

MEASURING FOOD PREPARATION EQUIPMENT IN THE HOME: DEVELOPING AND
FIELD TESTING AN INSTRUMENT FOR USE IN A PEDIATRIC OBESITY
INTERVENTION

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List of Abbreviations

Bisphenol A	BPA
Body Mass Index	BMI
Centers for Disease Control and Prevention	CDC
Chemical Endocrine Disruptors	CED
Dietary Approaches to Stop Hypertension	DASH
Fruits, Fruit Juice, and Vegetables.....	FJV
George Mason University	GMU
Healthy Eating Index	HEI
Home Food Environment.....	HFE
Institutional Review Board	IRB
Metabolic Syndrome	MetS
National Health Nutrition and Examination Survey	NHANES
Neighborhood Impact on Kids.....	NIK
Nonalcoholic Fatty Liver Disease.....	NAFLD
Supplemental Nutrition Assistance Program	SNAP
<i>Vidas Activas y Familias Saludables</i>	VALÉ

Abstract

MEASURING FOOD PREPARATION EQUIPMENT IN THE HOME: DEVELOPING AND FIELD TESTING AN INSTRUMENT FOR USE IN A PEDIATRIC OBESITY INTERVENTION

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George Mason University, 2020

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Background: Hispanic children are disproportionately affected by obesity in the United States. Interventions targeting the home food environment of obese Hispanic children may contribute to reductions in obesity in both the short term and the long term. One component of the home food environment that has not been studied is food preparation equipment present in the homes of obese Hispanic children.

Objectives: To develop and field test an instrument for the collection of data about food preparation equipment present in the homes of obese children of Spanish-speaking Central American immigrants living in the Woodbridge area of Northern Virginia.

Method: A multi-stage process was used to develop and field test the instrument: A literature review was conducted to identify any existing instruments that could be used to collect data on the home food preparation equipment of the target population. Since no appropriate instrument was identified from this review, an instrument in the form of a checklist was developed. Face validity of the checklist was assessed using a review by a

native Spanish speaker with experience working with the target population. Content validity of the checklist was assessed through its use in field tests that occurred in the homes of two members of the target population. Both quantitative and qualitative data were collected from these reviews and analyzed using descriptive statistics and NVivo software.

Results: Face validity assessment revealed the need to include a photographic image of each item next to it on the checklist. With two limited exceptions, the checklist demonstrated good content validity. Descriptive analysis of the data collected with the checklist showed that the homes of both persons participating in the field testing were adequately stocked with the minimum number of items needed to store and prepare foods for home consumption. Qualitative analysis showed that both of these individuals regularly prepared balanced, healthy meals for their families. Both also showed interest in food and the process of cooking, although convenience was an important consideration. The reliance by one individual on the use of social media to obtain information about food and cooking skills suggests that efforts to promote home cooking as part of a family- and home-based obesity intervention must take these new ways of transmitting information into account. Overall, the checklist achieved the purpose for which it was developed. Field testing also suggested that the checklist was adaptable and could be used other populations of interest with some modification as appropriate to reflect their unique foodways.

Chapter 1: Introduction

Obesity is a growing public health problem in the United States. Currently, 1 in 3 American adults are obese. Among children aged 2-19 years, nearly 1 in 5 are obese. Obesity's comorbidities include insulin resistance, type 2 diabetes, hypertension, dyslipidemia, nonalcoholic fatty liver disease (NAFLD), asthma, and sleep apnea. Obesity may thus be thought of as a body weight that conveys significant risk for adverse health outcomes.

The prevalence of obesity varies by racial and ethnic status. Among adults and children alike, both Hispanic and non-Hispanic black children show the highest rates of obesity, followed by non-Hispanic white children, and then Asian-American children.

Research has shown that interventions early in life have the best chance of promoting a meaningful reduction in long-term obesity, especially among racial and ethnic minority children. Such interventions include those targeting the home food environment (HFE), which encompasses a wide range of physical, social, and person-centric domains relating to the presence of food and its consumption within the home. Research on the role of the HFE in promoting obesity has proliferated in recent years, with food availability and accessibility being among the most frequently studied aspects of the HFE. However, one component of the HFE that is rarely studied, and never studied among predominantly low-income Hispanic populations, is the relationship between the prevalence of obesity and its comorbidities and the presence and use of food preparation equipment within the home.

The objectives of this study were to develop an instrument to collect data about food preparation equipment present and used in the homes of Spanish-speaking immigrants living in the Woodbridge area of Northern Virginia and to field test the instrument in the homes of a sample of individuals from this population. A six-stage process was used to achieve these objectives: (1) a literature review; (2) adaption of an existing instrument(s) or development of a new one(s); (3) expert review of the instrument(s) to establish face validity; (4) obtaining George Mason University Institutional Review Board (IRB) approval; (5) field testing of the instrument(s) to establish content validity; and (6) transcription, translation, and analysis of results from the field testing. This report will describe the rationale for this study and the manner in which it was conducted. It will then describe the study's results, several conclusions and insights derived from those results, and the study's limitations.

Note on choice of terminology: When referring to persons in the United States who trace their heritage to Spain or Spanish-speaking countries in Latin America, *Hispanic* and *Latino* are often used interchangeably. However, the terms have slightly different meanings. *Hispanic* most often refers to people who are native Spanish speakers or are descended from native Spanish speakers. In this respect, the term is a reflection of a grouping that is based on a shared common culture, in this case language. *Latino*, on the other hand, is a term that refers to geography and signifies that a person is from or descended from people in Latin America (Cole, 2019). All federal government-sponsored health-related surveys use the phrase "Hispanic or Latino," which is defined as a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or

origin regardless of race." (U.S. Census Bureau, 2020). The term *Hispanic* is used in this paper except when research studies that use the term *Latino* are discussed.

Chapter 2: Background and Significance

Definition of Pediatric Obesity

Obesity is characterized by an excess of accumulated body fat. It is typically assessed using body mass index (BMI), a mathematical formula that divides body weight (kg) by the square of height (m) (kg/m^2) (CDC, 2020a). In adults, weight categories are determined by a series of BMI cut points, with the cut point for normal weight being 18.5, the cut point for overweight being 25, and the cut point for obesity being 30 (CDC, 2020a). These cut points are the same for men and women regardless of age (CDC, 2020a). However, because adiposity varies with age and gender during childhood and adolescence, gender-specific BMI-for-age percentile curves are used to define weight status in children (ages 2 to 20 years) (CDC, 2020b). Those with a BMI between the 85th and 95th percentiles for age and gender are considered overweight, and those with a BMI over the 95th percentile for age and gender are considered obese. Several growth charts are available for use in evaluating BMI for children. In the United States, the growth charts released by the Centers for Disease Control and Prevention (CDC) in May 2000 are used to determine pediatric weight status (Kuczmarski et al., 2002).

Chronic Health Conditions Associated with Pediatric Obesity

Although obesity is assessed differently in adults than in children, obese adults and obese children share many of the same chronic health conditions. Like obese adults, children who are obese are more likely to suffer from insulin resistance (Levy-Marchal et al., 2010), type 2 diabetes (Schwartz & Chadha, 2008), hypertension (Brady, 2017), dyslipidemia (Friedemann, Heneghan, Mahtani, Thompson, Perera, & Ward, 2012), and

NAFLD (Giorgio et al., 2013). Additionally, the combination of abdominal adiposity, insulin resistance, hypertension, and dyslipidemia is recognized as the metabolic syndrome (MetS), which itself is an independent risk factor for cardiovascular disease (DeBoer, 2019). Obese children suffer disproportionately from pulmonary disorders such as obstructive sleep apnea (Blechner & Williamson, 2016), which can interfere with their sleep, and asthma (Papoutsakis et al., 2013), which can limit their physical activity. Childhood obesity frequently has negative psychosocial consequences in the form of depression, anxiety, and poor self-esteem (Williams et al., 2005). Finally, children who are overweight or obese have substantially higher odds of remaining overweight or obese into adulthood, thereby increasing their risk of obesity-related disease and disability later in life (Juonala et al., 2011; Kelsey et al., 2014).

Prevalence of Pediatric Obesity

Pediatric obesity has grown dramatically over the past five decades, presenting a serious public health problem due to its related comorbidities. Results from the 2015-2016 National Health Nutrition and Examination Survey (NHANES) indicate that 18.5% of U.S. children ages 2 to 19 years are obese (Hales et al., 2017; Ogden & Carroll, 2010). This reflects a nearly four-fold increase from the early 1970's, when only 5% of children were obese (Hales et al., 2017; Ogden & Carroll, 2010).

Obesity and Comorbidities Among Hispanic Youth

The prevalence of pediatric obesity varies by racial and ethnic status (Petersen et al., 2019). Hispanic youth in particular suffer disproportionately from obesity throughout all stages of childhood. During 2015-2018 among children ages 6-17 years, the

prevalence of obesity was highest among Mexican-American children (29.6%), followed by non-Hispanic black children (25.9%), then all Hispanic children (23.5), then non-Hispanic white children (15.4%), and finally Asian-American children (11.4%) (Forum on Child and Family Statistics, n.d.). These disparities are even greater among younger children. During 2011-2012, 16.7% of Hispanic preschoolers (ages 2-5 years) were obese, whereas 11.3% of non-Hispanic black preschoolers, 3.5% of non-Hispanic white preschoolers, and 3.4% of non-Hispanic Asian preschoolers qualified as obese (Ogden, Kit, Carroll, & Flegal, 2014). Additionally, Hispanic youth show faster increases in BMI during early childhood and adolescence, compared to non-Hispanic white youth (Isasi et al., 2016; Liu et al., 2015). Recent research suggests that a rapid increase and greater variability in BMI during childhood may be an independent risk factor for obesity during adulthood (Li et al., 2020).

