANIC OR LATINO PEOPLE MAY BE OF ANY RACE. LISTED BELOW ARE HISPANIC OR LATINO CATEGORIES/COUNTRIES.

- MEXICAN
- PUERTO RICAN
- CUBAN
- DOMINICAN REPUBLIC
- CENTRAL AMERICAN:**
  - COSTA RICAN
  - GUATEMALAN
  - HONDURAN
  - NICARAGUAN
  - PANAMANIAN
  - SALVADORAN
  - OTHER CENTRAL AMERICAN
- SOUTH AMERICAN:**
  - ARGENTINEAN
  - BOLIVIAN
  - CHILEAN
  - COLOMBIAN
  - ECUADORIAN
  - PARAGUAYAN
  - PERUVIAN
  - URUGUAYAN
  - VENEZUELAN
  - OTHER SOUTH AMERICAN
- OTHER HISPANIC OR LATINO:**
  - SPANIARD
  - SPANISH
  - SPANISH AMERICAN

BOX 3F
OMITTED

DMQ.252 Please give me the number of the group that represents {your/SP's} Hispanic/Latino origin or ancestry. Please select 1 or more of these categories.

PROBE: Where do you/your ancestors come from?

HAND CARD DMQ4  
SELECT 1 OR MORE

MEXICAN .....	10
PUERTO RICAN .....	11
CUBAN .....	12
DOMINICAN REPUBLIC .....	13
<b>CENTRAL AMERICAN:</b>	
COSTA RICAN .....	14
GUATEMALAN .....	15
HONDURAN .....	16
NICARAGUAN .....	17
PANAMANIAN .....	18
SALVADORAN .....	19
OTHER CENTRAL AMERICAN .....	20
<b>SOUTH AMERICAN:</b>	
ARGENTINEAN .....	21
BOLIVIAN .....	22
CHILEAN .....	23
COLOMBIAN .....	24
ECUADORIAN .....	25
PARAGUAYAN .....	26
PERUVIAN .....	27
URUGUAYAN .....	28
VENEZUELAN .....	29
OTHER SOUTH AMERICAN .....	30
<b>OTHER HISPANIC OR LATINO:</b>	
FILIPINO .....	31
SPANIARD .....	32
SPANISH .....	33
SPANISH AMERICAN .....	34
HISPANO/HISPANA .....	35
HISPANIC/LATINO .....	36
OTHER HISPANIC/LATINO (SPECIFY) .....	40
REFUSED .....	77
DON'T KNOW .....	99

**BOX 3L**

**CHECK ITEM DMQ.255:**

IF 'OTHER SPECIFY' (CODE 40) IN DMQ.252, DISPLAY SOFT ERROR MESSAGE –  
"PLEASE REVIEW THE LIST AND SELECT RESPONSE FROM LIST BEFORE  
TYPING. THE LIST IS MEANT TO INCLUDE ALL CATEGORIES" AND CAPI  
SHOULD RETURN TO QUESTION DMQ.252.

DMQ.261 What race {do you/does SP} consider {yourself/himself/herself} to be? Please select 1 or more of these categories.

HAND CARD DMQ5  
SELECT 1 OR MORE

- WHITE..... 10 (BOX 4)
- BLACK/AFRICAN AMERICAN ..... 11 (BOX 4)
  
- INDIAN (AMERICAN)..... 12 (BOX 4)
- ALASKA NATIVE..... 13 (BOX 4)
  
- NATIVE HAWAIIAN..... 14 (BOX 4)
- GUAMANIAN..... 15 (BOX 4)
- SAMOAN..... 16 (BOX 4)
- OTHER PACIFIC ISLANDER (SPECIFY) ..... 17 (BOX 4)
  
- ASIAN INDIAN (INCLUDES PERSONS OF  
INDIA, PAKISTAN, CEYLON, AND  
SRI LANKA)..... 18 (BOX 4)
- CHINESE..... 19 (BOX 4)
- FILIPINO (FROM PHILIPPINES)..... 20 (BOX 4)
- JAPANESE..... 21 (BOX 4)
- KOREAN ..... 22 (BOX 4)
- VIETNAMESE ..... 23 (BOX 4)
- OTHER ASIAN ..... 24 (DMQ.264)
  
- SOME OTHER RACE ..... 25 (DMQ.267)
  
- REFUSED ..... 77 (BOX 4)
- DON'T KNOW ..... 99 (BOX 4)

CAPI INSTRUCTION:  
THE WORDS "INDIA", "PAKISTAN", "CEYLON", AND "SRI LANKA" SHOULD APPEAR IN BLUE.

DMQ.264 CODE SP ANSWER TO OTHER ASIAN.

INTERVIEWER INSTRUCTION: READ CATEGORIES IF NECESSARY.

- HMONG..... 1 (BOX 4)
- LAOTIAN ..... 2 (BOX 4)
- CAMBODIAN..... 4 (BOX 4)
- TAIWANESE ..... 5 (BOX 4)
- OTHER (SPECIFY)..... 40 (BOX 4)

DMQ.267 CODE SP ANSWER TO 'OTHER RACE'.

MEXICAN .....	1
PUERTO RICAN .....	2
CUBAN .....	3
DOMINICAN REPUBLIC .....	4
<b>CENTRAL AMERICAN:</b>	
COSTA RICAN .....	5
GUATEMALAN .....	6
HONDURAN .....	7
NICARAGUAN .....	8
PANAMANIAN .....	9
SALVADORAN .....	10
OTHER CENTRAL AMERICAN .....	11
<b>SOUTH AMERICAN:</b>	
ARGENTINEAN .....	12
BOLIVIAN .....	13
CHILEAN .....	14
COLOMBIAN .....	15
ECUADORIAN .....	16
PARAGUAYAN .....	17
PERUVIAN .....	18
URUGUAYAN .....	19
VENEZUELAN .....	20
OTHER SOUTH AMERICAN .....	21
<b>OTHER HISPANIC OR LATINO:</b>	
SPANIARD .....	22
SPANISH .....	23
SPANISH AMERICAN .....	24
HISPANIC/LATINO .....	25
HISPANO/HISPANA .....	26
OTHER SPECIFY .....	40
REFUSED .....	77
DON'T KNOW .....	99

CAPI INSTRUCTION:

IF CODE 1 THROUGH 26, CHECK DMQ.241. IF "NO" (CODE 2) IN DMQ.241, DISPLAY THE FOLLOWING HARD ERROR MESSAGE. RESPONDENT CODED AS **NOT HISPANIC** IN PREVIOUS QUESTION "{DO YOU/DOES SP} CONSIDER {YOURSELF/HIMSELF/HERSELF} HISPANIC/LATINO – BACK UP TO CORRECT PREVIOUS QUESTION OR CORRECT ENTRY AT THIS QUESTION.

**BOX 3M**

**CHECK ITEM DMQ.268:**

IF 'OTHER SPECIFY' (CODE 40) IN DMQ.267, DISPLAY SOFT ERROR MESSAGE – "PLEASE REVIEW THE LIST AND SELECT RESPONSE FROM LIST BEFORE TYPING. THE LIST IS MEANT TO INCLUDE ALL CATEGORIES" AND CAPI SHOULD RETURN TO QUESTION DMQ.267.



BOX 4

CHECK ITEM DMQ.270:  
IF MORE THAN 1 ENTRY IN DMQ.261, CONTINUE.  
OTHERWISE, GO TO DMQ.281.

DMQ.275 Which one of these groups, that is {DISPLAY RESPONSES CODED IN DMQ.261 WITH CORRESPONDING G/Q CODES}, would you say best represents {your/SP's} race?

\_\_\_\_

ENTER RACE CODE

CANNOT CHOOSE 1 RACE..... 66  
REFUSED ..... 7777  
DON'T KNOW ..... 9999

DMQ.281a The Department of Health and Human Services will conduct statistical research by combining {your/his/her} survey data with vital, health, nutrition and other related records. {Your/SP's} social security number is used only for these purposes and the Department will not release it to anyone, including any government agency, for any other reason. Providing this information is voluntary and is collected under the authority of Section 306 of the Public Health Service Act. There will be no effect on {your/his/her} benefits if you do not provide it.

INTERVIEWER INSTRUCTION—ONLY READ IF ASKED. [Public Health Service Act is title 42, United States Code, section 242k.]

What is {your/SP's} Social Security Number?

INTERVIEWER INSTRUCTION:

IF RESPONDENT CANNOT RECALL FROM MEMORY ASK {HIM/HER} TO GET CARD AT THIS TIME.  
IF RESPONDENT IS RELUCTANT OR NEEDS MORE INFORMATION, PRESS F1 TO ACCESS THE HELP SCREEN AND FOLLOW THE SCRIPT.

ENTER SOCIAL SECURITY NUMBER ..... 1 (DMQ281b)  
DOES NOT HAVE SOCIAL SECURITY NUMBER ..... 2 (END OF SECTION)  
REFUSED ..... 7 (END OF SECTION)  
DON'T KNOW ..... 9 (END OF SECTION)

CAPI INSTRUCTION:

IF SP REFUSES (CODE 7), DISPLAY THE FOLLOWING SOFT ERROR MESSAGE:

I understand your concern. The National Center for Health Statistics has never had a breach of confidentiality in the 40 years we have been conducting this study. I do not have access to this information after I type it. Once I complete the interview all the information is sent to a secure facility. No one takes it home on a computer, no one works on it at home and only one or two people have access to the file to use it for our health research.

HELP TEXT - IF R IS RELUCTANT TO GIVE NUMBER OR IF R ASKS IF THEY MUST GIVE NUMBER –

It is extremely useful to have this information to be able to link to health records such as death certificates and Medicare records in the future. Many years in the future the information you give me can be used to see how health habits and diet at one point in your life influence how healthy you are in the future.

DMQ281b/c

CAPI INSTRUCTION:  
REQUIRE DOUBLE ENTRY OF SOCIAL SECURITY NUMBER.

□ □ □ □ □ □ □ □ □ □  
ENTER SOCIAL SECURITY NUMBER

or

REFUSED ..... 7 (END OF SECTION)  
DON'T KNOW ..... 9 (END OF SECTION)

DMQ.300 INTERVIEWER: SELECT CATEGORY FOR REPORTING OF SOCIAL SECURITY NUMBER

SELF REPORTED FROM MEMORY ..... 1  
SELF REPORTED FROM RECORDS ..... 2  
PROXY REPORTED FROM MEMORY ..... 3  
PROXY REPORTED FROM RECORDS..... 4

---

1/18/07

Questionnaire: SP

**DIET BEHAVIOR AND NUTRITION - DBQ**  
**Target Group: SPs Birth + (Questions grouped by age categories)**

**BOX 1**

**CHECK ITEM DBQ.005:**  
 IF SP AGE <= 6, CONTINUE.  
 OTHERWISE, GO TO BOX 2.

DBQ.010 Now I'm going to ask you some general questions about {SP's} eating habits.

Was {SP} ever breastfed or fed breastmilk?

- YES ..... 1
- NO ..... 2 (DBQ.040)
- REFUSED ..... 7 (DBQ.040)
- DON'T KNOW ..... 9 (DBQ.040)

DBQ.020 How old was {SP} when {he/she} was **first** fed something other than breastmilk or water?  
 G/Q/U

INCLUDE FORMULA, JUICE, SOLID FOODS

SOFT EDIT: NUMBER CANNOT BE MORE THAN SP'S AGE.