Hispanic children are also at greater risk of suffering from several obesity-related health conditions compared with their non-Hispanic counterparts. Hispanic children tend to develop glucose dysregulation and excess abdominal adiposity, two of the components of MetS, more frequently and at earlier ages than children of other ethnicities (Isasi et al., 2016; Liu et al., 2015). Elevated levels of the liver enzyme aminotransferase, a possible early sign of NAFLD, are more prevalent in Mexican American adolescents than in their white and black counterparts (Isasi et al., 2016).

Chapter 3: Pediatric Obesity and the Home Food Environment

Factors Contributing to Pediatric Obesity

In its simplest formulation, obesity is the result of chronic energy imbalance. It occurs when the amount of energy ingested through food consistently exceeds the amount of energy expended in metabolism and physical activity, leading the body to store the excess in the form of fat. Unfortunately, the simplicity of this description obscures the complexity of the problem. For most people, obesity is a multifactorial condition that arises from complex interactions of numerous modifiable and nonmodifiable factors.

Genetic Factors

The primary nonmodifiable factor in the promotion of obesity is genetic susceptibility. Obesity is frequently classified into subgroups depending on the suspected etiology. One subgroup is monogenic obesity, which occurs as a result of a mutation in a single gene (Herrera & Lindgren, 2010). Another is syndromic obesity, which is characterized by multiple genetic mutations combined with other developmental delays such as mental retardation (Herrera & Lindgren, 2010). Both monogenic and syndromic obesity are rare and typically manifest themselves early in life (Loos & Janssens, 2017).

The most common type of obesity is polygenic obesity, which is also referred to as multifactorial obesity (Loos & Janssens, 2017). This type of obesity includes both a genetic component and an environmental component. The genetic component involves common mutations in multiple genes each of which individually has only a slight effect on weight. The cumulative effects of these mutations can become amplified, however, in the presence of triggering environmental factors (Hu, 2008; Huvenne, Clément, & Poitou,

2016). In such cases, these environmental factors (discussed below) are believed to play the more critical role in the promotion of obesity (Silventoinen & Konttinen, 2019).

The evidence for a genetic contribution to obesity is based on studies involving related individuals, especially twins (Bouchard, 2009; Elks et al., 2012). In a frequently cited literature review of studies examining familial resemblance of BMI and other measures of adiposity, Maes et al. (1997) observed that results from identical twin studies suggest that genetic factors contribute 50-90% of the variance in BMI, while in family studies involving parent-offspring and sibling pairs, genetic factors contribute 20-80% of the variance in BMI. According to Dubois et al. (2012), the large variations in these estimates are due to differences in study types, populations, and ages targeted. Nonetheless, these results provide evidence for a genetic contribution to obesity.

Environmental Factors

The primary modifiable factor in the promotion of obesity is the environment. Influential environmental factors include: (1) diet and physical activity (Muñoz Yáñez et al., 2017); (2) certain chemical agents that function as endocrine disruptors (referred to as Chemical Endocrine Disruptors, or CEDs), including bisphenol A (BPA) (Kim et al., 2019) and phthalates (Kim & Park, 2014); and (3) biological agents, such as viruses with obesogenic potential and microbiota involved in metabolism and nutrient bioavailability (Muñoz Yáñez et al., 2017). Research has also begun to focus on social environments, which may act to encourage obesity-promoting behaviors such as the consumption of larger portion sizes and more frequent eating episodes (Christakis & Fowler, 2007; Hawkins et al., 2020; Mitchell et al., 2011; Shoham et al., 2015).

Obesity and the Home Food Environment

One environment that may be particularly influential in the development of obesity is the HFE. Up to 66% of the calories consumed by children ages 2-18 are from foods consumed within the home, and 57.6% of the calories from those foods are prepared within the home (Poti & Popkin, 2012). Research also suggests that parental behaviors often occurring within the home, such as modeling the consumption of healthy foods or restricting access to unhealthy foods, can influence children's food choices and, by extension, their weight status (Blissett & Fogel, 2013; Gerards & Kremers, 2015). It is clear that the majority of children's eating experiences take place at home and the development of their eating habits and food preferences occur in a social context within the home (Birch & Davison, 2001). Understanding the home environment in which children and their families live, procure, and consume food is critical to the development of programs targeting pediatric obesity.

Ecological Models of the Home Food Environment

Several models informed by social cognitive and ecological theories have been developed to explain the impact of the HFE on pediatric obesity. This section describes each of these models in turn.

The model developed by Birch and Davison (2001) (**Figure 3-1**) focuses on behavioral patterns within the family that promote pediatric eating behaviors conducive to overweight and obesity. This model is based on the hypothesis that parental weight status is linked to parental eating styles and child-feeding practices, and that these behaviors, in turn, influence children's eating behaviors and eventually their weight

status. Parental eating styles include parents' own food preferences, the foods they purchase and make available to their children, and whether their own food consumption is constrained (e.g., through dieting) or unrestrained. Parental child feeding practices consist of pressuring children to eat certain foods and restricting children's access to other foods. Birch and Davison (2001) explain that they intentionally limited their model to interactions between the parent and child in order to delineate between those factors that are potentially modifiable (i.e., behaviors) and other aspects of the home environment that may be less amenable to change.

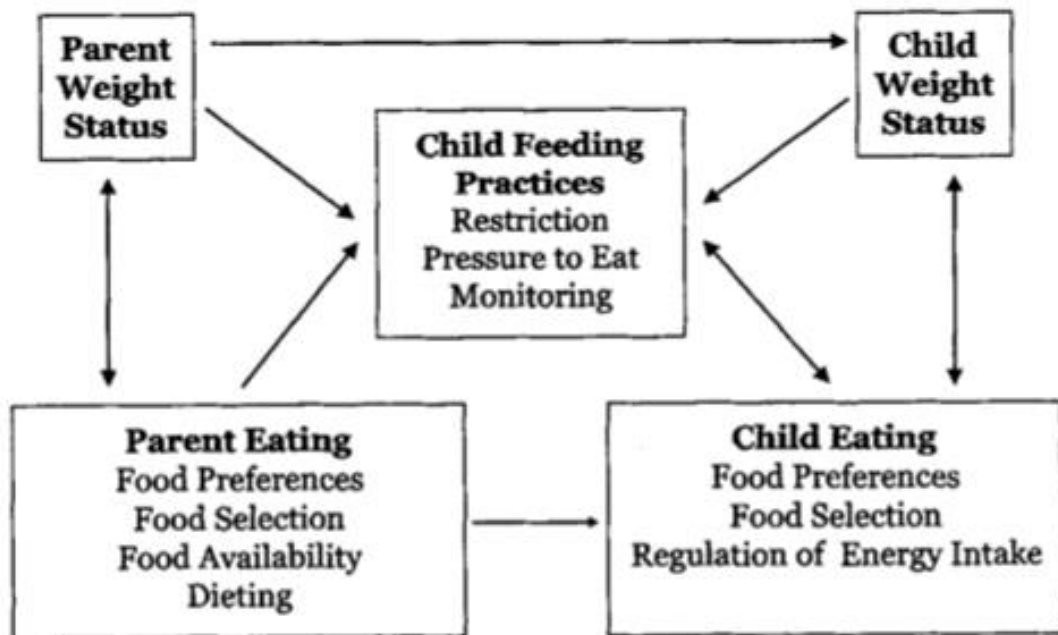


Figure 3-1 Behavioral Mediators of Family Resemblances in Eating and Weight Status (Birch and Davison, 2001)

Story, Neumark-Sztainer and French (2002) propose a framework for understanding eating behaviors with significantly more constructs than the one by Birch and Davison (2001). In their model, eating behavior is viewed as being a function of four levels of influence:

- Individual (intrapersonal) influences consisting of psychosocial (food preferences, taste and sensory perceptions of food, health and nutrition, meanings of food, self-efficacy, and knowledge), biological (hunger and gender), and lifestyle (time and convenience, cost, meal patterns, and dieting) components.
- Social environmental (interpersonal) influences consisting of family (demographic characteristics, family meals, and food availability) and peer components.
- Physical environmental (community settings) influences consisting of schools, fast food restaurants, vending machines, convenience stores, and worksite components.
- Macro-system (societal) influences in the form of media and advertising (media environment, media exposure and use, food advertising, and media effects on adolescent eating and weight concerns).

Although the researchers do not limit their focus to the HFE, it is clear that many of the individual and environmental influences they describe frequently exist within the home and thus may be considered within the narrower context of the HFE.