\_\_\_\_

ENTER AGE IN DAYS, WEEKS, MONTHS OR YEARS

- NEVER ..... 2 (BOX 2)
- REFUSED ..... 777 (BOX 2)
- DON'T KNOW ..... 999 (BOX 2)

ENTER UNIT

- DAYS ..... 1
- WEEKS ..... 2
- MONTHS ..... 3
- YEARS ..... 4
- REFUSED ..... 7
- DON'T KNOW ..... 9

DBQ.030 How old was {SP} when {he/she} **completely stopped** breastfeeding or being fed breastmilk?  
G/Q/U

SOFT EDIT: NUMBER CANNOT BE MORE THAN SP'S AGE.

|\_|\_|\_|\_|  
ENTER AGE IN DAYS, WEEKS, MONTHS OR YEARS

STILL BREASTFEEDING..... 6666  
REFUSED ..... 7777  
DON'T KNOW ..... 9999

ENTER UNIT

DAYS..... 1  
WEEKS ..... 2  
MONTHS..... 3  
YEARS ..... 4  
REFUSED ..... 7  
DON'T KNOW ..... 9

DBQ.040 How old was {SP} when {he/she} was **first fed formula on a daily basis**?  
G/Q/U

INCLUDE CHILDREN RECEIVING FORMULA **AND** THOSE RECEIVING FORMULA AND BREASTMILK  
AT THE SAME TIME

SOFT EDIT: NUMBER CANNOT BE MORE THAN SP'S AGE.

|\_|\_|\_|\_|  
ENTER AGE IN DAYS, WEEKS, MONTHS OR YEARS

NEVER ON A DAILY BASIS..... 2 (DBQ.060)  
REFUSED ..... 7777  
DON'T KNOW ..... 9999

ENTER UNIT

DAYS..... 1  
WEEKS ..... 2  
MONTHS..... 3  
YEARS ..... 4  
REFUSED ..... 7  
DON'T KNOW ..... 9

DBQ.050 How old was {SP} when {he/she} **completely stopped** drinking formula?  
G/Q/U

SOFT EDIT: NUMBER CANNOT BE MORE THAN SP'S AGE.

\_\_\_\_\_  
ENTER AGE IN DAYS, WEEKS, MONTHS OR YEARS

STILL DRINKING FORMULA..... 6666  
REFUSED ..... 7777  
DON'T KNOW ..... 9999

ENTER UNIT

DAYS..... 1  
WEEKS ..... 2  
MONTHS..... 3  
YEARS ..... 4  
REFUSED ..... 7  
DON'T KNOW ..... 9

DBQ.060 How old was {SP} when {he/she} was first fed **milk** on a daily basis?  
G/Q/U

INCLUDE LACTAID AS MILK  
DO NOT INCLUDE BREASTMILK OR FORMULA

SOFT EDIT: NUMBER CANNOT BE MORE THAN SP'S AGE.

\_\_\_\_\_  
ENTER AGE IN DAYS, WEEKS, MONTHS OR YEARS

NEVER ON A DAILY BASIS..... 2 (DBQ.080)  
REFUSED ..... 7777  
DON'T KNOW ..... 9999

ENTER UNIT

DAYS..... 1  
WEEKS ..... 2  
MONTHS..... 3  
YEARS ..... 4  
REFUSED ..... 7  
DON'T KNOW ..... 9

DBQ.072 What type of milk was {SP} **first fed** on a daily basis? Was it . . .

CODE ALL THAT APPLY

whole or regular,..... 10  
2% fat or reduced-fat milk,..... 11  
1% fat or low-fat milk (includes 0.5% fat  
milk or "low-fat milk" not further specified), . 12  
fat-free, skim or nonfat milk, or ..... 13  
another type?..... 30  
REFUSED ..... 77  
DON'T KNOW ..... 99

DBQ.080 How old was {SP} when {he/she} **started** eating solid foods [such as strained foods like baby food or any other  
 G/Q/U non-liquid foods] on a daily basis?

SOFT EDIT: NUMBER CANNOT BE MORE THAN SP'S AGE.

\_\_\_\_\_  
 ENTER AGE IN DAYS, WEEKS, MONTHS OR YEARS

NEVER ON A DAILY BASIS..... 2  
 REFUSED ..... 7777  
 DON'T KNOW ..... 9999

ENTER UNIT

DAYS..... 1  
 WEEKS ..... 2  
 MONTHS..... 3  
 YEARS ..... 4  
 REFUSED ..... 7  
 DON'T KNOW ..... 9

**BOX 2**

**CHECK ITEM DBQ.085:**  
 IF SP AGE >= 16, CONTINUE.  
 IF SP AGE <16 BUT >= 1, GO TO DBQ.197.  
 OTHERWISE, GO TO FSQ.651.

DBQ.700 Next I have some questions about {your/SP's} eating habits.

In general, how healthy is {your/his/her} overall diet? Would you say . . .

excellent, ..... 1  
 very good, ..... 2  
 good, ..... 3  
 fair, or ..... 4  
 poor? ..... 5  
 REFUSED ..... 7  
 DON'T KNOW ..... 9

**BOX 3**

**OMITTED**

**BOX 4**

**OMITTED**

DBQ.197 {Next I have some questions about {SP's} eating habits.}

{First/Next}, I'm going to ask a few questions about **milk products**. Do not include their use in cooking.

In the **past 30 days**, how often did {you/SP} have milk to drink or on {your/his/her} cereal? Please include chocolate and other flavored milks as well as hot cocoa made with milk. Do not count small amounts of milk added to coffee or tea. Would you say . . .

HAND CARD DBQ1

CAPI INSTRUCTION:

THIS SHOULD **NOT** BE A GATE QUESTION ANYMORE.

CAPI DISPLAY INSTRUCTIONS: IF SP AGE 7-15 YEARS OLD, DISPLAY "{Next I have some questions about {SP's} eating habits.} First, I'm going to ask about milk products. Do not include their use in cooking. IF SP AGE <= 6 OR => 16 YEARS OLD. DISPLAY "Next I'm going to ask a few questions about milk products. Do not include their use in cooking."

- never, ..... 0 (BOX 6)
- rarely – less than once a week, ..... 1
- sometimes – once a week or more, but  
less than once a day, or..... 2
- often – once a day or more?..... 3
- VARIED ..... 4
- REFUSED ..... 7 (BOX 6)
- DON'T KNOW ..... 9 (BOX 6)

DBQ.222 What type of milk was it? Was it usually . . .

IF RESPONDENT CANNOT PROVIDE USUAL TYPE, CODE ALL THAT APPLY

- whole or regular, ..... 10
- 2% fat or reduced-fat milk, ..... 11
- 1% fat or low-fat milk (includes 0.5% fat  
milk or "low-fat milk" not further specified), . 12
- fat-free, skim or nonfat milk, or ..... 13
- another type?..... 30
- REFUSED ..... 77
- DON'T KNOW ..... 99

**BOX 6**

**CHECK ITEM DBQ.225:**  
 IF SP AGE >= 20, CONTINUE.  
 OTHERWISE, GO TO BOX 9.

DBQ.229 The next question is about **regular** milk use.

A regular milk drinker is someone who uses any type of milk at **least 5 times a week**. Using this definition, which statement best describes {you/SP}?

HAND CARD DBQ2

- {I've/He's/She's} been a **regular** milk drinker for **most** or **all** of {my/his/her} life, including {my/his/her} childhood; ..... 1
  - {I've/He's/She's} **never** been a **regular** milk drinker; ..... 2 (BOX 8A)
  - {My/His/Her} milk drinking has **varied** over {my/his/her} life – sometimes {I've/he's/she's} been a **regular** milk drinker and sometimes {I have/he has/she has} **not** been a regular milk drinker ..... 3
  - REFUSED ..... 7 (BOX 8A)
  - DON'T KNOW ..... 9 (BOX 8A)
-



DBQ.235  
a/b/c

Now, I'm going to ask you how often {you/SP} drank **milk** at different times in {your/his/her} **life**.

How often did {you/SP} drink any type of milk, including milk added to cereal, when {you were/s/he was} . . .

HAND CARD DBQ3

IF NECESSARY, PROBE FOR USUAL OR MOST COMMON AMOUNT FOR THIS TIME PERIOD

CAPI INSTRUCTION:

THESE (A-C) SHOULD **NOT** BE GATE QUESTIONS ANYMORE.

a. **a child between the ages of 5 and 12 years old? Would you say . . .**

never, ..... 0  
rarely – less than once a week, ..... 1  
sometimes – once a week or more, but  
less than once a day, or..... 2  
often – once a day or more?..... 3  
VARIED ..... 4  
REFUSED ..... 7  
DON'T KNOW ..... 9

b. **a teenager between the ages of 13 and 17 years old? Would you say . . .**

never, ..... 0  
rarely – less than once a week, ..... 1  
sometimes – once a week or more, but  
less than once a day, or..... 2  
often – once a day or more?..... 3  
VARIED ..... 4  
REFUSED ..... 7  
DON'T KNOW ..... 9

c. **a young adult between the ages of 18 and 35 years old? Would you say . . .**

never, ..... 0  
rarely – less than once a week, ..... 1  
sometimes – once a week or more, but  
less than once a day, or..... 2  
often – once a day or more?..... 3  
VARIED ..... 4  
REFUSED ..... 7  
DON'T KNOW ..... 9

**BOX 8A**

**CHECK ITEM DBQ.265A:**  
IF SP AGE >= 60, CONTINUE.  
OTHERWISE, GO TO BOX 15.

DBQ.301 The next questions are about meals provided by community or government programs.

In the **past 12 months**, did {you/SP} receive any meals **delivered** to {your/his/her} home from community programs, "Meals on Wheels", or any other programs?

YES ..... 1  
NO ..... 2  
REFUSED ..... 7  
DON'T KNOW ..... 9

DBQ.330 In the **past 12 months**, did {you/SP} go to a community program or senior center to eat prepared meals?

INCLUDE ADULT DAY CARE

YES ..... 1  
NO ..... 2  
REFUSED ..... 7  
DON'T KNOW ..... 9

**BOX 8B**

**CHECK ITEM DBQ.335:**  
GO TO BOX 15.

**BOX 9**

**CHECK ITEM DBQ.355:**  
IF SP AGE 4-19, CONTINUE.  
OTHERWISE, GO TO BOX 14.

DBQ.360 During the **school year**, {do you/does SP} attend a kindergarten, grade school, junior or high school?

INTERVIEWER INSTRUCTION: ENTER 'NO' IF THE SP IS HOME SCHOOLED.

YES ..... 1  
NO ..... 2 (BOX 14)  
REFUSED ..... 7 (BOX 14)  
DON'T KNOW ..... 9 (BOX 14)

DBQ.370 Does {your/SP's} school serve school lunches? These are **complete** lunches that cost **the same every day**.

YES ..... 1  
NO ..... 2 (DBQ.400)  
REFUSED ..... 7 (DBQ.400)  
DON'T KNOW ..... 9 (DBQ.400)

---

DBQ.381 During the **school year**, about how many times a week {do you/does SP} usually get a complete school lunch?  
G/Q

ENTER NUMBER OF TIMES

NONE ..... 2 (DBQ.400)  
REFUSED ..... 7 (DBQ.400)  
DON'T KNOW ..... 9 (DBQ.400)

DBQ.390 {Do you/Does SP} get these lunches free, at a reduced price, or {do you/does he/she} pay full price?

FREE ..... 1  
REDUCED PRICE ..... 2  
FULL PRICE ..... 3  
REFUSED ..... 7  
DON'T KNOW ..... 9

DBQ.400 Does {your/SP's} school serve a **complete** breakfast that costs **the same every day**?

YES ..... 1  
NO ..... 2 (BOX 9A)  
REFUSED ..... 7 (BOX 9A)  
DON'T KNOW ..... 9 (BOX 9A)

DBQ.411 During the **school year**, about how many times a week {do you/does SP} usually get a complete breakfast at school?  
G/Q

ENTER NUMBER OF TIMES

NONE ..... 2 (BOX 9A)  
REFUSED ..... 7 (BOX 9A)  
DON'T KNOW ..... 9 (BOX 9A)

DBQ.421 {Do you/Does SP} get these breakfasts free, at a reduced price, or {do you/does he/she} pay full price?

FREE ..... 1  
REDUCED PRICE ..... 2  
FULL PRICE ..... 3  
REFUSED ..... 7  
DON'T KNOW ..... 9

**BOX 9A**

**CHECK ITEM DBQ.422:**

IF DBQ.390 = CODE 1 OR CODE 2 OR DBQ.421 = CODE 1 OR CODE 2,  
CONTINUE.  
OTHERWISE, GO TO BOX 14.

DBQ.424 {Do you/Does SP} get a free or reduced price meal at any summer program {you/he/she} attends?

- YES ..... 1
- NO ..... 2
- DID NOT ATTEND SUMMER PROGRAM.... 3
- REFUSED ..... 7
- DON'T KNOW ..... 9

**BOX 10**  
OMITTED

**BOX 10A**  
OMITTED

**BOX 11**  
OMITTED

**BOX 14**

**CHECK ITEM DBQ.710:**  
IF SP AGE > 11, GO TO BOX 15.  
ELSE, IF SP AGE 6-11, GO TO FSQ.675,  
OTHERWISE, CONTINUE.

FSQ.651 Next are a few questions about the WIC program.