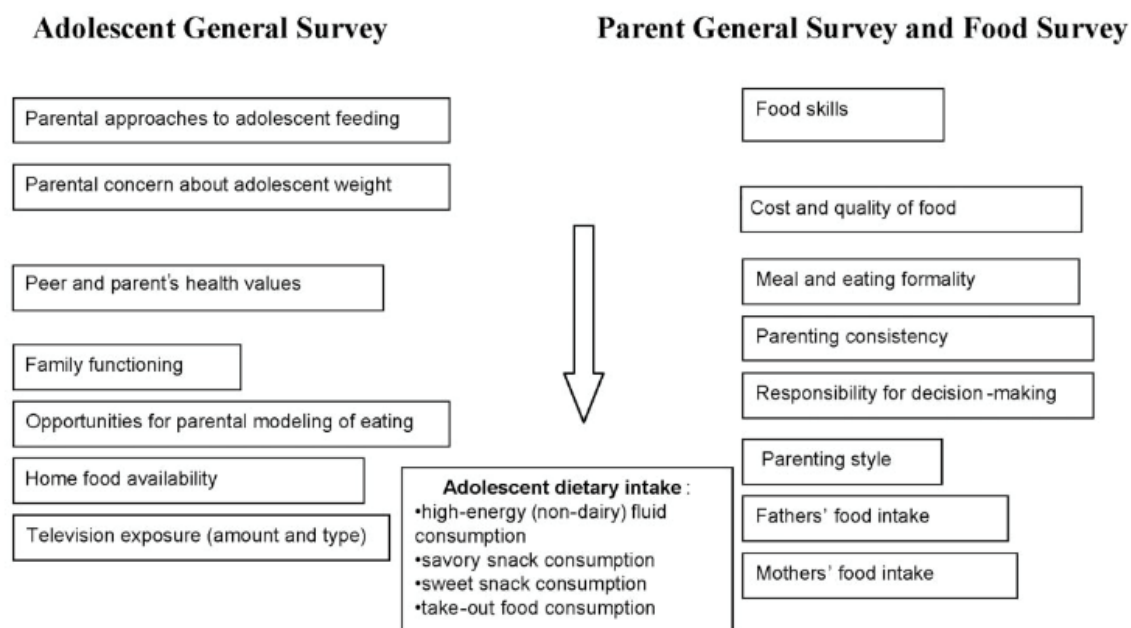


Figure 3-2 Model of Family Environment Predictors of Obesity-Promoting Eating Behaviors (Campbell et al., 2007)

The HFE model proposed by Campbell et al. (2007) (**Figure 3-2**) can be characterized as a hybrid of the two preceding models. Like Story, Neumark-Sztainer and French (2002), Campbell et al. (2007) focus on the eating behaviors of adolescents. Similar to Birch and Davison (2001), however, they limit their focus to parental influences on these behaviors. These influences include both parent-reported aspects of the home food environment (e.g., food skills, cost and quality of food, meal and eating formality, parenting consistency, responsibility for decision-making, parenting style, parental food intake) and adolescent-reported aspects (e.g., home food availability, extent of television exposure, family functioning, opportunities for parental modeling of eating,

peer and parental health values, parental approaches to adolescent feeding, and parental concern about adolescent weight).

The model of the HFE proposed by Rosenkranz & Dzewaltowski (2008) (**Figure 3-3**) is the most expansive of the four HFE models described in this paper. It envisions the HFE as being situated within a series of three environments (also called domains), each possessing macro- and micro-level components that both overlap and interact to create a "mosaic of determinants" influencing obesity:

- The built and natural environments, which are those composed of physical structures.
- The sociocultural environments, which are those composed of social interactions, demographic characteristics, and secular trends.
- The political and economic environments, which are those composed of financial resources, policies, and laws.

The macro- and micro-level components of each of these domains are as follows:

- Micro-level components as those closest to a person's home life. Examples include:
 - ✦ The availability and accessibility of foods within the home (built and natural environment domain).
 - ✦ Family customs and traditions (sociocultural environments domain).
 - ✦ Family socioeconomic status (political and economic environments domain).

- Macro-level components are defined as those that exist at the larger community level but have the potential to impact the person's home life."

Examples include:

- ✦ The availability of foods within the larger community such as grocery stores, convenience stores, schools, and places of worship (built and natural environment domain).
- ✦ Race, ethnicity, and cultural identity (sociocultural environments domain).
- ✦ Government and business policies related to food pricing and availability (political and economic environments domain).

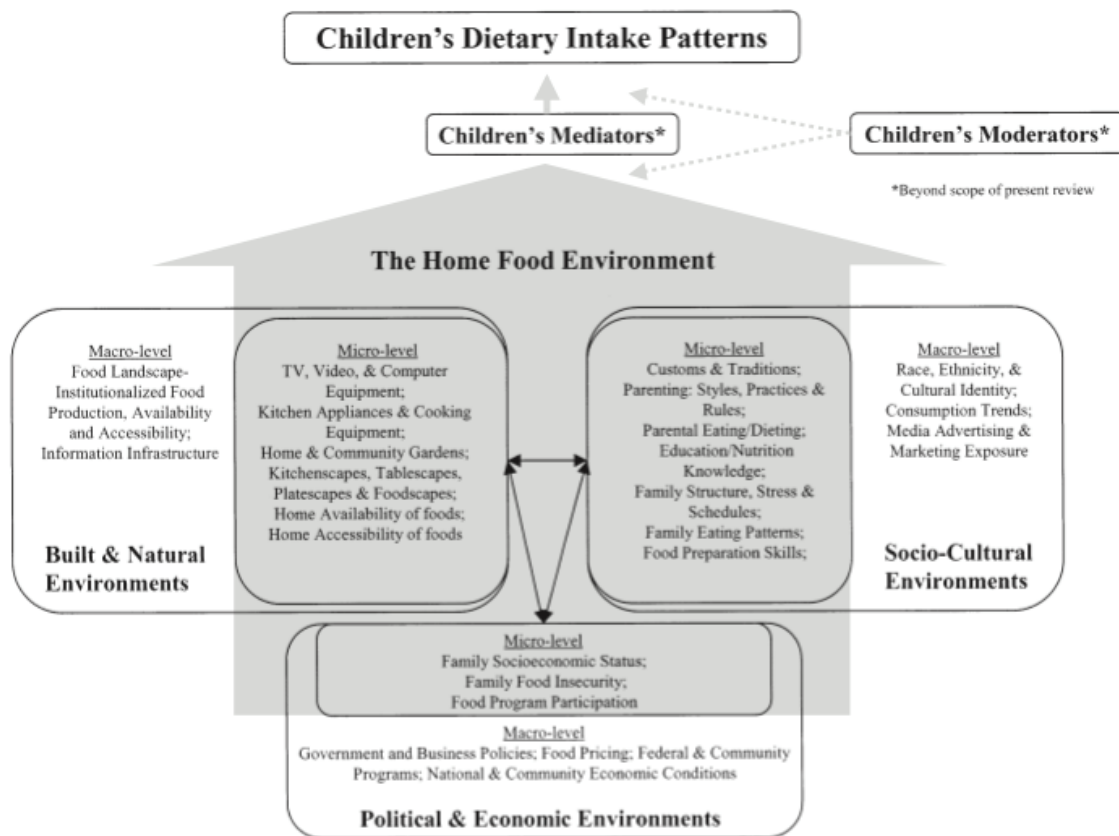


Figure 3-3 Model of the Home Food Environment Pertaining to Childhood Obesity (Rosenkranz and Dziewaltowski, 2008)

The large number of constructs reflected in these theories is consistent with their foundation in social cognitive theory and social-ecological models of behavior. Social cognitive theory posits that personal, behavioral, and environmental factors interact in a dynamic and reciprocal fashion to influence individual behavior (Contento, 2011). Social-ecological models of behavior emphasize the importance of multiple levels of influence and the idea that behavior both shapes and is shaped by factors associated with all of these levels (Contento, 2011). To address multifactorial health conditions such as obesity, these models are appealing because they recognize that individual outcomes are

influenced not only by individual-level factors such as age, gender, and race/ethnicity, but also by an individual's interactions with the larger social, cultural, economic, and political environments in which he/she lives (Ohri-Vachaspati et al., 2015). According to a social-ecological model of obesity, attributing an obese person's inability to lose weight to individual choices or perceived failings is neither valid nor constructive. The problem must be recognized, instead, as the consequence of an environment that makes it difficult for individuals to engage in behaviors that promote health and actively encourages them to engage in behaviors that harm health (Swinburn et al., 2011).

Unfortunately, the strength of a social-ecological model — its expansive scope — can also pose challenges when putting it into use. For any single study, constructs need to be selected and operationalized as one or more measurable variables. Tools used to collect these measurements need to be created or adapted from existing tools and then validated in the population of interest. As a result, the work of applying social-ecological models in the context of obesity proceeds incrementally, with individual studies usually assessing only a small portion of a model's constructs. That has certainly been the case in studies considering the effect of HFE on obesity. For example, in their work applying the Rosenkranz and Dzewaltowski (2008) model of the HFE, Amuta et al. (2015) examined the sociocultural environment and the micro-level built environment of their study population as operationalized through questions related to screen time, dinnertime rules, and fruit and vegetable availability.

The next part of this chapter describes the limited set of studies that have assessed HFE constructs as determinants or mediators of overweight and/or obesity

within populations that are exclusively Hispanic or include a large proportion of Hispanic participants.

Physical Home Food Environment

Availability and Accessibility

Two aspects of the home food environment, food availability and accessibility, are among the factors most frequently associated with dietary behaviors among children (Gebremariam et al., 2017). Within the home, food availability refers to the physical presence of food, whether on countertops, in a cabinet or pantry, or in the refrigerator (Gebremariam et al., 2017; Nepper & Chai, 2015). Food accessibility refers to foods that are ready to eat, visible and retrievable, thus facilitating their consumption (e.g., fruits and vegetables that are washed, peeled, cut up, and stored in a visible and reachable section of the refrigerator) (Gebremariam et al., 2017; Nepper & Chai, 2015).