Did {SP} receive benefits from WIC, that is, the Women, Infants, and Children program, in the **past 12 months?**

- YES ..... 1 (FSQ.673)
- NO ..... 2 (BOX 14a)
- REFUSED ..... 7 (BOX 14a)
- DON'T KNOW ..... 9 (BOX 14a)

**BOX 14a**

**CHECK ITEM DBQ.710a:**  
IF SP AGE < 1, GO TO FSQ.690.  
OTHERWISE, GO TO FSQ.675.

FSQ.673 Is {SP} now receiving benefits from the WIC program?

YES ..... 1  
NO ..... 2  
REFUSED ..... 7  
DON'T KNOW ..... 9

**BOX 14b**

**CHECK ITEM DBQ.710b:**  
IF SP AGE =1 or < 1, GO TO FSQ.685.  
OTHERWISE, CONTINUE.

{Next are a few questions about the WIC program, that is, the Women, Infants, and Children program}

FSQ.675 Did {SP} receive benefits from WIC when {he/she} was less than one year old?

YES ..... 1  
NO ..... 2  
REFUSED ..... 7  
DON'T KNOW ..... 9

CAPI INSTRUCTION:  
DISPLAY INTRODUCTION IF SP AGE IS 6-11.

**BOX 14c**

**CHECK ITEM DBQ.710c:**  
IF SP AGE = 1, GO TO BOX 14d.  
IF SP AGE = 2-5, and (FSQ651 = 1 or FSQ.673 = 1), GO TO BOX 14d.  
OTHERWISE, CONTINUE.

FSQ.680 Did {SP} receive benefits from WIC when {he/she} {was/is} between the ages of 1 to {SP AGE} years old?

CAPI INSTRUCTION:  
If SP age = 2 or 3, DISPLAY the current age of the SP in years;  
If SP age >3, DISPLAY "4".

YES ..... 1  
NO ..... 2  
REFUSED ..... 7  
DON'T KNOW ..... 9

**BOX 14d**

**CHECK ITEM DBQ.710d:**

IF SP AGE = 1 and

FSQ651 in (2, 7, 9) and FSQ.675 in (2, 7, 9), GO TO FSQ.690.

SP AGE 2-5 and

FSQ651 in (2, 7, 9) and FSQ.675 in (2, 7, 9) and FSQ.680 in (2, 7, 9), GO TO FSQ.690.

SP AGE = 6-11 and

FSQ.675 in (2, 7, 9) and FSQ.680 in (2, 7, 9), GO TO FSQ.690.

OTHERWISE, CONTINUE.

FSQ.685 How long {did SP receive/has SP been receiving} benefits from the WIC program?

SOFT EDIT: NUMBER CANNOT BE MORE THAN SP'S AGE.

\_\_

ENTER NUMBER (OF MONTHS OR YEARS)

REFUSED ..... 77

DON'T KNOW ..... 99

ENTER UNIT

MONTHS ..... 1

YEARS ..... 2

REFUSED ..... 7

DON'T KNOW ..... 9

FSQ.690 Did {SP's} mother receive benefits from WIC, while she was pregnant with {SP}?

YES ..... 1

NO ..... 2 (BOX 15)

REFUSED ..... 7 (BOX 15)

DON'T KNOW ..... 9 (BOX 15)

FSQ.695 What month of the pregnancy did {SP's} mother begin to receive WIC benefits?

\_\_

ENTER NUMBER

REFUSED ..... 77

DON'T KNOW ..... 99

**BOX 15**

**CHECK ITEM DBQ.715:**

IF SP AGE < 1 GO TO END OF SECTION.

IF SP AGE 12-15 GO TO DBQ.915.

OTHERWISE, CONTINUE.

**BOX 12**  
OMITTED

**BOX 13**  
OMITTED

DBQ.895 Next I'm going to ask you about meals. By meal, I mean **breakfast, lunch and dinner**. During the **past 7 days**, how many meals {did you/did SP} get that were **prepared away from home** in places such as restaurants, fast food places, food stands, grocery stores, or from vending machines?

{Please do not include meals provided as part of the school lunch or school breakfast./Please do not include meals provided as part of the community programs you reported earlier.}

CAPI INSTRUCTION:

IF DBQ381G = 1 OR DBQ.411G = 1, DISPLAY {Please do not include meals provided as part of the school lunch or school breakfast.}

IF DBQ.301 = 1 OR DBQ.330 = 1, DISPLAY {Please do not include meals provided as part of the community programs you reported earlier.}

SOFT EDIT: DISPLAY A MESSAGE FOR ENTRY LARGER THAN "21." – "Unusually large number entered – Please verify – this is more than 3 meals per day, each day during the past 7 days."

|\_|\_|  
ENTER NUMBER

NONE ..... 2 (DBQ.905)  
REFUSED ..... 7 (DBQ.905)  
DON'T KNOW ..... 9 (DBQ.905)

DBQ.900 How many of those meals {did you/did SP} get from a fast-food or pizza place?

|\_|\_|  
ENTER NUMBER

NONE ..... 2  
REFUSED ..... 7  
DON'T KNOW ..... 9

CAPI INSTRUCTION: HARD EDIT

NUMBER OF MEALS ENTERED IN DBQ.900 MUST BE EQUAL TO OR LESS THAN NUMBER ENTERED IN DBQ.895. IF NOT, DISPLAY THE FOLLOWING:

"THE NUMBER OF MEALS FROM A FAST FOOD OR PIZZA PLACE CANNOT BE GREATER THAN NUMBER OF MEALS PREPARED AWAY FROM HOME."

DBQ.905 Some grocery stores sell “ready to eat” foods such as salads, soups, chicken, sandwiches and cooked vegetables in their salad bars and deli counters.

During the **past 30 days**, how often did {you/SP} eat “ready to eat” foods from the grocery store? Please do not include sliced meat or cheese you buy for sandwiches and frozen or canned foods.

□□□

ENTER NUMBER OF TIMES (PER DAY, WEEK, OR MONTH)

NEVER ..... 0  
REFUSED ..... 7  
DON'T KNOW ..... 9

ENTER UNIT

DAY ..... 1  
WEEK ..... 2  
MONTH ..... 3

DBQ.910 During the **past 30 days**, how often did you {SP} eat frozen meals or frozen pizzas? Here are some examples of frozen meals and frozen pizzas.

HAND CARD DBQ4

□□□

ENTER NUMBER OF TIMES (PER DAY, WEEK, OR MONTH)

NEVER ..... 0  
REFUSED ..... 7  
DON'T KNOW ..... 9

ENTER UNIT

DAY ..... 1  
WEEK ..... 2  
MONTH ..... 3

DBQ.915 {Do you/Does SP} consider {yourself/himself/herself} to be a vegetarian?

CAPI INSTRUCTION:

PARENT SHOULD BE ASKED THIS QUESTION ABOUT CHILD WHO IS AGE 1-11. “Do you consider \_\_\_\_\_ to be”

YES ..... 1  
NO ..... 2  
REFUSED ..... 7  
DON'T KNOW ..... 9

---



DBQ.920 {Do you/Does SP} have any food allergies?

- YES ..... 1
- NO ..... 2 (BOX 15a)
- REFUSED ..... 7 (BOX 15a)
- DON'T KNOW ..... 9 (BOX 15a)

HELP SCREEN:

Food Allergy: A reaction causing a skin rash, hives, difficulty breathing, wheezing, or itching of the eyes, mouth, throat or skin.

DBQ.925 What foods {are you/is SP} allergic to?

HAND CARD DBQ5

[CODE ALL THAT APPLY]

- WHEAT ..... 10
- COW'S MILK ..... 11
- EGGS ..... 12
- FISH ..... 13
- SHELLFISH (SHRIMP, CRAB, OR  
LOBSTER) ..... 14
- CORN ..... 15
- PEANUT ..... 16
- OTHER NUTS ..... 17
- SOY PRODUCTS ..... 18
- OTHER ..... 19
- REFUSED ..... 7
- DON'T KNOW ..... 9

**BOX 15a**

**CHECK ITEM DBQ.715a:**  
IF SP AGE < 16, GO TO END OF SECTION.  
OTHERWISE, CONTINUE.

DBQ.930 {Are you/Is SP} the person who does **most** of the planning or preparing of meals in {your/SP's} family?

INTERVIEWER INSTRUCTION: IF SP ANSWERS "SOMETIMES" OR "50/50", ENTER YES

- YES ..... 1
- NO ..... 2
- REFUSED ..... 7
- DON'T KNOW ..... 9

DBQ.935 {Do you/Does SP} share in the planning or preparing of meals with someone else?

YES ..... 1  
NO ..... 2  
REFUSED ..... 7  
DON'T KNOW ..... 9

DBQ.940 {Are you/Is SP} the person who does **most** of the shopping for food in {your/SP's} family?

YES ..... 1  
NO ..... 2  
REFUSED ..... 7  
DON'T KNOW ..... 9

DBQ.945 {Do you/Does SP} share in the shopping for food with someone else?

YES ..... 1  
NO ..... 2  
REFUSED ..... 7  
DON'T KNOW ..... 9

END OF SECTION

---

**CONSUMER BEHAVIOR – CBQ**  
**Target Group: Family Questionnaire**

**BOX NEW 1A**

**NEW CHECK ITEM:**  
 IF ONE PERSON FAMILY, GO TO CBQ.020.  
 OTHERWISE, CONTINUE.

CBQ.010 Is anyone in this family on any kind of diet, either to lose weight or for some other health-related reason?

**HELP SCREEN:**

Examples of special diets include diet for weight loss, low carbohydrate, high protein, Atkins, to lower cholesterol, gluten-free, low sodium, diabetic diet, etc.

- YES ..... 1
- NO ..... 2
- REFUSED ..... 7
- DON'T KNOW ..... 9

CBQ.020 The next questions ask how often {your family has/you have} certain types of food **available** at home.

How often {does your family/do you} have **fruits** available at home? This includes fresh, dried, canned and frozen fruits. Would you say always, most of the time, sometimes, rarely, or never?

HAND CARD CBQ1

- ALWAYS ..... 1
- MOST OF THE TIME ..... 2
- SOMETIMES ..... 3
- RARELY ..... 4
- NEVER ..... 5
- REFUSED ..... 7
- DON'T KNOW ..... 9

CBQ.030 How often {does your family/do you} have any of these **dark green vegetables** available at home? This includes fresh, dried, canned, and frozen vegetables. [Would you say always, most of the time, sometimes, rarely, or never?]

HAND CARD CBQ2 and HAND CARD CBQ3.

INTERVIEWER INSTRUCTION: DO NOT INCLUDE ICEBERG, BUTTERHEAD, BOSTON, AND MANOA LETTUCE

- ALWAYS ..... 1
- MOST OF THE TIME ..... 2
- SOMETIMES ..... 3
- RARELY ..... 4
- NEVER ..... 5
- REFUSED ..... 7
- DON'T KNOW ..... 9

CBQ.040 How often {does your family/do you} have **salty snacks** such as chips and crackers available at home? Do not include nuts. [Would you say always, most of the time, sometimes, rarely, or never?]

HAND CARD CBQ3

ALWAYS .....	1
MOST OF THE TIME .....	2
SOMETIMES .....	3
RARELY .....	4
NEVER .....	5
REFUSED .....	7
DON'T KNOW .....	9

CBQ.050 How often {does your family/do you} have **1% fat, skim or fat-free milk** available at home? Please do not include 2% milk. [Would you say always, most of the time, sometimes, rarely, or never?]

HAND CARD CBQ3

INTERVIEWER INSTRUCTION: DO NOT INCLUDE SOY MILK

ALWAYS .....	1
MOST OF THE TIME .....	2
SOMETIMES .....	3
RARELY .....	4
NEVER .....	5
REFUSED .....	7
DON'T KNOW .....	9

CBQ.060 How often {does your family/do you} have **soft drinks, fruit-flavored drinks, or fruit punch** available at home? Please do not include diet drinks, 100 percent juice or sports drinks. [Would you say always, most of the time, sometimes, rarely, or never?]

HAND CARD CBQ3

ALWAYS .....	1
MOST OF THE TIME .....	2
SOMETIMES .....	3
RARELY .....	4
NEVER .....	5
REFUSED .....	7
DON'T KNOW .....	9

---

CBQ.070 Q/U The next questions are about how much money {your family spends/you spend} on food. First I'll ask you about money spent at supermarkets or grocery stores. Then we will talk about money spent at other types of stores.