Cullen et al. (2003) examined relationships among home fruit, 100% fruit juice, and vegetable (FJV) availability and accessibility in a group of child-parent dyads in Houston, Texas. Children were in grades 4-6, and 33% of them were from Hispanic families. Questionnaires were used to measure FJV availability and accessibility. FJV availability was measured with questions that asked whether three 100% fruit juices, 13 fruits, and 18 vegetables were present in the home in the past week (response = yes/no). FJV accessibility was measured using questions that asked whether two 100% fruit juices, two fruits, and two vegetables were in a form that encouraged their consumption (e.g., peeled, sliced carrots sticks in the refrigerator) (response = yes/no). Children

completed the questionnaires in school, while the parents completed the questionnaires during telephone interviews.

The researchers predicted FJV consumption using three structural equations models based on the source of the data on FJV availability and accessibility: child reported data, parent reported data, and a combined model with child- and parent-reported data. They also repeated these analyses separately by gender and by differences in FJV preferences (high/low). Their analyses showed that across the various models, availability and accessibility accounted for 1% - 35% of the variability in children's FJV consumption. Child-reported FVJ availability and accessibility and parent-reported accessibility were also shown to be significant predictors of child FJV consumption in most instances (Cullen et al., 2003).

In a study assessing the validity of a survey instrument to assess home environments for physical activity and healthy eating in overweight children (24% of whom were Hispanic), Gattshall et al. (2008) found that fruit and vegetable availability and accessibility were both significantly correlated with child fruit consumption and fruit and vegetable availability was significantly correlated with child vegetable consumption.

Santiago-Torres et al. (2014) examined the home food environment and urban Hispanic children's diet quality using the Healthy Eating Index (HEI). They found that children with lower HEI scores had more soda and fruit drinks available in the home than children with higher HEI scores.

Couch et al. (2014) conducted a study using baseline data from the Neighborhood Impact on Kids (NIK) Study, a National Institutes of Health-funded longitudinal,

observational cohort study of children aged 6 to 11 years and their parents in Seattle/King County, WA, and San Diego County, CA. NIK was designed to explore relationship between the physical and sociocultural aspects of the HFE on diet quality and weight status in children. Approximately 17% of the study participants were Hispanic.

NIK collected HFE data on parenting style/feeding practices, food rules, frequency of eating out, home food availability, and parents' perceptions of food costs. Child dietary intake was measured by a 3-day recall, and diet quality indicators consisting of fruit and vegetable intake, sweet/savory snack intake, high-calorie beverage intake, and the Dietary Approaches to Stop Hypertension (DASH) score were derived from averages of the three recalls. Individual linear regression models were run with child diet quality indicators and child BMI z score as the dependent variables. A logistic regression model was run with child overweight (BMI >85th percentile for age and sex, yes/no) as the dependent variable. In all models, HFE variables and child/parent characteristics were the independent variables of interest.

The researchers found statistically significant results for the following: Home availability of unhealthy foods was negatively correlated with fruit and vegetable intake and DASH score, and positively associated with high-calorie beverage intake. Home availability of healthy foods was positively associated with DASH score and, unexpectedly, sweet and savory snack intake. There were no statistically significant associations between home availability of food (whether healthy or unhealthy) and child's weight status.

Amuta et al. (2015) relied on the framework of Rosenkranz and Dziewaltowski (2008) to examine whether the availability of fruits and vegetables within the home was a predictor of fruit and vegetable consumption among a sample of children from minority (primarily Hispanic and African-American), low-income families living in several rural Texas communities. Availability was assessed via the questions "In the past 7 days, for how many meals were fruits available for your child to eat?" and "In the past 7 days, for how many meals were vegetables available for your child to eat?" Child fruit and vegetable consumption was assessed via the questions "In the past 7 days, for how many evening meals did your child eat fruits" and "In the past 7 days, for how many evening meals did your child eat vegetables?" In all instances, possible response options ranged from 0 days to 7 days. The researchers used hierarchical multiple regression analyses to determine the association between fruit and vegetable consumption and the various micro-level built and sociocultural characteristics of a HFE. They found that for every additional day fruits were available in the home, there was a 0.652 increase in the number of days a child ate fruit ($\beta=0.652$, $p<0.01$), and for every additional day vegetables were available in the home, there was a 0.657 increase in the number of days a child ate vegetables ($\beta=0.657$, $p<0.01$), holding all other variables constant in both instances.

Sociocultural Home Food Environment

Frequently assessed sociocultural aspects of the HFE include parental role modeling; parental feeding practices, and parental feeding styles (Ong et al., 2017). Parental role modeling occurs when children observe the eating behavior of their parents (Anzman et al., 2010). Parental feeding practices refer to specific goal-directed behaviors

used by parents to influence or control their children's eating (Shloim, et al., 2015). They include pressuring children to eat foods perceived as healthy, restricting children from eating foods perceived as unhealthy, and using food as a reward (Shloim, et al., 2015). Parental feeding styles are typically viewed as a sub-category of parenting styles that are specific to mealtimes. They include an authoritative feeding style, in which parents actively encourage their children to eat through supportive and responsive behaviors; an authoritarian feeding style, in which parents encourage eating through parent-centric rules and expectations regardless of their children's preferences; an indulgent feeding style, in which parents permit their children full freedom to eat when they wish and what they wish; and an uninvolved feeding style, in which parents make few demands on their children and the demands they make are unsupportive (Shloim, et al., 2015).

Although there are numerous studies that have examined the effect of these sociocultural aspects of the HFE on pediatric outcomes related to consumption and weight status, only a handful have considered them within the context of Hispanic populations.

Parental Role-Modeling

In a study evaluating the relationship of various HFE factors with Hispanic preschoolers' fruit and vegetable intake, Lora et al. (2019) determined that a mother's modeling of fruit consumption increased the odds that her child would eat one or more cups of fruit per day. Santiago-Torres et al. (2014) found a similar outcome in a sample of older (ages 10-14) Hispanic children. Their analysis showed that children whose parents reported higher intakes of healthier foods (fruits and vegetables) had higher HEI

scores, while children whose parents reported higher intakes of less healthy foods (soda and snacks) had lower HEI scores (Santiago-Torres et al., 2014).

Parental Feeding Styles

Three groups of researchers have each found that in low-income ethnically diverse populations most at risk for pediatric overweight, an indulgent feeding style (i.e., low demands on child's eating, high responsiveness to child's wants/needs) is significantly positively associated with child BMI after controlling for other variables known to be positively associated with child BMI (Hughes et al., 2005; Hughes et al., 2008; Olvera & Power, 2009). Hughes et al. (2005) also determined that of the four feeding styles under consideration (authoritative, authoritarian, indulgent, and uninvolved), Hispanic parents were most likely to use an indulgent feeding style. The researchers noted that this finding was consistent with previous reports of permissive feeding practices among Mexican-Americans (Hughes et al., 2005).

Permissiveness/Restrictions

In the analysis by Couch et al. (2014), described above, the researchers found that child weight status was associated with parental behavior around child eating. Specifically, they found that child BMI z-score was negatively associated with parent's use of encouragement and parental pressure to eat and positively associated with parent's use of food restrictions (Couch et al., 2014).

Food Preparation Equipment

One aspect of the physical HFE that has not been examined in connection with pediatric obesity in any population is the presence of food preparation equipment within

the home. Only one HFE model even mentions these items, categorizing them as "micro-level components" of the "built and natural environment" (Rosenkranz & Dziewaltowski, 2008). Yet as discussed above, HFE models frequently include the related concepts of food availability and food accessibility (Campbell et al., 2007; Rosenkranz & Dziewaltowski, 2008). It could be argued that the availability and accessibility of a food are each a necessary but insufficient condition supporting the consumption of such food. In other words, foods that are available but not accessible may be less likely to be eaten (Benarroch, Perez & Perales, 2011; Cullen et al., 2003; Wyse, Campbell, Nathan & Wolfenden 2011). By the same token, since more healthful foods often require some level of processing to make them accessible — for example, dried beans need to be soaked and cooked, while most people prefer to eat fresh fruits and vegetables that have been washed, trimmed, and peeled — food preparation equipment is usually needed to transform food that is available into food that is also accessible.

Only a handful of studies have examined the presence and use of food preparation equipment in the home. The earliest is a study conducted by researchers in the United Kingdom. Efstathiou (2004) examined the ownership of small kitchen appliances in relation to occupational group, age group, and household composition and the frequency of use among university staff and community groups living in northwest England. Data were collected using a validated questionnaire that included both demographic questions and questions related to the ownership and use of domestic appliances that were believed to influence eating habits or nutritional content of food items based either on characteristics of the item itself (e.g., a bread maker can increase the consumption of

bread with higher levels of fiber) or the characteristics of the foods prepared using them (e.g., foods prepared in deep fryers have a higher fat content than other foods). The researchers found that, among those items considered to have a positive nutritional effect, bread makers were more likely to be owned by professionals and couples with children; among those items considered to have a negative nutritional effect, deep fat fryers and sandwich makers were more likely to be owned by persons in unskilled occupations and couples without children, respectively; and among those items considered to have both a positive and a negative nutritional effect, handheld electric food mixers were more likely to be owned by professionals, couples without children, and persons 35 years or older, food processors were more likely to be owned by professionals and couples without children, and blenders were more likely to be owned by persons in partly skilled occupations. The researchers also found that the most frequently used items were electric toasters, microwave ovens, and electric grills.

A purely descriptive study on household kitchen equipment and tools was conducted by Landers and Shults (2008), who surveyed persons applying for benefits under the food stamp program (now called the Supplemental Nutrition Assistance Program, or SNAP) in three Oklahoma counties. Using a three-page survey instrument that displayed pictures and names of 19 household appliances and kitchen tools (as well as six additional items not deemed essential to the preparation of a meal), the researchers found that nearly all of the households had a refrigerator, a stove with oven, a saucepan, and a skillet, and large majorities had all of the remaining 15 essential items on the list. Based on these findings, the researchers concluded that most of the surveyed households

possessed the kitchen equipment and tools necessary for meal preparation, although they did not explain the basis for this conclusion.

Appelhans et al. (2014) tested whether the availability of food preparation supplies in 103 households is associated with frequency of family meals and child consumption of home-prepared dinners in low-income urban households. Data on home food preparation supplies was collected during a physical audit of the home environment using a 5-category, 41-item inventory developed specifically for the study. The researchers found that all of the households had at least one refrigerator and a skillet, frying pan, or wok, and that more cooking supplies were present in higher-income households, households with caregivers low on negative attitudes toward cooking, and more food secure households. They also determined that availability of food preparation supplies was positively associated with both family meal frequency and child consumption of home-prepared dinners, which associations were independent of sociodemographic characteristics, caregiver attitudes toward cooking, household financial strain, and household food insecurity.

Finally, Oakley et al. (2019) compared ownership and use of food preparation equipment in relation to food security status among a sample of U.S. households with children. Noting that food insecurity is often tied to poor dietary quality, they hypothesized that food insecure households would be less likely to own and use the equipment needed to prepare healthier meals compared to households that were food secure. To test this hypothesis, the researchers used an online platform to administer a questionnaire to a sample of 135 parents of children ages 11-14 years. The instrument

queried sociodemographic characteristics, household food security status using the 18-item U.S. Department of Agriculture's Household Food Security Survey Module, and ownership and use of 44 food preparation items using a modified version of the inventory developed by Appelhans et al. (2014). The researchers found that the number of food preparation items was lower in food insecure households than in food secure households, while in both households the frequency of use of food preparation items was the same.

Chapter 4: Measuring the Home Food Environment

As noted above, understanding the elements of the HFE that contribute to pediatric dietary behavior and ultimately pediatric obesity is a growing topic of research. However, obtaining data about the HFE is highly challenging due to its multidimensional nature and the practical difficulties associated with observing behaviors that occur primarily within the home. This means that no single data collection instrument is appropriate for measuring the entirety of the HFE. Indeed, it is likely that multiple instruments will be needed, one for each aspect of the HFE that is being assessed. This chapter will first describe the instruments that are typically used to collect data on the HFE. It will next summarize the considerations that should be taken into account when deciding which types of data collection instrument to use in measuring aspects of the HFE.

Types of Data Collection Instruments

At least two systematic reviews and two literature reviews have been conducted on the topic of measures of the food environment (Lytle & Sokol, 2014; McKinnon et al., 2009; Ohri-Vachaspati & Leviton, 2010). According to the most recent of these reviews, the most frequently used instruments in the collection of HFE data are checklists, followed by interviews/questionnaires, market baskets, and inventories (Lytle & Sokol, 2017). These items are defined as follows:

- A **checklist** is a list of items that are selected based on predetermined criteria (Lytle & Sokol, 2017).

- **Interviews and questionnaires** are predetermined lists of questions that are administered by a trained interviewer (in the case of interviews) or completed by the respondent via self-report (in the case of questionnaires) (Lytle & Sokol, 2017). Interviews can be further categorized based on the type of questions they use and the nature of the responses they are intended to elicit:
 - ✦ **Structured interviews** use a set of predetermined, closed-ended questions. This approach allows the interviewer to ask each interviewee the same questions in the same way. A structured interview is most akin to a questionnaire.
 - ✦ A **semi-structured** interview involves a series of open-ended questions based on the topic the interviewer would like to cover. The open-ended nature of the questions defines the topic under investigation while allowing for both the interviewer and interviewee to discuss any of the topics in greater detail. It also allows the interviewer to probe the interviewee to elaborate on a response or to explore a new line of inquiry suggested by the interviewee's response to a previous question.
 - ✦ **Unstructured interviews** do not use any predetermined questions. Instead, the interviewer starts with a few open-ended questions based on a specific research topic and then frames each successive question based on the interviewee's response to the previous question. An unstructured interview is intended to flow like a natural conversation.

(Mathers et al., 2002; McLeod, 2014)

- A **market basket** (also called a **food basket**) is a predefined list of goods used to define a specific metric (e.g., foods facilitating adherence to the Mediterranean diet) or that can be used to achieve a specific objective (e.g., foods needed to feed a family of four for a week) (Lytle & Sokol, 2017). Market baskets are most frequently used to assess food availability and affordability in a geographic region. For example, Caraher et al. (2010) measured how many of the items comprising two healthy foods market baskets were sold in grocery stores located in two deprived areas of the city of Preston in northwest England. Lear et al. (2013) examined associations between food prices in five supermarkets located in Vancouver, British Columbia, Canada and customer BMI using a basket of eight food items (e.g., milk, eggs, bananas, white rice, etc.) commonly consumed and available in all of the supermarkets.
- An **inventory** is a form for recording all relevant items available in a given environment (Lytle & Sokol, 2017).

Data collected by these instruments can include not only the presence of the items in the food environment being studied but also the quantity of each item (e.g., 2 pounds of beans, 3 boxes of pasta, 2 mixing bowls, 1 vegetable peeler) and its acquisition details (e.g., whether a cake was purchased by the study participant, produced by him/her, or received as a gift) (Bryant & Stevens, 2006).

Choosing a Data Collection Instrument

According to Ohri-Vachaspati & Leviton (2010), the choice of an instrument for measuring the HFE should be guided by two considerations. The first consideration is the purpose that the HFE assessment is intended to serve. These can include (1) identifying priorities for action in a particular community, (2) monitoring trends (i.e., surveillance) in access, availability, quality, and affordability of food; (3) gaining a better understanding of the factors in a HFE that contribute to an outcome such as obesity or an obesity-related chronic disease; (4) identifying ways to improve programs or policies and to assess their effectiveness, and (5) identifying ways to engage stakeholders and decision makers to implement policy changes (Ohri-Vachaspati & Leviton, 2010).

The second consideration relevant to the choice of a HFE measurement instrument are the needs and expertise of the user. Ohri-Vachaspati & Leviton (2010) identify three general groups of users: (1) researchers, (2) community organizations and advocacy groups, and (3) practitioners. Each of these groups varies in terms of its needs, resources, and expertise as follows:

Researchers typically have the desire and expertise needed to study linkages between exposures (e.g., availability of healthy food, food insecurity, etc.) and outcomes (e.g., healthy diet, obesity). To do this, they require measures of the relevant variables that are both accurate (i.e., have good reliability and validity) and sufficiently detailed (which is needed to capture statistical variance). Instruments that can meet these requirements are often expensive and resource-intensive in both their development and use (Ohri-Vachaspati & Leviton, 2010).

Community organizations and advocacy groups, on the other hand, seek to promote policy change by drawing attention to problems and advocating for solutions. They usually have neither the time nor the resources that are needed to meet the needs of researchers. Instead, their goal is to derive only that amount of information needed to drive decisions by policymakers. In this respect, detail is much less important to these users than to researchers and, in fact, too much detail can be counterproductive to decision-making (Ohri-Vachaspati & Leviton, 2010).

Lastly, practitioners are those individuals who seek to plan and promote environmental changes. They can include public health and extension service professionals, who may be interested in developing programming that seeks to improve obesogenic behaviors (e.g., greater consumption of fruits and vegetables). They can also consist of city managers and urban planners, who may seek to change aspects of the community built environment that promote obesity (e.g., adding more sidewalks and bike lanes, changing zoning laws regarding location of fast food restaurants). According to Ohri-Vachaspati & Leviton (2010), the need for detail in data collection by these users is likely to lie between those of researchers and community organizations/advocacy groups.

Chapter 5: Rationale, Objectives, and Method

Rationale

In 2019 there were approximately 60 million Hispanics (both U.S. born and foreign born) living in the United States, representing 18% of the U.S. population (Krogstad & Noe-Bustamante, 2020). This was up from 16% in 2010 and just 5% in 1970. Currently, the majority of Hispanics (62%) are of Mexican origin, with most of the remainder from Puerto Rico (8.6%), Cuba (4.1%), Central America (9.3%), and South America (6.6%) (Krogstad & Noe-Bustamante, 2020). Hispanics are currently the nation's second-fastest growing racial or ethnic group after Asian Americans. It has been projected that by July 1, 2060 the Hispanic population in the U.S. will be 111 million people, or 28% of the nation's total projected population on that date (U.S. Bureau, 2018).

As discussed above, Hispanic youth suffer disproportionately from obesity and several chronic health conditions associated with obesity. Moreover, since obesity tends to track into adulthood, obese Hispanic youth are at greater risk of becoming obese Hispanic adults, thereby contributing to the likelihood they will experience obesity-related health problems across the lifespan. Research has shown that interventions early in life (i.e., during childhood) have the best chance of promoting a meaningful reduction in long-term obesity (Brotman et al., 2012). Health care providers can certainly help by identifying signs of pediatric obesity among their patients earlier rather than later and intervening through referrals and counseling (Bailey et al., 2015). Parents, however, play the more critical role (Ohri-Vachaspati, et al., 2015). They should be made aware of the issue of pediatric obesity and empowered to make changes in the HFE to protect against

it. Recent meta-analyses of pediatric obesity interventions have concluded that programs that involve parents and the home environment are among the most effective in the reduction of pediatric obesity, particularly when targeting ethnic minority youth (Pamungkas & Chamroonsawasdi, 2019; Smith et al., 2017).