During the **past 30 days**, how much money {did your family/did you} spend at **supermarkets** or **grocery stores**? Please include purchases made with food stamps. (You can tell me per week or per month.)

INTERVIEWER: ENTER "0" IF SP SAYS NO MONEY WAS SPENT.

\$ | | | | | | | | | |

NO MONEY SPENT ..... 0 (CBQ.100)  
 REFUSED ..... 7 (CBQ.100)  
 DON'T KNOW ..... 9 (CBQ.100)

ENTER UNIT

WEEK ..... 1  
 MONTH ..... 2  
 REFUSED ..... 7  
 DON'T KNOW ..... 9

CBQ.080 Was any of this money spent on **nonfood items** such as cleaning or paper products, pet food, cigarettes or alcoholic beverages?

YES ..... 1  
 NO ..... 2 (CBQ.100)  
 REFUSED ..... 7 (CBQ.100)  
 DON'T KNOW ..... 9 (CBQ.100)

CBQ.090 Q/U About how much money was spent on nonfood items? (You can tell me per week or per month.)

\$ | | | | | | | | | |

HARD EDIT: AMOUNT CANNOT BE MORE THAN THE AMOUNT ENTERED ON CBQ.070.

REFUSED ..... 7  
 DON'T KNOW ..... 9

ENTER UNIT

WEEK ..... 1  
 MONTH ..... 2  
 REFUSED ..... 7  
 DON'T KNOW ..... 9

CBQ.100 During the **past 30 days**, {did your family/did you} spend money on **food** at stores **other** than grocery stores? Here are some examples of stores where you might buy food. Please do not include stores that you have already told me about.

HAND CARD CBQ4

- YES ..... 1
- NO ..... 2 (CBQ.120)
- REFUSED ..... 7 (CBQ.120)
- DON'T KNOW ..... 9 (CBQ.120)

CBQ.110 About how much money {did your family/did you} spend on **food** at these types of stores? (Please do not include any stores you have already told me about.) (You can tell me per week or per month.)  
Q/U

INTERVIEWER: ENTER "0" IF SP SAYS NO MONEY WAS SPENT.

HAND CARD CBQ4

\$ | | | | | | | | | |

- REFUSED ..... 7
- DON'T KNOW ..... 9

ENTER UNIT

- WEEK ..... 1
- MONTH ..... 2
- REFUSED ..... 7
- DON'T KNOW ..... 9

CBQ.120 During the **past 30 days**, how much money {did your family/did you} spend on **eating out**? Please include money spent in cafeterias at work or at school or on vending machines, **for all family members**. (You can tell me per week or per month.)  
Q/U

INTERVIEWER INSTRUCTION: IF RESPONDENT KNOWS ONLY AMOUNT FOR SELF, CODE DK.

INTERVIEWER: ENTER "0" IF SP SAYS NO MONEY WAS SPENT.

\$ | | | | | | | | | |

- REFUSED ..... 7
- DON'T KNOW ..... 9

ENTER UNIT

- WEEK ..... 1
- MONTH ..... 2
- REFUSED ..... 7
- DON'T KNOW ..... 9

CBQ.130 Q/U During the **past 30 days**, how much money {did your family/did you} spend on food **carried out or delivered**? Please do not include money you have already told me about. (You can tell me per week or per month.)

INTERVIEWER INSTRUCTION: IF RESPONDENT KNOWS ONLY AMOUNT FOR SELF, CODE DK.

INTERVIEWER: ENTER "0" IF SP SAYS NO MONEY WAS SPENT.

\$ | | | | | | | | | |

REFUSED ..... 7  
 DON'T KNOW ..... 9

ENTER UNIT

WEEK ..... 1  
 MONTH ..... 2  
 REFUSED ..... 7  
 DON'T KNOW ..... 9

CBQ.140 How often {do you/do you or someone else} do the major food shopping for {yourself/your family}? Please do not include times when {you buy/someone buys} only a few items.

Would you say...

CAPI INSTRUCTIONS:

IF FAMILY IS COMPRISED OF ONLY ONE ADULT SP, SELECT FIRST PREFILLS FOR THE THREE ALTERNATIVE PHRASINGS.

more than once a week, ..... 1  
 once a week, ..... 2  
 once every two weeks, or ..... 3  
 once a month or less? ..... 4  
 RARELY MAKE ANY MAJOR SHOPPING  
 TRIPS, ONLY SMALL TRIPS ..... 5  
 RARELY SHOP FOR FOOD ..... 6  
 REFUSED ..... 7  
 DON'T KNOW ..... 9

CBQ.150  
Q/U

How much time does it usually take to get to the grocery store for food shopping?

INTERVIEWER INSTRUCTION: IF MORE THAN ONE STORE SAY: Please tell me about the one you go to most often.

INTERVIEWER INSTRUCTION: IF MORE THAN ONE PERSON DOES THE FOOD SHOPPING SAY: Please tell me about the one who does most of the shopping.

INTERVIEWER INSTRUCTION: THE AMOUNT OF TIME RECORDED HERE REFERS TO A "ONE-WAY" TRIP.

|\_|\_|

ENTER NUMBER OF MINUTES OR HOURS

REFUSED ..... 777  
DON'T KNOW ..... 999

ENTER UNIT

MINUTES ..... 1  
HOURS ..... 2

CBQ.160

During the **past 7 days**, how many times did {you or someone else in your family/you} cook food for dinner or supper at home?

**HELP SCREEN:**

This includes time spent putting the ingredients together to cook a meal. Do not include heating up leftovers.

CAPI INSTRUCTIONS:  
SOFT EDIT: 1-7.

|\_|\_|

ENTER NUMBER

NEVER ..... 0 (BOX 1B)  
REFUSED ..... 77  
DON'T KNOW ..... 99

CBQ.170  
Q/U

How much time do {you or someone else in your family/do you} **usually** spend on cooking dinner or supper and cleaning up after the cooking? Please do not include time spent eating.

|\_|\_|

ENTER NUMBER OF MINUTES OR HOURS

REFUSED ..... 777  
DON'T KNOW ..... 999

ENTER UNIT

MINUTES ..... 1  
HOURS ..... 2



**BOX 1B**

**CHECK ITEM CBQ.175:**  
IF ONLY 1 PERSON IN FAMILY, GO TO END OF SECTION.

CBQ.180 During the **past 7 days**, how many meals did all or **most of your family** sit down and eat together at home?

|\_|\_|  
ENTER NUMBER

NEVER ..... 0 (END OF SECTION)  
REFUSED ..... 777 (END OF SECTION)  
DON'T KNOW ..... 999 (END OF SECTION)

CAPI INSTRUCTIONS:  
SOFT EDIT: 0-21.  
MESSAGE: VERIFY FAMILY EATS AT HOME MORE THAN 3 MEALS PER DAY.

CBQ.190 How many of these meals were cooked at home?

|\_|\_|  
ENTER NUMBER

REFUSED ..... 777  
DON'T KNOW ..... 999

---

**Section VII. Food-Away-From Home (FAFH) Frequency**

**BOX 15**

**CHECK ITEM DBQ.715:**  
 IF SP AGE < 1 GO TO END OF SECTION.  
 IF SP AGE 12-15 GO TO DBQ.915.  
 OTHERWISE, CONTINUE.

DBQ.895 Next I'm going to ask you about meals. By meal, I mean **breakfast, lunch and dinner**. During the **past 7 days**, how many meals {did you/did SP} get that were **prepared away from home** in places such as restaurants, fast food places, food stands, grocery stores, or from vending machines?

{Please do not include meals provided as part of the school lunch or school breakfast./Please do not include meals provided as part of the community programs you reported earlier.}

CAPI INSTRUCTION:  
 IF DBQ381G = 1 OR DBQ.411G = 1, DISPLAY {Please do not include meals provided as part of the school lunch or school breakfast.}  
 IF DBQ.301 = 1 OR DBQ.330 = 1, DISPLAY {Please do not include meals provided as part of the community programs you reported earlier.}  
 SOFT EDIT: DISPLAY A MESSAGE FOR ENTRY LARGER THAN "21." – "Unusually large number entered – Please verify – this is more than 3 meals per day, each day during the past 7 days."

ENTER NUMBER

NONE ..... 2 (DBQ.905)  
 REFUSED ..... 7 (DBQ.905)  
 DON'T KNOW..... 9 (DBQ.905)

DBQ.900 How many of those meals {did you/did SP} get from a fast-food or pizza place?

ENTER NUMBER

NONE ..... 2  
 REFUSED ..... 7  
 DON'T KNOW..... 9

CAPI INSTRUCTION: HARD EDIT  
 NUMBER OF MEALS ENTERED IN DBQ.900 MUST BE EQUAL TO OR LESS THAN NUMBER ENTERED IN DBQ.895. IF NOT, DISPLAY THE FOLLOWING:  
 "THE NUMBER OF MEALS FROM A FAST FOOD OR PIZZA PLACE CANNOT BE GREATER THAN NUMBER OF MEALS PREPARED AWAY FROM HOME."

**Section VIII. Use of Convenience Foods**

DBQ.905 Some grocery stores sell “ready to eat” foods such as salads, soups, chicken, sandwiches and cooked vegetables in their salad bars and deli counters.

During the **past 30 days**, how often did {you/SP} eat “ready to eat” foods from the grocery store?  
Please do not include sliced meat or cheese you buy for sandwiches and frozen or canned foods.

\_\_\_\_|

ENTER NUMBER OF TIMES (PER DAY, WEEK, OR MONTH)

NEVER ..... 0  
REFUSED ..... 7  
DON'T KNOW ..... 9

ENTER UNIT

DAY ..... 1  
WEEK ..... 2  
MONTH ..... 3

DBQ.910 During the **past 30 days**, how often did you {SP} eat frozen meals or frozen pizzas? Here are some examples of frozen meals and frozen pizzas.

HAND CARD DBQ4

\_\_\_\_|

ENTER NUMBER OF TIMES (PER DAY, WEEK, OR MONTH)

NEVER ..... 0  
REFUSED ..... 7  
DON'T KNOW ..... 9

ENTER UNIT

DAY ..... 1  
WEEK ..... 2  
MONTH ..... 3

**Section XI. Food Away From Home (FAFH) Attitudes**

CBQ.505 {Great. I'll tell you when you will need it. For the first few questions, please answer yes or no.}

In the past 12 months, did you buy food from fast food or pizza places?

CAPI INSTRUCTION:

If CBQ.503="2", "7", OR "9", REPLACE TEXT IN THE BRACES WITH THE FOLLOWING:

"Ok, let's go ahead with the interview."

Yes.....	1
No .....	2 [CBQ.550]
REFUSED .....	7
DON'T KNOW .....	9

CBQ.510 I'm going to read several reasons why you might buy food from fast food or pizza places instead of cooking at home.

First, do you buy food from fast food or pizza places because it is **cheaper** than cooking at home?

Yes.....	1
No .....	2
REFUSED .....	7
DON'T KNOW .....	9

CBQ.515 Do you buy food from fast food or pizza places because the foods there are more **nutritious** than foods cooked at home?

Yes.....	1
No .....	2
REFUSED .....	7
DON'T KNOW .....	9

CBQ.520 Do you buy food from fast food or pizza places because the foods there **taste better** than foods cooked at home?

Yes.....	1
No .....	2
REFUSED .....	7
DON'T KNOW .....	9

CBQ.525 Do you buy food from fast food or pizza places because it is more **convenient** than cooking at home?

Yes.....	1
No .....	2
REFUSED .....	7
DON'T KNOW .....	9

CBQ.530 Do you eat at fast food or pizza places instead of cooking at home to **socialize** with family and friends?

Yes..... 1  
No ..... 2  
REFUSED ..... 7  
DON'T KNOW ..... 9

CBQ.535 The **last** time when you ate out or bought food at a **fast-food or pizza place**, did you see **nutrition or health information** about any foods on the menu?

YES ..... 1  
NO ..... 2 (CBQ.545)  
REFUSED ..... 7 (CBQ.545)  
DON'T KNOW ..... 9 (CBQ.545)

CBQ.540 Did you use the information in deciding which foods to buy?

YES ..... 1  
NO ..... 2  
REFUSED ..... 7  
DON'T KNOW ..... 9

CBQ.545 {Please open your hand card booklet and turn to hand card 1 to answer the next question.}

If nutrition or health information were readily available in fast food or pizza places, would you use it often, sometimes, rarely, or never, in deciding what to order?

[HAND CARD #1]

CAPI INSTRUCTION: Do NOT display the text in braces if CBQ.502="2".