Vidas Activas y Familias Saludables

One example of a parent- and home-centered pediatric obesity intervention is *Vidas Activas y Familias Saludables* (VALÉ). Researchers at George Mason University in Fairfax, Virginia launched this program in 2016 as a pilot study to test the feasibility of a family-centered and culturally adapted nutrition, physical activity, and behavioral education program for overweight and obese Latino children in low income families primarily from Central America (Gallo et al., 2020). VALÉ's aim is to establish an effective pediatric obesity treatment program for an underserved vulnerable minority population.

A key aspect of the VALÉ program is providing families with strategies to modify health behaviors. Families participate in 10 weekly group evening sessions of 90-120 minutes each at an elementary school located in their community. During the first half of each session, parents and guardians of participants receive information in Spanish on nutrition, behavioral health, and physical activity, while the participants themselves engage in age-appropriate, structured physical activity programs. During the second half of each session, families come together for a culturally tailored dinner that has been prepared by VALÉ staff using affordable, healthy ingredients. An important goal of these meals is to model the consumption of healthy foods in a family-focused setting. Children

are encouraged to try foods that they may not have eaten previously. Parents/guardians are provided with recipes for the main courses so that they may prepare them at home (Gallo et al., 2020).

Although VALÉ researchers collect a range of demographic, anthropometric, clinical, physical activity, and health behavior data about each participant at baseline, they do not assess a participant's HFE. As discussed above, the HFE is potentially a significant contributor to pediatric obesity. Information about food preparation equipment that is available and used within the homes of VALÉ participants would provide VALÉ researchers with valuable information about the HFE of VALÉ participants. This information could help the VALÉ researchers identify possible linkages between HFE-related exposures (e.g., lack of equipment needed to store and prepare healthy foods) and health-related outcomes (e.g., weight status of VALÉ participants). From a programming standpoint, information about VALÉ participants' home food preparation equipment could help to inform meal planning and recipe creation relevant to the shared meal component of the VALÉ intervention.

Objectives

The objectives of this study were as follows:

Objective 1: To develop an instrument to collect data about home food preparation equipment present and used in VALÉ participants' homes.

Objective 2: To field test the instrument in the homes of a sample of participants from previous VALÉ cohorts.

Method

This part of the report describes the process of developing and field testing an instrument to use in the collection of data on home food preparation equipment present in the homes of future VALÉ participants. This process involved six stages: (1) a review of the literature to identify an instrument (if any) used in previous studies on the HFE that could be adapted for use in this study; (2) adaptation of an existing instrument or creation of a new one and its translation into Spanish; (3) a review of the instrument by a qualified person to establish its face validity and cultural appropriateness; (4) obtaining approval of George Mason University's Institutional Review Board (IRB); (5) field testing the instrument to establish its content validity; and (6) the transcription, translation, and analysis of the results from the field testing.

Stage 1: Literature Review

A comprehensive literature search was conducted to identify studies using and/or creating an instrument to measure home food preparation equipment. Four studies with such an instrument were identified and are described above (Appelhans et al., 2014; Efstathiou et al., 2004; Landers & Shults, 2008; Oakley et al., 2019). However, none of those instruments were developed for use among populations demographically similar to that of VALÉ. Two of them are also limited in scope and likely missing items potentially present in the homes of VALÉ participants. For these reasons, the researcher decided to develop a new instrument appropriate for use in the VALÉ population.

Stage 2: Instrument Creation and Spanish Translation

Initially, the researcher planned to collect data solely on food preparation equipment present in the homes of VALÉ participants. Later, she decided to supplement this data with data on foods present in the homes of VALÉ participants. The researcher hypothesized that information about foods present in a VAE participant's home could provide context to the food preparation equipment that was present, since the use of the latter necessarily occurs in combination with the former. (For example, it was hypothesized that the presence of certain foods could inform why certain equipment was used or not used in a VALÉ participant's home.)

In terms of deciding how best to collect both types of data, the researcher adopted the approach recommended by Ohri-Vachaspati & Leviton (2010). The researcher identified two intended uses for the collected data: (1) to facilitate research into the connection between VALÉ participants' HFE and various health-related outcomes relevant to the VALÉ program; and (2) to facilitate improvements to the shared meal component of the VALÉ program. The researcher also identified the potential users of any instrument developed to collect this data: (1) herself; and (2) family members of VALÉ participants, who would be using the instrument in their homes and likely have limited English proficiency.

Based on these considerations, the researcher decided to collect the data on food preparation equipment items using a checklist, since (1) she anticipated that she could compile a detailed list of items potentially present in a VALÉ participant's home in a reasonable amount of time and that such a list would not exceed more than a few pages;

and (2) any burdens imposed on her and the VALÉ family member from the use of such an instrument would be minimal. To collect the data on foods present in a VALÉ participant's home, the researcher proposed using an inventory approach whereby she would list on a blank sheet of paper all of the food items she observed while visiting the VALÉ participant's home to administer the food preparation equipment checklist. She perceived an inventory approach to be the only feasible option for collecting food-related data, since any other approach would require her to speculate about the foods that might be present in a VALÉ participant's home, thus potentially biasing the results of any analysis of data collected using such other approach.

DEVELOPMENT OF A CHECKLIST OF FOOD PREPARATION EQUIPMENT ITEMS

The development of a checklist of food preparation equipment items started with a general internet search for items considered to be essential for well-stocked kitchens. In addition, since the VALÉ population consists primarily of low income immigrants from Central America, another literature search was conducted to identify HFE studies (if any) that had collected or analyzed data on the possession and/or use of food preparation tools, food preparation behaviors, and environmental barriers to home food preparation among low income and/or Central American immigrant populations. Cookbooks and websites with recipes from traditional Central American cuisines were also reviewed to identify specialized tools or utensils recommended for use in the preparation of culturally-specific dishes.

Next, Housing Quality Standards (HQS) were reviewed to identify items considered necessary for food preparation and storage (**Appendix A**). The HQS are

promulgated by the U.S. Department of Housing and Urban Development and are intended to represent the minimum requirements for a determination that housing is decent, safe, and sanitary (Tenant-Based Assistance: Housing Choice Voucher Program, 2020). Housing must meet these standards in order to qualify for rent subsidies under the Housing Choice Voucher Program (often referred to as "Section 8 vouchers"). A literature search revealed two studies that have used these standards to inform the development of instruments used to measure housing quality among Latino farmworkers in eastern North Carolina (Gentry, Grzywacz, Quandt, Davis & Arcury, 2007) and among low income families living in East Baltimore, Maryland (Gielen et al., 2012).

Based on the results of this research, an initial checklist of 62 items, grouped among nine categories, was developed in English. Items in the first two categories, Kitchen and Large Appliances, were derived from items included in the Food Preparation and Refuse Disposal and Water Supply categories of the HQS. The remaining items were distributed among the other seven categories on the checklist (Small Appliances, Pots/Pans, Measuring Devices, Knives, Food Prep/Other Tools, Storage Equipment/Items, Meals) and represented a compilation of items derived from the other sources described above.

PROPOSED FOOD INVENTORY REPLACED WITH LIST OF QUESTIONS

As noted above, the initial proposal was to use an inventory to collect data on foods present in VALÉ participants' homes. The process of using the inventory was envisioned as having the interviewer look through a participant's refrigerator, freezer, and pantry and record all foods that are present on the inventory form. To determine whether

such a process was feasible, an exercise to test this process without having to visit a VALÉ participant's home was devised. The interviewer asked one of the VALÉ program research assistants, a native Spanish speaker born in a Central American country, to use her cell phone to take photographs of all the foods available for consumption in her home and either text or email the photographs to the researcher. The research assistant was instructed not to move or pose foods to be photographed but instead to take photographs of foods in the locations in which they were normally stored in her home (e.g., on shelves or in drawers in her refrigerator or freezer or on shelves in her pantry). The research assistant sent the interviewer 12 photographs showing foods located in her refrigerator, freezer and pantry and on her kitchen counters. The researcher spent approximately 45 minutes reviewing the photographs and cataloguing the approximately 80 items that were both visible and identifiable (**Appendix B**). However, numerous items were either not visible (e.g., they were located behind other items) or could not be identified (e.g., the name of the item was obscured and the packaging was unfamiliar to the researcher). The researcher anticipated that if she were to use a similar process to conduct an inventory in the home of a VALÉ participant, a substantial amount of time would be required to identify and record all items and that some items would need to be moved in order to fully identify those items that are obscured.

Based on these observations, the researcher and her advisor concluded that the amount of time and effort needed to collect this data would be burdensome to both the researcher and VALÉ family members providing this data. There was also a concern that participating VALÉ family members might find this part of the data collection process

intrusive. For these reasons, the researcher decided not to collect data on foods present in the homes of VALÉ participants. Instead, the researcher decided to supplement the food preparation equipment checklist with several open-ended questions. These questions, which were written at an 8th grade reading level, asked participants which food preparation equipment items they used most frequently and least frequently, which food preparation equipment items they considered to be the most important and the least important, and what meals did they prepare most and least frequently for their families? These questions were intended to elicit more in-depth information about participants' use, or non-use, of certain food preparation tools while limiting their response burden.