OFTEN ..... 1  
SOMETIMES ..... 2  
RARELY ..... 3  
NEVER ..... 4  
REFUSED ..... 7  
DON'T KNOW ..... 9

CBQ.550 In the past 12 months, did you eat at a restaurant with waiter or waitress service?

Yes..... 1  
No ..... 2 [CBQ.595]  
REFUSED ..... 7  
DON'T KNOW ..... 9

CBQ.555 I'm going to read several reasons why you might eat at a restaurant with a waiter or waitress instead of cooking at home.

First, do you eat at a restaurant with a waiter or waitress because it is **cheaper** than cooking at home?

Yes..... 1  
 No ..... 2  
 REFUSED ..... 7  
 DON'T KNOW ..... 9

CBQ.560 Do you eat at a restaurant [with a waiter or waitress] because the foods there are more **nutritious** than foods cooked at home?

Yes..... 1  
 No ..... 2  
 REFUSED ..... 7  
 DON'T KNOW ..... 9

CBQ.565 Do you eat at a restaurant [with a waiter or waitress] because the foods there **taste better** than foods cooked at home?

Yes..... 1  
 No ..... 2  
 REFUSED ..... 7  
 DON'T KNOW ..... 9

CBQ.570 Do you eat at a restaurant [with a waiter or waitress] because it is more **convenient** than cooking at home?

Yes..... 1  
 No ..... 2  
 REFUSED ..... 7  
 DON'T KNOW ..... 9

CBQ.575 Do you eat at a restaurant [with a waiter or waitress] instead of cooking at home to **socialize** with family and friends?

Yes..... 1  
 No ..... 2  
 REFUSED ..... 7  
 DON'T KNOW ..... 9

CBQ.580 The **last** time you ate at a restaurant **with a waiter or waitress**, did you see **nutrition or health information** about any foods on the menu?

YES ..... 1  
 NO ..... 2 (CBQ.590)  
 REFUSED ..... 7 (CBQ.590)  
 DON'T KNOW ..... 9 (CBQ.590)

CBQ.585	Did you use the information in deciding which foods to buy?	
	YES.....	1
	NO.....	2
	REFUSED.....	7
	DON'T KNOW.....	9

CBQ.590 {Please look at hand card 1 again.}

If nutrition or health information were readily available in restaurants with a waiter or waitress, would you use it often, sometimes, rarely, or never, in deciding what to order?

[HAND CARD #1]

CAPI INSTRUCTION: Do NOT display the text in braces if CBQ.502="2".

OFTEN.....	1
SOMETIMES.....	2
RARELY.....	3
NEVER.....	4
REFUSED.....	7
DON'T KNOW.....	9

CBQ.655 Would you say you strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, or strongly disagree with the following statement: "There is no reason for me to make changes to the things I eat"?

[HAND CARD #3]

- STRONGLY AGREE ..... 1
- SOMEWHAT AGREE..... 2
- NEITHER AGREE NOR DISAGREE..... 3
- SOMEWHAT DISAGREE..... 4
- STRONGLY DISAGREE ..... 5
- REFUSED ..... 7
- DON'T KNOW ..... 9

**d. Factors Influence Grocery Shopping**

CBQ.660 {For the next set of questions, please use hand card 4.}

When you buy food from a grocery store or supermarket, how important is "price"?

Would you say very important, somewhat important, not too important, or not at all important?

[HAND CARD #4]

CAPI INSTRUCTION: Do NOT display the text in braces if CBQ.502="2".

- VERY IMPORTANT ..... 1
- SOMEWHAT IMPORTANT ..... 2
- NOT TOO IMPORTANT ..... 3
- NOT AT ALL IMPORTANT ..... 4
- NEVER BUY FROM A GROCERY STORE OR SUPERMARKET 5 (DBQ.750)
- REFUSED ..... 7
- DON'T KNOW ..... 9

CBQ.665 How about "nutrition"? When you buy food from a grocery store or supermarket, how important is "nutrition"?

[Would you say very important, somewhat important, not too important, or not at all important?]

[HAND CARD #4]

- VERY IMPORTANT ..... 1
- SOMEWHAT IMPORTANT ..... 2
- NOT TOO IMPORTANT ..... 3
- NOT AT ALL IMPORTANT ..... 4
- REFUSED ..... 7
- DON'T KNOW ..... 9



CBQ.670 How about **"taste"**?  
[When you buy food from a grocery store or supermarket, how important is **"taste"**?]  
[Would you say very important, somewhat important, not too important, or not at all important?]  
[HAND CARD #4]

- VERY IMPORTANT ..... 1
- SOMEWHAT IMPORTANT ..... 2
- NOT TOO IMPORTANT ..... 3
- NOT AT ALL IMPORTANT ..... 4
- REFUSED ..... 7
- DON'T KNOW ..... 9

CBQ.675 How about **"how easy the food is to prepare"**?  
[When you buy food from a grocery store or supermarket, how important is **"how easy the food is to prepare"**?]  
[Would you say very important, somewhat important, not too important, or not at all important?]  
[HAND CARD #4]

- VERY IMPORTANT ..... 1
- SOMEWHAT IMPORTANT ..... 2
- NOT TOO IMPORTANT ..... 3
- NOT AT ALL IMPORTANT ..... 4
- REFUSED ..... 7
- DON'T KNOW ..... 9

CBQ.680 How about **"how well the food keeps after it's bought"**?  
[When you buy food from a grocery store or supermarket, how important is **"how well the food keeps after it's bought [in other words, how soon it spoils]"**?]  
[Would you say very important, somewhat important, not too important, or not at all important?]  
[HAND CARD #4]

- VERY IMPORTANT ..... 1
- SOMEWHAT IMPORTANT ..... 2
- NOT TOO IMPORTANT ..... 3
- NOT AT ALL IMPORTANT ..... 4
- REFUSED ..... 7
- DON'T KNOW ..... 9

## Appendix 6: Select Pages of the East L.A. Community Survey Questionnaire

# East Los Angeles Food Study

## Community Survey Baseline Questionnaire

### VERSION, 6/1/2011 final

#### Introduction

LPRF. Would you prefer to be interviewed in English or Spanish?

- (1) ENGLISH
- (5) SPANISH

CONS. UCLA and Temple University both require all study participants to read the Consent Form and sign it. The purposes of this form are to provide you with the information you need to decide if you want to participate in this study, and to protect your rights as a research subject.

Because of these requirements, I am not allowed to interview you until you have read the Consent Form and signed it. Do you confirm that you've read and signed the consent form?

- (1) YES
- (5) NO

INTRO. This important survey is being funded by the National Heart Lung and Blood Institute of the National Institutes of Health, and conducted by the Temple University Institute for Survey Research on behalf of the UCLA Center for Population Health and Health Disparities. You and your household are part of a scientific sample selected to represent your neighborhood.

INT2. I'd like to assure you that this interview is completely voluntary and confidential. You may skip any question you don't want to answer. Just let me know and we'll go to the next question.

I'd like to thank you in advance for participating in this study. After the interview is completed, I will give you \$25 cash to thank you for your time.

INT3. Do you have any additional questions you'd like to ask before we begin?

- (1) YES (ANSWER R'S QUESTIONS AND REPEAT INT3)
- (5) NO

Great, then we can begin.

## Home Food Preparation (FDPREP)

FDP\_INT. Now I'd like to ask you some questions about the foods you and your family prepare at home. These can include homemade meals you eat at home or those which you prepare but then you or someone in your family may take and eat somewhere else

FDREP1a. During a typical week, how many times a week do you prepare:

FDPREP2. Breakfasts?

NUMBER: \_\_\_\_\_ (RANGE = 0-7)

FDPREP3. Lunches?

NUMBER: \_\_\_\_\_ (RANGE = 0-7)

FDPREP4. Dinners?

NUMBER: \_\_\_\_\_ (RANGE = 0-7)

FC13. Now I'm going to ask you about foods that you may purchase which are prepared elsewhere. During a typical week, how many times do you eat food that was prepared elsewhere. Please include all of the fast food meals or other prepared meals you eat at work, home, school, or on the go during a typical week.

**AS NEEDED.**(By fast food we mean food from a deli counter at the supermarket or other grocery store, from a vending machine, food truck, taquerías, or a fast food restaurant, carryout or drive through like McDonalds, Panda Express, Taco Bell, or King Taco.)

- (a) Never
- (b) Sometimes
- (c) Often, or
- (d) Every day?

FSE2. Do any of the following reasons make it hard for you to prepare healthy food for yourself or your family?

	YES	NO	DK	REF
FSE2a. You don't have time to prepare healthy food.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FSE2b. You don't like eating healthy food.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FSE2c. Your family doesn't like eating healthy food.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FSE2d. You don't have a convenient place where you can buy healthy foods to prepare at home.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FSE2e. Preparing healthy food is too expensive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FSE2f. You don't know how to prepare healthy food.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FSE2g. It's hard to find places in your neighborhood where you can buy healthy foods you can prepare at home.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FSE2h. Healthy foods that you can prepare at home like fruits and vegetables are sold in your neighborhood, but the quality isn't very good.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FSE2i. Healthy foods that you can prepare at home like fruits and vegetables are sold in your neighborhood, but the price is too high.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Healthy Food Environment

FHA4. Now I'd like you to think about any fresh, frozen, or canned fruits you or your family have at home now. Which of the following fresh, frozen, or canned fruits do you now have in your home?

	YES	NO	DK	REF
FHA4a. Apples or pears	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FHA4b. Avocados				
FHA4c. Bananas or plantains				
FHA4d. Berries like strawberries or blueberries				
FHA4e. Citrus fruit like oranges or grapefruit				
FHA4f. Fruit with pits like nectarines, plums, peaches, or cherries				
FHA4g. Grapes				
FHA4h. Mangoes, guayabas, guavas, papayas, or kiwis				
FHA4i. Melons like cantaloupe or watermelon				
FHA4j. Nuts and seeds, like almonds, peanuts or sunflower seeds				
FHA4k. Pineapple				
FHA4l. Dried fruit like raisins, cranberries or 100% fruit roll ups that you have not already counted in one of the other questions I just asked.				
FHA4m. Are there any other fruits besides those I just mentioned that you would like to add? (SPECIFY) _____				

FHA5. Next I'd like you to think about any **fresh, frozen, or canned vegetables** you or your family have at home now. Which of the following fresh, frozen, or canned **vegetables** do you have in your home now?

	YES	NO	DK	REF
FHA5a. Asparagus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FHA5b. Beans, like black, pinto, peruano, kidney, garbanzo				
FHA5b2 Green beans or peas				
FHA5c. Broccoli, cauliflower, or cabbage				
FHA5d. Celery				
FHA5e. Corn				
FHA5f. Cucumber				
FHA5g. Green, red, or yellow (sweet) peppers				
FHA5h. Hot chili peppers such as serranos, piquin, jalapeños,				
FHA5i. Green, leafy vegetables like lettuce or spinach				
FHA5j. Onions				
FHA5k. Potatoes, including sweet potatoes or yams				
FHA5l. Other root vegetables like carrots, parsnips, or jicama				
FHA5m. Tomatoes				
FHA5n. Zucchini, or squash like chayote, summer squash, or eggplant				
FHA5o. Are there any other vegetables besides those I just mentioned that you would like to add? (SPECIFY) _____				

## Food Consumption (FC)

FC\_INT. These questions are about the ways you eat. Think about what you eat and how you usually prepare food.