SPANISH TRANSLATIONS

To minimize translation costs, the researcher translated the food preparation equipment checklist and supplemental questions into Spanish using Google Translate (<https://translate.google.com>). The translations were then reviewed for accuracy by the VALÉ Project Coordinator, who is bilingual in English and Spanish and had interacted extensively with families who had participated in the Spring 2019 VALÉ cohort. The use of Google Translate in this manner has been approved by a variety of researchers, especially when the text to be translated consists of individual words and simple phrases and concerns about confidentiality are not present (Groves & Mundt, 2015).

Stage 3: Expert Review of Instrument to Establish Face Validity

In addition to reviewing the Spanish-language versions of the checklist and supplemental questions for translation accuracy, the VALÉ Project Coordinator was also asked to assess their face validity. Face validity refers to whether an instrument appears

to measure what it is intended to measure (Bannigan & Watson, 2009; Lytle, 2009). It is typically assessed by expert review rather than using statistical procedures (Bannigan & Watson, 2009; Lytle, 2009). The VALÉ Project Coordinator, who is fluent in both English and Spanish, confirmed that with a few exceptions both the checklist and the questions clearly communicated the items and topics they were intended to measure. The exceptions related to certain items on the checklist that have multiple names in Spanish. (For example, a griddle can be translated as *comal*, *plancha*, and *budare* depending on the country in which it is used.) Based on her feedback, the researcher decided to add a photographic image of each food preparation equipment item next to it on the Spanish language supplement to the home kitchen equipment checklist that would be used by the participating VALÉ family member (**Appendix E**). Such images would assist the VALÉ family members in recognizing an item if he or she were unfamiliar with the Spanish-language term chosen to represent it. These images were obtained from retail websites selling home cooking equipment.

Stage 4: IRB Approval

Because this study was based on the participation of human subjects, the approval of the GMU's IRB was sought and obtained for the following materials:

1. Interviewer Home Kitchen Equipment Checklist (in English) (**Appendix D**).
2. Participant Home Kitchen Equipment Checklist (in Spanish) (**Appendix E**).
3. Home Kitchen Equipment Checklist Supplement (in Spanish) (**Appendix F**)
3. Recruiting Script (in English) (**Appendix G**).
4. Recruiting Script (in Spanish) (**Appendix H**).

5.Participant Consent (in English) (**Appendix I**).

6.Participant Consent (in Spanish) (**Appendix J**).

7.Home Interview Script (in English) (**Appendix K**).

8.Home Interview Script (in Spanish) (**Appendix L**).

Stage 5: Field Testing to Establish Instrument's Content Validity

Content validity refers to whether an instrument fully assesses or measures the variable of interest (Lytle, 2009). In the case of a checklist, which consists of a list of items based on predetermined criteria, content validity is present if the list includes all items comprising the set of items that meet the criteria. Content validity is typically assessed through an external review similar to that for face validity (i.e., by a qualified person not involved in the instrument's creation). In this instance, however, this review took the form of the use of the instrument during interviews with persons (i.e., mothers of VALE participants) knowledgeable about the variable being assessed (i.e., home food preparation equipment) but who were not involved in the instrument's creation.

MOCK INTERVIEW

To prepare for field testing the food preparation equipment checklist and supplemental questions, a mock interview using them was conducted in the conference room of the Nutrition and Food Studies Department in the College of Health and Human Services at George Mason University. The participants were the researcher, who planned to conduct the interviews; a George Mason University undergraduate research assistant fluent in English and Spanish, who was to serve as a translator during interviews; and the VALÉ Project Coordinator as a stand-in for a study participant. The purpose of this mock

interview was to practice using the instrument in an interview simulation. No modifications were made to the inventory as a result of the mock interview.

FIELD TESTING

After the mock interview, the instrument was field tested in the summer of 2019 during in-home interviews of mothers of two previous VALÉ participants. The two women were recruited by the VALÉ Project Coordinator from among the Spring 2019 cohort of the VALÉ program. (Originally the goal was to conduct the field testing among a sample of 8-12 persons, but the VALÉ Project Coordinator was unable to recruit more than two persons to participate.) Prior to the start of the interview, each woman read and signed the IRB-approved Spanish-language consent form. Interviews took about one hour to complete, were conducted by the researcher in English with simultaneous Spanish translation by the bilingual GMU research assistant, and were audiotaped. For any item on the checklist that was present in their homes, both women were instructed to show the item to the researcher, either by holding it up for the researcher to see or by pointing to it in the location where it was stored. The researcher marked an item present on the checklist only if she was able to clearly see and identify the item. At the completion of each interview, the interviewee received a \$50 Walmart gift card as an incentive for her participation.

Stage 6: Transcription, Translation, and Analysis

Although both interviews were recorded, the recording of the first interview was lost while it was being downloaded from the recorder to the computer. The recording of the second interview was transcribed verbatim and then the Spanish language

components were translated into English. The researcher's notes from the two interviews and the translated transcription from the second interview were imported into NVivo software for qualitative analysis. A deductive approach based on content was used to derive major themes in the data.

Chapter 6: Results

Descriptive Analysis

The home food preparation equipment checklist included a total of 63 items distributed among seven categories (Kitchen, Large Appliances, Small Appliances, Pots/Pans, Measuring Devices, Knives, Food Prep/Other Tools, Storage Equipment/Items, and Meals). Table 1 lists each of those items and the percentage of participants who owned it. The majority of items (n=35) were owned by both participants, slightly more than a third of the items (n=22) were owned by one of the two participants, and just under 10% of the items (n=6) were owned by neither participant. Both participants owned all of the large appliances on the list with the exception of one participant, who did not own a toaster. However, that participant owned a toaster oven, which functions as a toaster. Both households owned a variety of pots and pans, at least one large knife and one small knife, at least one mixing bowl, a can opener, and cutting boards. Both households also owned a full set of dishes (plate and bowl) and a full set of cutlery (fork, spoon, and knife) for each family member to use during mealtimes.

Face Validity of Checklist

In her review of the checklist for face validity, the VALÉ Project Coordinator indicated that for most of the items on the checklist, she understood the nature of the item being asked about and agreed with the Spanish translation. For a few items, however, she indicated that either the English language version or the Spanish language translation was ambiguous. To remove this ambiguity, photographic images of each item were included

on the Spanish-language version of the checklist. After these additions were completed, the VALÉ Project Coordinator indicated that the checklist had full face validity.

The VALÉ Project Coordinator indicated that all of the supplemental questions had full face validity.

Table 1. Home Kitchen Equipment Items (by Category) Owned by Percentage (%) of Study Participants

Category/Item	%	Category/Item	%	Category/Item	%
KITCHEN		POTS/PANS		FOOD PREP/OTHER TOOLS (CONT'D)	
Counterspace	100%	Stock Pot	100%	Steamer Insert	50%
Sink	100%	Saucepot	100%	Can Opener	100%
Running (clean) water	100%	Griddle	100%	Large Spoon	100%
Soap for dishes	100%	Baking Pan	50%	Spatula	100%
Soap for hands	100%	Sheet Pan	100%	Ladle	100%
LARGE APPLIANCES		Roasting Pan	100%	Vegetable Peeler	100%
Refrigerator	100%	Disposable Aluminum Pans*	50%	Potato Masher	100%
Freezer	100%	Glass or Ceramic Bakeware	50%	Rolling Pin	50%
Microwave	100%	Mixing Bowl - Large	50%	Tongs	50%
Toaster	50%	Mixing Bowl - Medium	100%	Grater	50%
Toaster Oven	100%	Mixing Bowl - Small	50%	Whisk	50%
Stove top/range	100%	MEASURING DEVICES		Food Thermometer	0%
Oven	100%	Measuring Cup - Liquid	50%	Salad Spinner	0%
SMALL APPLIANCES		Measuring Cup - Dry	0%	Dish Drainer	100%
Blender (counter or immersion)	100%	Measuring Spoons	50%	Cookbook(s)	100%
Crock Pot	0%	KNIVES		Cooking Videos (e.g. YouTube)*	100%
Pressure Cooker	0%	Large	100%	STORAGE EQUIPMENT/ITEMS	
Barbecue Grill	50%	Small	100%	Large/medium/small plastic/glass	100%
Electric Grill	50%	FOOD PREP/OTHER TOOLS		MEALS (ONE EACH PER PERSON)	
Hot Plate	0%	Cutting Board - Meat	50%	Table Dishes – Plates	100%
Waffle Iron	50%	Cutting Board - Nonmeat	50%	Table Dishes – Bowls	100%
Electric Mixer	50%	Cutting Board - Meat and Nonmeat	50%	Cutlery – Forks	100%
Food Processor	50%	Oven Mitt/Potholder	50%	Cutlery – Spoons	100%
Specialty Machine	50%	Colander/Strainer	100%	Cutlery – Knives	100%

*Items not included on checklist but reported by a participant as being present in her home.

Content Validity of Checklist

As noted above, in the case of a checklist, content validity is present if the list includes all items that meet study criteria. In this study, the criteria for being included on the checklist were (1) status as an item of equipment that is used to prepare food for consumption and (2) presence in the home. Based on this definition, the two interviews indicated that the checklist had reasonably good content validity. With only two exceptions, all of the items present in the homes of the participants were reflected on the checklist. The exceptions were disposable aluminum pans and cooking videos (Table 1).

Qualitative Analysis

Qualitative analysis of the researcher's notes from the first interview and the transcription the second interview revealed the following themes:

Frequently Prepared Meals

Both participants indicated that the meals they prepared most frequently for their families consisted of a dish that combined a meat (chicken, beef, pork, or fish) with vegetables (fresh and/or frozen) and a starch (usually rice). One participant commented that the ingredients will vary depending upon what she has on hand.