### SHOW CARD 2

TFB13. Do you eat 2 or more **vegetables** at your main meal? Would you say:

- (a) No
- (b) Yes, sometimes
- (c) Yes, often, or
- (d) Yes, every day

TFB1. Do you eat fruits or vegetables as snacks? Would you say:

- (a) No
- (b) Yes, sometimes
- (c) Yes, often, or
- (d) Yes, everyday

TFB2. Do you drink fruit drinks, sport drinks or punch? Please do not include 100% fruit juice. Would you say:

- (a) No
- (b) Yes, sometimes
- (c) Yes, often, or
- (d) Yes, everyday

TFB3. Do you drink regular soda? Would you say:

- (a) No
- (b) Yes, sometimes
- (c) Yes, often, or
- (d) Yes, everyday

FC18. Do you eat ice cream or other frozen desserts **including** low fat ice cream and frozen desserts? Would you say:

- (a) No
- (b) Yes, sometimes
- (c) Yes, often, or
- (d) Yes, every day

FC19. Do you drink **100% fruit juice** such as orange, apple, grape or grapefruit juice? Please **do not** count fruit drinks like Kool-Aid, lemonade, Hi-C, cranberry juice drink, Sunny Delight, Tang, Tampico, or Twister? Would you say:

- (a) No
- (b) Yes, sometimes
- (c) Yes, often, or
- (d) Yes, every day

- FC17. Do you eat Mexican sweet bread (“pan dulce”), cake, pie, pudding, brownies or cookies, including low fat kinds?
- (a) No
  - (b) Yes, sometimes
  - (c) Yes, often, or
  - (d) Yes, every day
- FC12. Do you eat **whole grain** breads including toast, rolls, and in sandwiches? Whole grain breads include whole wheat, rye, oatmeal, and pumpernickel. Please do **not** include white bread or white flour tortillas. Would you say:
- (a) No
  - (b) Yes, sometimes
  - (c) Yes, often, or
  - (d) Yes, every day
- FC9. During a typical week, do you eat regular potato or corn tortilla chips, pretzels, or crackers that are **not** baked or popped?
- (a) No
  - (b) Yes, sometimes
  - (c) Yes, often, or
  - (d) Yes, every day
- FC9b. During a typical week, how many times do you eat **baked or popped** potato chips or baked tortilla chips? Please do not include regular potato or tortilla chips.
- (a) No
  - (b) Yes, sometimes
  - (c) Yes, often, or
  - (d) Yes, every day
- TFB4. Do you drink milk? Would you say:
- (a) No—(SKIP TO TFB6)
  - (b) Yes, sometimes
  - (c) Yes, often, or
  - (d) Yes, everyday

**TAKE BACK SHOW CARD 2**

- FC20. What kind of milk do you usually drink? Please choose only one of the following:
- (a) Whole milk
  - (b) 2% fat milk
  - (c) 1% fat milk
  - (d) Skim milk or nonfat milk
  - (e) Soy milk
  - (f) Rice milk
  - (g) Other



TFB5. Did you drink milk or use milk on cereal during the **past week**? Would you say:

- (a) Yes, or
- (b) No

TFB6. Did you have citrus fruit or citrus juice during the **past week**? Would you say:

- (a) Yes, or
- (b) No

TFB7. How many servings of fruit do you eat each day?

NUMBER: \_\_\_\_\_

**SHOW CARD 3**

TFB8. Do you eat more than one kind of fruit each day? Would you say:

- (a) No
- (b) Yes, sometimes
- (c) Yes, often, or
- (d) Yes, always

TFB9. Do you eat more than one kind of vegetable each day? Would you say:

- (a) No
- (b) Yes, sometimes
- (c) Yes, often, or
- (d) Yes, always

TFB10. How many servings of vegetables do you eat each day?

NUMBER: \_\_\_\_\_

TFB11. Do you take the skin off chicken? Would you say:

- (a) No
- (b) Yes, sometimes
- (c) Yes, often, or
- (d) Yes, always

TFB12. Did you have fish during the **past week**? Would you say:

- (a) Yes, or
- (b) No

TFB14. Do you use the nutrition label when you shop for food? Would you say:

- (a) No
- (b) Yes, sometimes
- (c) Yes, often, or
- (d) Yes, always

TFB15. Do you run out of food before the end of the month? Would you say:

- (a) No
- (b) Yes, sometimes
- (c) Yes, often, or
- (d) Yes, always

**TAKE BACK SHOW CARD 3**

**SHOW CARD 4**

TFB16. On a scale from 1 to 10, where 1 is poor, 4 is fair, 7 is good, and 10 is excellent, how would you rate your eating habits?

NUMBER: \_\_\_\_\_ (RANGE = 1-10)

**TAKE BACK SHOW CARD 4**

FC17. How many cups of fruit do you eat each day? Would you say:

- (a) None
- (b) ½ cup
- (c) 1 cup
- (d) 1 ½ cups
- (e) 2 cups
- (f) 2 ½ cups
- (g) 3 or more cups

FC18. How many cups of vegetables do you eat each day? Would you say:

- (a) None
- (b) ½ cup
- (c) 1 cup
- (d) 1 ½ cups
- (e) 2 cups
- (f) 2 ½ cups
- (g) 3 or more cups

## Food Purchasing (FP)

### SHOW CARD 5A

**NOTE TO PROGRAMMER: FOR THE ITEMS A-F, IF R SAYS "YES" OR MENTIONST THESE AS FREQUENT PLACES THEY GET FOOD, WE WANT TO KNOW # OF THOSE STORES THEY SHOP AT REGULARLY.**

- FP2. Think about all of the food you prepare and which you and your family eat. I'd like you to tell me all the places you usually get food for your household. This can include groceries you buy with cash, credit, food stamps or WIC, and food you don't have to pay for. From which of the following places or people do you/does your household regularly get food/ groceries? (CHOOSE ALL THAT APPLY)
- (a) Supermarket (e.g., Superior, SuperA, Food for Less) → How many supermarkets do you regularly go to?
  - (b) Neighborhood grocery store (e.g. carniceria, tortilleria, panaderia) → How many of these do you regularly go to?
  - (c) Neighborhood corner store → how many do you go to?
  - (d) Wholesaler/discount store such as Costco, Sam's Club, WalMart, or Target → how many do you go to?
  - (e) Dollar store (e.g., 99 Cent Store or Dollar Store → how many do you go to?
  - (f) Convenience store such as a mini-mart, AM-PM or Seven Eleven → how many do you go to?
  - (g) Farmer's market such as the E.L.A. Farmer's Market
  - (h) Produce food truck that sells fruits and vegetables
  - (i) Family, neighbors or family
  - (j) Another place? (Specify: \_\_\_\_\_)

### TAKE BACK SHOW CARD

### SHOW CARD 5B

FP2NEW- Now I'd like you to think of all the food you buy that has been prepared elsewhere. Please tell me which of the following places, if any, you may go to get fast food or prepared food on a regular basis.

- (a) Deli section of supermarket
- (b) Fast food restaurant or pizza place
- (c) Restaurants (either eat in or take out)
- (d) Carry-out or deli from a supermarket, taquerías, taco stand, delicatessen
- (e) Food truck
- (f) Vending machine
- (g) Friends, neighbors, or family
- (h) Cafeteria at school or work
- (i) Other (SPECIFY) \_\_\_\_\_

### TAKE BACK SHOW CARD

FP6. During a typical week, about how much do you and your family spend on food? Please count all places where you and your family usually shop for food in a typical week and any WIC or food stamps you may use to buy food.

FP6a1. DOLLAR VALUE: \$\_\_\_\_\_ PER WEEK

FP6a2. DOLLAR VALUE: \$\_\_\_\_\_ EVERY 2 WEEKS

FP6a3. DOLLAR VALUE: \$\_\_\_\_\_ PER MONTH

FP6b. About how much of the [FP6] do you spend on canned, frozen, or fresh vegetables and fruits?

DOLLAR VALUE: \$\_\_\_\_\_

FP3a. Now I'd like to talk about some of the specific places you shop for food. Is there one particular store where you buy most of the food for your household?

- (1) YES (ASK FP3b)
- (2) NO (SKIP TO FP3e)

FP3b. What is the name of that store and where is it located?

FP3b1N. STORE1 NAME: \_\_\_\_\_

FP3b1A. STORE1 ADDRESS: \_\_\_\_\_

FP3c. Which of the following best describes [STORE1]? Would you say that [STORE1] is a:

- (a) Supermarket (e.g., Superior, SuperA, Food for Less)
- (b) Neighborhood grocery store (e.g. carniceria, tortilleria, panaderia)
- (c) Neighborhood corner store
- (d) Wholesaler/discount store such as Costco, Sam's Club, WalMart, or Target
- (e) Dollar store (e.g., 99 Cent Store or Dollar Store)
- (f) Convenience store such as a mini-mart, AM-PM or 7-11
- (g) Farmer's market (e.g., E.L.A. Farmer's Market)
- (h) Produce food truck that sells fruits and vegetables

FP4a. How do you usually get to and from [STORE1]? Do you:

- 1. Drive a car, truck, or other vehicle
- 2. Get a ride with someone who drives
- 3. Take the bus
- 4. Take the Metro
- 5. Take the subway or trolley (light rail)
- 6. Take a taxicab
- 7. Walk
- 8. Other (SPECIFY)\_\_\_\_\_

FP4d. How often do you shop for food at [STORE1]? Would you say [READ LIST]. Just tell me the letter on the card.

- (a) Every day
- (b) 5-6 times a week
- (c) 3-4 times a week
- (d) 1-2 times a week
- (e) Once every 2 weeks
- (f) Once a month, or
- (g) A few times a year?

FP3d. Where else do you frequently buy food? (RECORD 2ND MENTION AS STORE2)

FP3d1N. STORE2 NAME: \_\_\_\_\_

FP3d1A. STORE2 ADDRESS: \_\_\_\_\_

FP3d1. Which of the following best describes [STORE2]? Would you say that [STORE2] is a:

- (a) Supermarket (e.g., Superior, SuperA, Food for Less)
- (b) Neighborhood grocery store (e.g. carniceria, tortilleria, panaderia)
- (c) Neighborhood corner store
- (d) Wholesaler/discount store such as Costco, Sam's Club, WalMart, or Target
- (e) Dollar store (e.g., 99 Cent Store or Dollar Store)
- (f) Convenience store such as a mini-mart, AM-PM or 7-11
- (g) Farmer's market (e.g., E.L.A. Farmer's Market)
- (h) Produce food truck that sells fruits and vegetables

FP5a. How do you usually get to and from [STORE2]? Do you:

- (1) Drive a car, truck, or other vehicle
- (2) Get a ride with someone who drives
- (3) Take the bus
- (4) Take the Metro
- (5) Take the subway or trolley (light rail)
- (6) Take a taxicab
- (7) Walk
- (8) Other (SPECIFY) \_\_\_\_\_

**SHOW CARD 6**

FP5d. How often do you shop for food at [STORE2]? Would you say [READ LIST]. Just tell me the letter on the card.

- (i) Every day
- (j) 5-6 times a week
- (k) 3-4 times a week
- (l) 1-2 times a week
- (m) Once every 2 weeks
- (n) Once a month, or
- (o) A few times a year?

**TAKE BACK SHOW CARD 6**

**IDENTIFICATION OF USUAL STORES (IF THEY DON'T HAVE SPECIFIC STORES) (FP3a="NO")**

FP3e. Then tell me the name and location of two stores where you usually buy food for your household.

**(RECORD FIRST MENTION AS STORE1)**

FP3e1N. STORE1 NAME: \_\_\_\_\_

FP3e1A. STORE1 ADDRESS: \_\_\_\_\_

**(RECORD SECOND MENTION AS STORE2)**

FP3e2N. STORE2 NAME: \_\_\_\_\_

F3Pe2A. STORE2 ADDRESS: \_\_\_\_\_

FP3f1. Which of the following best describes [STORE1 FROM FP3e]? Would you say that [STORE1 FROM FP3e] is a:

- (a) Supermarket (e.g., Superior, SuperA, Food for Less)
- (b) Neighborhood grocery store (e.g. carniceria, tortilleria, panaderia)
- (c) Neighborhood corner store
- (d) Wholesaler/discount store such as Costco, Sam's Club, WalMart, or Target
- (e) Dollar store (e.g., 99 Cent Store or Dollar Store)
- (f) Convenience store such as a mini-mart, AM-PM or 7-11
- (g) Farmer's market (e.g., E.L.A. Farmer's Market)
- (h) Produce food truck that sells fruits and vegetables

FP5a1. How do you usually get to and from [STORE1 from FP3e]? Do you:

- (1) Drive a car, truck, or other vehicle
- (2) Get a ride with someone who drives
- (3) Take the bus
- (4) Take the Metro
- (5) Take the subway or trolley (light rail)
- (6) Take a taxicab
- (7) Walk
- (8) Other (SPECIFY) \_\_\_\_\_

**SHOW CARD 6**

FP5d1. How often do you shop for food at [STORE1 from FP3e]? Would you say [READ LIST]. Just tell me the letter on the card.

- (a) Every day
- (b) 5-6 times a week
- (c) 3-4 times a week
- (d) 1-2 times a week
- (e) Once every 2 weeks
- (f) Once a month, or
- (g) A few times a year?

**TAKE BACK SHOW CARD**

FP3g. Which of the following best describes [STORE2 FROM FP3e]? Would you say that [STORE2 FROM FP3e] is a:

- (a) Supermarket (e.g., Superior, SuperA, Food for Less)
- (b) Neighborhood grocery store (e.g. carniceria, tortilleria, panaderia)
- (c) Neighborhood corner store
- (d) Wholesaler/discount store such as Costco, Sam's Club, WalMart, or Target
- (e) Dollar store (e.g., 99 Cent Store or Dollar Store)
- (f) Convenience store such as a mini-mart, AM-PM or 7-11
- (g) Farmer's market (e.g., E.L.A. Farmer's Market)
- (h) Produce food truck that sells fruits and vegetables

FP5a2. How do you usually get to and from [STORE2 FROM FP3e]? Do you:

- (1) Drive a car, truck, or other vehicle
- (2) Get a ride with someone who drives
- (3) Take the bus
- (4) Take the Metro
- (5) Take the subway or trolley (light rail)
- (6) Take a taxicab
- (7) Walk
- (8) Other (SPECIFY) \_\_\_\_\_

**SHOW CARD 6**

FP5d2. How often do you shop for food at [STORE2FROM FP3e]? Would you say [READ LIST]. Just tell me the letter on the card.

- (a) Every day
- (b) 5-6 times a week
- (c) 3-4 times a week
- (d) 1-2 times a week
- (e) Once every 2 weeks
- (f) Once a month, or
- (g) A few times a year?

TAKE BACK SHOW CARD

**IF STORE1 OR STORE2 = STUDY STORE, PATH = STUDY FOR THAT STORE, OTHERWISE PROCEED ON MAIN PATH.**

## Usual Food Store 1 Information (NPF)

**NOTE TO PROGRAMMER: USE STORE1 INFO FROM FP3b OR FP3e.**

Now, I'm going to ask you some more questions about [STORE1] only.

NPF1\_2c. Do you usually buy any of the following food items when you shop at [STORE1]? (SELECT ALL THAT APPLY)

- (1) Fresh, frozen, or canned vegetables
- (2) Fresh, frozen or canned fruit
- (3) Household staples like dried beans, rice, pasta, bread, or tortillas
- (4) Milk or dairy products such as cheese, yogurt, and butter
- (5) Fresh or frozen meats, poultry or seafood
- (6) Prepared meats such as deli meats for sandwiches
- (7) Frozen meals such as TV dinners, fish sticks, or frozen pizza

NPF1\_2d. Do you usually buy any of the following beverages when you shop at [STORE1]? (SELECT ALL THAT APPLY)

- (1) Soft drinks, sport drinks or flavored waters (e.g., Coke, Pepsi, Clear Fruit, Vitamin Water, Gatorade or Propel)
- (2) Fruit flavored drinks, such as punch, lemonade, sweetened iced tea, Kool-Aid, Tampico, Sunny Delight, "horchata" or "aguas frescas"
- (3) 100% fruit juices or 100% vegetable juices (e.g., orange or apple juice, tomato or carrot juice, V8)
- (4) Bottled water like Aquafina® or Sparkletts. Do **not** count water with sugar added.

NPF1\_2e. Do you usually buy any of the following snacks when you shop at [STORE1]? (SELECT ALL THAT APPLY)

- (1) Candy or frozen snacks such as popsicles and ice cream
- (2) Dried fruit or nuts
- (3) Chips, tortilla chips, crackers, pretzels or similar snack
- (4) Other salty snacks or "botanitas" such as fried or cure pork rinds, "chicharrones" or similar snacks
- (5) Sweet snacks such as pan dulce (sweet Mexican bread), "capirotada", cookies, brownies, cake, pie or snack cakes, churros or buñuelos

NPF1\_2f. Do you usually buy any prepared foods at [STORE1]?

- (1) YES
- (2) NO
- (3) VOLUNTEERS: STORE DOES NOT SELL PREPARED FOOD



FP4E2. Now I'm going to read some statements about [STORE1]. For each of the statements, please tell me if yes, it's true or no, it's false

	YES, TRUE	NO, FALSE	DON'T KNOW	REFUSED
FP4E2a. The food sold at this store is expensive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FP4E2b. It is convenient to shop at this store (e.g., hours, distance, parking, etc.).				
FP4E2c. This store sells a <u>wide</u> variety of fresh fruits.				
FP4E2d. The fresh fruits sold at this store are of poor quality.				
FP4E2e. This store is dirty.				
FP4E2f. This store sells traditional Latino food ingredients.				
FP4E2g. I can get information about nutrition and healthy eating at this store.				
FP4E2h. This store is dangerous (e.g., there's drug dealing, gang activity, etc.).				
FP4E2i. This store sells a <u>wide</u> variety of fresh vegetables.				
FP4E2j. The fresh vegetables sold at this store are of good quality..				
FP4E2m. The staff at this store speaks my language.				
FP4E2n. This store sells a <u>wide</u> variety of frozen or canned fruits.				
FP4E2o. This store sells a <u>wide</u> variety of frozen or canned vegetables.				
FP4E2p. This store sells healthy food.				
FP4E2s. This store has <u>good</u> customer service.				
ASK ONLY IF FP3c IS NOT EQUAL TO (a).				
FP4E2u. I prefer to shop at this store rather than the supermarket.				

PROGRAMMER NOTE: QUESTIONS USTORE7a THROUGH USTORE9a ARE ASKED ONLY IF STORE1 IS NOT A SUPERMARKET (IE., FP3c OR fp3F1 ARE NOT "A" SUPERMARKET; IF IT'S SUPERMARKET SKIP TO COMM2.

USTORE7a. Does [CSTORE1] sell fresh fruit?

- (1) YES
- (5) NO

USTORE7b. Does [CSTORE1] sell fresh vegetables?

- (1) YES
- (5) NO

USTORE8. If [CSTORE1] sold **fresh fruit**, do you think you would buy **fresh fruit** at [CSTORE1]?

- (1) YES (SKIP TO USTORE9)
- (5) NO (ASK USTORE8A)

USTORE8a. Please tell me why you **don't** think you would buy **fresh fruit** at [CSTORE1].

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USTORE9. If [CSTORE1] sold **fresh vegetables**, do you think you would buy **fresh vegetables** at [CSTORE1]?

- (1) YES (SKIP TO COMM2)
- (5) NO (ASK USTORE9a)

USTORE9a. Please tell me why you **don't** think you'd buy **fresh vegetables** at [CSTORE1].

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COMM2. Have you ever seen any posters or ads at this store about eating more fruits and vegetables?

- (1) YES
- (5) NO

## Demographics

Now I'm going to ask some questions about you. Please remember that these questions are confidential and will only be used to help us describe the different groups of people who participate in this survey.

GENDER. ENTER R'S GENDER

- (1) MALE
- (5) FEMALE

DEMO1. What is your date of birth? Please tell me the month, day, and year you were born.

DOBmonth. \_\_\_\_\_

DOBday. \_\_\_\_\_

DOByear. \_\_\_\_\_

MARITAL. What is your current marital status? Are you:

- (1) Never married (single)
- (2) Married
- (3) Separated
- (4) Divorced
- (5) Widowed
- (6) Living with a partner in a marriage like relationship (common law marriage)

RACE1. Are you Latino or Hispanic?

- (1) Yes
- (5) No (SKIP TO RACE3)

RACE2. What do you consider your Latino or Hispanic ancestry or origin?

- (1) Mexican, Mexican American, or Chicano
- (2) Salvadoran
- (3) Guatemalan
- (4) Costa Rican
- (5) Honduran
- (6) Nicaraguan
- (7) Panamanian
- (8) Puerto Rican
- (9) Cuban
- (10) Spanish or Spanish American (from Spain)
  
- (11) Other Latino or Hispanic group (SPECIFY) \_\_\_\_\_

**SHOW CARD 15**

RACE3. Please tell me which of the following you would use to describe yourself? Just tell me the letter or letters on the card you would use to describe yourself.

- (a) White
- (b) Black or African American
- (c) Asian
- (d) American Indian or Alaska Native
- (e) Other Pacific Islander
- (f) Native Hawaiian
- (g) Other (SPECIFY)\_\_\_\_\_

**TAKE BACK SHOW CARD 15**

DEMO2. In what country were you born

- (1) UNITED STATES (SKIP TO DEMO3)
- (2) MEXICO
- (3) ARGENTINA
- (4) EL SALVADOR
- (5) GUATEMALA
- (6) HONDURAS
- (7) BELIZE
- (8) BOLIVIA
- (9) BRAZIL (INCLUDES ARCHIPELAGO)
- (10) CHILE (INCLUDES JUAN FERNANDEZ ISLANDS)
- (11) COLOMBIA
- (12) COSTA RICA
- (13) CUBA
- (14) DOMINICAN REPUBLIC
- (15) ECUADOR (INCLUDES GALAPAGOS ISLANDS)
- (16) GUYANA
- (17) NICARAGUA
- (18) PANAMA
- (19) PARAGUAY
- (20) PERU
- (21) PUERTO RICO
- (22) URUGUAY
- (23) VENEZUELA
- (24) SPAIN
- (25) OTHER (SPECIFY)\_\_\_\_\_

DEMO2b. How old were you when you first came to the United States to live?

\_\_\_\_\_AGE IN YEARS

DEMO3. In what country was your mother born?

- (1) UNITED STATES
- (2) MEXICO
- (3) ARGENTINA
- (4) EL SALVADOR
- (5) GUATEMALA
- (6) HONDURAS
- (7) BELIZE
- (8) BOLIVIA
- (9) BRAZIL (INCLUDES ARCHIPELAGO)
- (10) CHILE (INCLUDES JUAN FERNANDEZ ISLANDS)
- (11) COLOMBIA
- (12) COSTA RICA
- (13) CUBA
- (14) DOMINICAN REPUBLIC
- (15) ECUADOR (INCLUDES GALAPAGOS ISLANDS)
- (16) GUYANA
- (17) NICARAGUA
- (18) PANAMA
- (19) PARAGUAY
- (20) PERU
- (21) PUERTO RICO
- (22) URUGUAY
- (23) VENEZUELA
- (24) SPAIN
- (25) OTHER (SPECIFY) \_\_\_\_\_

DEMO4. In what country was your father born?

- (1) UNITED STATES
- (2) MEXICO
- (3) ARGENTINA
- (4) EL SALVADOR
- (5) GUATEMALA
- (6) HONDURAS
- (7) BELIZE
- (8) BOLIVIA
- (9) BRAZIL (INCLUDES ARCHIPELAGO)
- (10) CHILE (INCLUDES JUAN FERNANDEZ ISLANDS)
- (11) COLOMBIA
- (12) COSTA RICA
- (13) CUBA
- (14) DOMINICAN REPUBLIC
- (15) ECUADOR (INCLUDES GALAPAGOS ISLANDS)
- (16) GUYANA
- (17) NICARAGUA
- (18) PANAMA
- (19) PARAGUAY
- (20) PERU
- (21) PUERTO RICO
- (22) URUGUAY
- (23) VENEZUELA
- (24) SPAIN
- (25) OTHER (SPECIFY) \_\_\_\_\_

DEMO5. In what country was your maternal grandmother born?

- (1) UNITED STATES
- (2) MEXICO
- (3) ARGENTINA
- (4) EL SALVADOR
- (5) GUATEMALA
- (6) HONDURAS
- (7) BELIZE
- (8) BOLIVIA
- (9) BRAZIL (INCLUDES ARCHIPELAGO)
- (10) CHILE (INCLUDES JUAN FERNANDEZ ISLANDS)
- (11) COLOMBIA
- (12) COSTA RICA
- (13) CUBA
- (14) DOMINICAN REPUBLIC
- (15) ECUADOR (INCLUDES GALAPAGOS ISLANDS)
- (16) GUYANA
- (17) NICARAGUA
- (18) PANAMA
- (19) PARAGUAY
- (20) PERU
- (21) PUERTO RICO
- (22) URUGUAY
- (23) VENEZUELA
- (24) SPAIN
- (25) OTHER (SPECIFY) \_\_\_\_\_

DEMO6. In what country was your maternal grandfather born?

- (1) UNITED STATES
- (2) MEXICO
- (3) ARGENTINA
- (4) EL SALVADOR
- (5) GUATEMALA
- (6) HONDURAS
- (7) BELIZE
- (8) BOLIVIA
- (9) BRAZIL (INCLUDES ARCHIPELAGO)
- (10) CHILE (INCLUDES JUAN FERNANDEZ ISLANDS)
- (11) COLOMBIA
- (12) COSTA RICA
- (13) CUBA
- (14) DOMINICAN REPUBLIC
- (15) ECUADOR (INCLUDES GALAPAGOS ISLANDS)
- (16) GUYANA
- (17) NICARAGUA
- (18) PANAMA
- (19) PARAGUAY
- (20) PERU
- (21) PUERTO RICO
- (22) URUGUAY
- (23) VENEZUELA
- (24) SPAIN
- (25) OTHER (SPECIFY) \_\_\_\_\_



DEMO7. In what country was your paternal grandmother born?

- (1) UNITED STATES
- (2) MEXICO
- (3) ARGENTINA
- (4) EL SALVADOR
- (5) GUATEMALA
- (6) HONDURAS
- (7) BELIZE
- (8) BOLIVIA
- (9) BRAZIL (INCLUDES ARCHIPELAGO)
- (10) CHILE (INCLUDES JUAN FERNANDEZ ISLANDS)
- (11) COLOMBIA
- (12) COSTA RICA
- (13) CUBA
- (14) DOMINICAN REPUBLIC
- (15) ECUADOR (INCLUDES GALAPAGOS ISLANDS)
- (16) GUYANA
- (17) NICARAGUA
- (18) PANAMA
- (19) PARAGUAY
- (20) PERU
- (21) PUERTO RICO
- (22) URUGUAY
- (23) VENEZUELA
- (24) SPAIN
- (25) OTHER (SPECIFY) \_\_\_\_\_

DEMO8. In what country was your paternal grandfather born?

- (1) UNITED STATES
- (2) MEXICO
- (3) ARGENTINA
- (4) EL SALVADOR
- (5) GUATEMALA
- (6) HONDURAS
- (7) BELIZE
- (8) BOLIVIA
- (9) BRAZIL (INCLUDES ARCHIPELAGO)
- (10) CHILE (INCLUDES JUAN FERNANDEZ ISLANDS)
- (11) COLOMBIA
- (12) COSTA RICA
- (13) CUBA
- (14) DOMINICAN REPUBLIC
- (15) ECUADOR (INCLUDES GALAPAGOS ISLANDS)
- (16) GUYANA
- (17) NICARAGUA
- (18) PANAMA
- (19) PARAGUAY
- (20) PERU
- (21) PUERTO RICO
- (22) URUGUAY
- (23) VENEZUELA
- (24) SPAIN
- (25) OTHER (SPECIFY) \_\_\_\_\_

DEMO9. What languages are spoken in your home? (SELECT ALL THAT APPLY)

- (1) English
- (2) Spanish
- (3) Other (SPECIFY) \_\_\_\_\_

IF BOTH ENGLISH AND SPANISH ARE SPOKEN AT HOME, ASK DEMO10a. OTHERWISE, SKIP TO DEMO13

DEMO10a. What language do you mainly speak at home?

- (1) English only
- (2) Spanish only
- (3) Both English and Spanish

DEMO10b. What language do you speak with **friends**?

- (1) English only
- (2) Spanish only
- (3) Both English and Spanish

DEMO10c. In what language are the TV shows, radio stations, or newspapers that you usually watch, listen, or read?

- (1) English only
- (2) Spanish only
- (3) Both English and Spanish

DEMO10d. How well would you say you speak English? Would you say:

- (1) Very well
- (2) Well
- (3) Not well, or
- (4) Not at all?

DEMO13. What is the highest grade of education you have completed and received credit for?

**GRADE SHOOOL:**

- (1) GRADE 1
- (2) GRADE 2
- (3) GRADE 3
- (4) GRADE 4
- (5) GRADE 5
- (6) GRADE 6
- (7) GRADE 7
- (8) GRADE 8

**HIGH SHOOOL OR EQUIVALENT (GED):**

- (9) GRADE 9
- (10) GRADE 10
- (11) GRADE 11
- (12) GRADE 12

**4-YEAR COLLEGE OR UNIVERSITY:**

- (13) 1<sup>ST</sup> YEAR (FRESHMAN)
- (14) 2<sup>ND</sup> YEAR (SOPHOMORE)
- (15) 3<sup>RD</sup> YEAR (JUNIOR)
- (16) 4<sup>TH</sup> YEAR (SENIOR) (BA/BS)
- (17) 5<sup>TH</sup> YEAR

**GRADUATE OR PROFESSIONAL SCHOOL:**

- (18) 1<sup>ST</sup> YEAR GRAD OR PROFESSIONAL SCHOOL
- (19) 2<sup>ND</sup> YEAR GRAD OR PROFESSIONAL SCHOOL (MA/MS)
- (20) 3<sup>RD</sup> YEAR GRAD OR PROFESSIONAL SCHOOL
- (21) MORE THAN 3 YEARS GRAD OR PROFESSIONAL SCHOOL (PHD)

**2-YEAR JUNIOR OR COMMUNITY COLLEGE:**

- (22) 1<sup>ST</sup> YEAR
- (23) 2<sup>ND</sup> YEAR (AA/AS)

**VOCATIONAL, BUSINESS, OR TRADE SCHOOL:**

- (24) 1<sup>ST</sup> YEAR
- (25) 2<sup>ND</sup> YEAR
- (26) MORE THAN 2 YEARS
  
- (27) NO FORMAL EDUCATION
  
- (88) DON'T KNOW
- (97) REFUSED

DEMO14a. Are you currently working?

(1) YES

(5) NO (go to Demo14)

Demo14b How many hours do you work in a typical week (at all your jobs)?

\_\_\_\_\_ HRS WORK

**PROGRAMMER NOTE: ASK DEMO14c IF DEMO14B < 40 HOURS.**

Demo14c> Do you want to work more hours?

(1) YES

(5) NO

**Programmer note: ASK Demo14 ONLY IF DEMO14a is "NO"**

SHOW CARD 17

Demo 14. You said you are not currently working. How would you describe your current situation? Would you say you are:

- (a) **Actively** looking for work
- (b) **Not actively** looking for work
- (c) A full time student
- (d) A full time homemaker or keeping house
- (e) Retired, or
- (f) Disabled

TAKE BACK SHOW CARD 17

## Household Composition (HHR)

Now, I'd like to ask you about the other people who live in your household. By household I mean all of the people who are related or unrelated who live in this home. Again, please remember that this information is confidential.

HHR1. Including yourself, how many people currently live in this home? Please include all of the people living in this home whether they are related to you or not, but do not include people who are just visiting for a short time.

\_\_\_\_\_ NUMBER OF PEOPLE

**PROGRAMMER NOTE: IF HHR1=1, AUTO FILL "0" ON HHR2 AND SKIP TO HHR3.**

HHR2. Of the [HHR1] people who live in this home, how many are under the age of 18?

\_\_\_\_\_ NUMBER OF PEOPLE

HHR3. And then [HHR1-HHR2] people would be adults over the age of 18, is that correct?

- (1) YES
- (5) NO

**PROGRAMMER NOTE: FOR HHR4, IF THERE'S ONLY 1 ADULT IN HHLD, USE ALTERNATE LANGUAGE:**

**In which of the following age groups are you? (OR YOU CAN USE THE DOB INFO ASKED PREVIOUSLY)**

HHR4. Of the [HHR2] adults who live in this home, how many are in each of the following age groups?

HHR4a. 18-35 \_\_\_\_\_ NUMBER OF PEOPLE

HHR4b. 36-54 \_\_\_\_\_ NUMBER OF PEOPLE

HHR4c. 55-64 \_\_\_\_\_ NUMBER OF PEOPLE

HHR4d. 65 or older \_\_\_\_\_ NUMBER OF PEOPLE

## Household Income

DEMO22. What is your best estimate of your household's total income from all sources before taxes in 2010?

\_\_\_\_\_ AMOUNT IN DOLLARS (SKIP TO POVERTY LEVEL QUESTIONS)

- (88) DON'T KNOW (ASK INCOME1)
- (97) REFUSED (ASK INCOME1)

INCOME1. We don't need to know exactly, but could you tell me if your household's income from all sources before taxes was more than \$20,000 per year or less?

- (1) MORE (SKIP TO INCOME3)
- (2) EQUAL TO \$20,000 OR LESS (ASK INCOME2)

- (88) DON'T KNOW (SKIP TO POVERTY LEVEL QUESTIONS)
- (97) REFUSED (SKIP TO POVERTY LEVEL QUESTIONS)

INCOME2. Is it:

- (1) \$5,000 or less
- (2) \$5,001 to \$10,000
- (3) \$10,001 to \$15,000, or
- (4) \$15,001 to \$20,000?

- (88) DON'T KNOW (SKIP TO POVERTY LEVEL QUESTIONS)
- (97) REFUSED (SKIP TO POVERTY LEVEL QUESTIONS)

**ALL SKIP TO POVERTY LEVEL QUESTIONS.**

INCOME3. Is it:

- (1) More than \$70,000, or (SKIP TO INCOME5)
- (2) Equal to or less than \$70,000? (ASK INCOME4)

- (88) DON'T KNOW (SKIP TO POVERTY LEVEL QUESTIONS)
- (97) REFUSED (SKIP TO POVERTY LEVEL QUESTIONS)

INCOME4. Is it:

- (1) \$20,001 to \$30,000
- (2) \$30,001 to \$40,000
- (3) \$40,001 to \$50,000
- (4) \$50,001 to \$60,000, or
- (5) \$60,001 to \$70,000?

- (88) DON'T KNOW (SKIP TO POVERTY LEVEL QUESTIONS)
- (97) REFUSED (SKIP TO POVERTY LEVEL QUESTIONS)

INCOME5. Is it:

- (1) More than \$135,000 per year or (SKIP TO POVERTY LEVEL QUESTIONS)
- (2) Equal to or less than \$135,000? (ASK INCOME6)

- (88) DON'T KNOW (SKIP TO POVERTY LEVEL QUESTIONS)
- (97) REFUSED (SKIP TO POVERTY LEVEL QUESTIONS)

INCOME6. Is it:

- (1) \$70,001 to \$80,000
- (2) \$80,001 to \$90,000
- (3) \$90,001 to \$100,000
- (4) \$100,001 to \$135,000?

- (88) DON'T KNOW (SKIP TO POVERTY LEVEL QUESTIONS)
- (97) REFUSED (SKIP TO POVERTY LEVEL QUESTIONS)

## Poverty Level Questions

IF ONLY ONE PERSON LIVING IN HH, SKIP TO PROG1.

DEMO24a. Including yourself, how many people living in your household are supported by your total household income?

\_\_\_\_\_ NUMBER OF PEOPLE

IF ONLY ONE PERSON LIVING IN HH, OR HHR2=0 (NO MINOR CHILDREN LIVE IN HH) SKIP TO PROG1.

DEMO24b. How many of the [DEMO24a] people supported by your household income are children aged 17 years old or younger?

\_\_\_\_\_ NUMBER OF CHILDREN



## Citizenship and Immigration

IF DEMO2=1 (R WAS BORN IN THE US) SKIP TO APPROPRIATE CLOSING.

These last two questions are about citizenship and immigration. Please remember that your answers are confidential and will not be shared with Immigration Services.

DEMO11. Are you a citizen of the United States?

- (1) YES (SKIP TO APPROPRIATE CLOSING)
- (2) NO
- (3) APPLICATION PENDING

DEMO12. Are you a permanent resident with a green card?

- (1) YES
- (2) NO
- (3) APPLICATION PENDING

### CLOSING 1 FOR R WHO AGREES TO SHARE CONTACT INFORMATION WITH OTHER UCLA RESEARCHERS

Those are all the questions we have.

**(HAND R \$25 AND SAY THE FOLLOWING)**

Thank you very much for your help with this important study. Now, I need to confirm your name, address, phone number, and e-mail (if you have an e-mail address) and have you sign this receipt so that my supervisor can check that I did the interview correctly and paid all of my survey participants. Also, please tell me the best times and days for UCLA to contact you about possibly participating in other research projects, and if you would prefer to be contacted by phone or e-mail.

### CLOSING 2 FOR R WHO DOES NOT AGREE TO SHARE CONTACT INFORMATION WITH OTHER UCLA RESEARCHERS

Those are all the questions we have.

**(HAND R \$25 AND SAY THE FOLLOWING)**

Thank you very much for your help with this important study. I just need to confirm you name, address, and phone number, and have you sign this receipt so that my supervisor can check that I did the interview correctly and paid all of my survey participants.

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