Frequently Used Items

Both participants reported that one of the most frequently used items in their kitchens was the utensil they used to cook the meal they prepared most frequently for their families. For one participant, this was her rice cooker, and for the other it was a covered nonstick casserole with steamer insert. Other frequently used items included the

stove, microwave oven (to heat food for a family member that works irregular hours), electric grill, blender (to make salsa), comal (flat griddle), and various sizes of pots and pans.

Items Never Used or Used Infrequently

Among the items the participants reported never using or only using infrequently, nearly all were tools having a single, specialized use such as a rolling pin, cake stand, rectangular clay baker, culinary mold, and spice rack. One participant reported rarely using her grill ("alot of trouble") and electric fryer ("too hard to use").

Substitutions

In several instances, both participants indicated how they used items they did own as functional substitutes for items they did not own. For example, the participant who did not own baking or roasting pans said that she preferred to use disposable aluminum pans, since these items could be thrown away after being used and therefore took up less space in her kitchen. Other substitutions included the use of a dish towel in lieu of an oven mitt to handle hot pans or a mug or glass in lieu of a measuring cup to measure ingredients.

Shared Kitchen Space

One participant noted that she shared her kitchen space with a relative and another person who lived in the basement of her home. The shared space appeared to include the large appliances present in the space such as the refrigerator, stove, and sink. The participant confirmed that she did not share the smaller equipment and utensils.

Alternatives to Cookbooks

Cookbooks in both English and Spanish were owned by both participants but were infrequently used. One participant said that she prefers to look for recipes in Spanish-language cooking videos posted on YouTube rather than in cookbooks. She finds it easier to use this format while she is cooking. She also commented that the recipes in English-language cookbooks, with their numerous steps and precise measurement of ingredients, are inconvenient to follow especially if she is short on time. That said, for certain dishes, she prefers an American recipe, such as for turkey at Thanksgiving.

Photographing Food

One participant commented that she liked to take pictures of food that she had cooked.

Chapter 7: Discussion

Summary of Instrument Development and Data Collection and Analysis Processes

The prevalence of obesity in children in the United States has now reached epidemic levels. In the early 1970's the pediatric obesity rate was 5% (Ogden & Carroll, 2010). As of 2016, 18.5% of U.S. children ages 2-19 years were obese (Hales et al., 2017). This prevalence rate makes pediatric obesity a major public health crisis, since children who are obese are at greater risk of experiencing several obesity-related chronic health conditions. These include insulin resistance, type 2 diabetes, hypertension, dyslipidemia, NAFLD, asthma, obstructive sleep apnea, and depression. Additionally, pediatric obesity is strongly correlated with the persistence of obesity during adulthood, which means that obese youth have an elevated risk of obesity and its comorbidities throughout the lifespan (Juonala et al., 2011; Kelsey et al., 2014).

Obesity is believed to arise from the complex interaction of numerous factors. Although genetic susceptibility to obesity is one such factor, genetic changes in a human population occur too slowly to fully account for the rapid growth in pediatric obesity rates (Dubois et al., 2012). Other factors are believed to contribute more to the etiology of obesity. These include behavioral factors, which consist of how people live their lives and the choices they make (e.g., do they eat enough fruits and vegetables, do they engage in enough physical activity); environmental factors, which are those conditions that encourage or inhibit those choices; and social factors, which include how people interact with each other and the social conventions they follow.

Like obesity, positive health behaviors developed early in life can track into adulthood. For this reason, interventions during childhood are believed to have the best chance of promoting a meaningful reduction in adult obesity (Brotman et al., 2012). The most effective pediatric obesity treatment and prevention programs are those that involve parents and the home environment, particularly when targeting ethnic minority youth (Pamungkas & Chamroonsawasdi, 2019; Smith et al., 2017). VALÉ, with its emphasis on the family and home environment, is an example of such a program.

The purpose of this study was to develop and field test an instrument for collecting data on home food preparation equipment for the VALÉ program. A few studies have already examined the effect of other aspects of the HFE in Hispanic populations, including food availability and accessibility, parental role modeling, parental feeding styles, and permissiveness/restrictiveness of parents. However, no existing studies have considered the relationship of food preparation equipment in the home with obesity among Hispanic youth. It was anticipated that the data collected by this instrument could be used to gain a better understanding of the factors of the HFE that contribute to obesity in this population. It was also expected that the data could be used to inform meal planning and recipe creation relevant to the shared meal component of future cohorts of the VALÉ program.

An instrument was created using a checklist format. A checklist consists of a list of items that are selected based on predetermined criteria. In this case, the checklist included all food preparation equipment items that could potentially be present in a VALÉ participant's home. The items on the list were compiled from several literature

reviews and internet searches. The checklist was translated into Spanish, and then after review by the VALÉ Project Coordinator a photographic image of each item was added to the Spanish language version of the checklist to improve its face validity.

Additionally, several open-ended questions were included with the checklist to elicit information about foods frequently and infrequently prepared using the food preparation equipment. These questions were in lieu of an originally planned food inventory, which the researcher concluded would place an undue burden on both her and study participants during data collection. These questions were written at an 8th grade reading level, translated into Spanish, and also confirmed as having adequate face validity by the VALÉ Project Coordinator.

Content validity for both the checklist and the supplementary questions was assessed by using them during in-home interviews of two mothers of previous VALÉ participants. The recording of the second interview was downloaded onto a computer, transcribed verbatim, and translated into English. The recording of the first interview was lost during the download process. The researcher's notes from the two interviews and the English-language transcription from the second interview were analyzed using both quantitative and qualitative techniques.

Conclusions and Insights

Descriptive analysis of the data collected from the two in-home interviews indicated that the homes of both VALÉ participants were adequately stocked with food preparation equipment. All of the large appliances on the list or their equivalents were present in both homes. A variety of pots and pans, at least one large knife and one small

knife, at least one mixing bowl, a can opener, a large spoon, a spatula, a vegetable peeler, and a cutting board were also present in both homes. These items appear to be the minimum items needed to store and prepare foods for consumption. This suggests that neither home faced a barrier in its micro-level built environment in the form of a lack of food preparation equipment.

The extremely limited nature of the data obtained from this study did not permit any quantitative analysis of linkages between food-related exposures and health-related outcomes in the VALÉ population. Qualitative analysis of the data, however, revealed several interesting themes. First, the data suggest that both participants regularly prepare balanced, healthy meals for their families. Both reported that the meals they prepared most frequently for their families consisted of an animal or fish protein combined with vegetables (fresh or frozen) and a starch (usually rice). Participants also appeared to be interested in food and the process of cooking. The fact that both have such a large variety of food preparation equipment in their homes, including specialty items ranging from blenders and waffle irons to rolling pins and spice racks even if unused, suggests that they are interested in food and the idea of cooking. Other indicators of such an interest include taking pictures of food before consuming it and seeking out and using tools (in this case, Spanish-language cooking videos) that facilitate new food experiences and/or the improvement of existing skills. Research consistently shows that people who frequently cook meals at home eat healthier foods and consumer fewer calories compared to persons who cook infrequently (Wolfson & Bleich, 2014). These observations point to

an opportunity for VALÉ researchers to emphasize home cooking as part of intervention programming.

Second, while the idea of home cooking may find a receptive audience in the VALÉ population, it is critical that any effort to promote home cooking as part of the VALÉ program take convenience into account. For both participants, the food preparation equipment items they used most frequently accommodated the preparation of multiple components of a meal simultaneously and within the same utensil, a rice cooker for one participant and a covered nonstick casserole with steamer insert for the other. At the same time, the items the participants used least frequently were those having a single, specialized purpose (e.g., rolling pin, cake stand). This suggests that the participants prefer cooking techniques and utensils that promote convenience through equipment multitasking.

Third, efforts to promote home cooking as part of the VALÉ program should also consider newer ways of transmitting information. Traditionally, information about recipes and cooking techniques was transmitted exclusively through observational experiences or written records, with cookbooks being simply compilations of written records. With the rise of the Internet, those modes of transmission moved online. Recipes are now disseminated through blogs and other forms of online media, while platforms such as YouTube make available videos demonstrating recipe preparation. Today, information about what and how to cook is accessible everywhere using computers, tablets, smartphones, and apps. One participant described why some of these recent technologies appeal to her and how she incorporates them into her cooking experience.

She noted that for every day dishes she prefers a Spanish-language cooking video on YouTube over a written recipe. She explained that she can listen to the video while she is cooking, and that she finds most English-language recipes too detailed to follow. She is also the participant who indicated that she regularly uses her smartphone to photograph her food before consuming it. These preferences suggest that transmitting information to the VALÉ population about options for healthier meals and effective cooking techniques in the form of written recipes may be less effective than using a more modern format such as a video or a smartphone app. They also reveal that recipes with limited ingredients and easy-to-follow instructions are also preferred.

Finally, it should be noted that one of the participants indicated that she shared her cooking space with two other persons who are not members of her immediate family. Although this arrangement did not appear to adversely affect this participant's ability to use the food preparation equipment in her home, it is possible that for other persons who are part of the VALÉ population, this may not be true.

Limitations

This study has several limitations as follows:

Small Sample Size

The most notable limitation is the sample size. The use of a convenience sample of two individuals prevents any conclusions from the study being generalized to other persons, including other members of the VALÉ population and their families.

Lack of Pilot Study

Another limitation is the lack of a pilot study. Instruments developed to measure a variable of interest in a scientific study ideally undergo testing in the form of a pilot study. This is typically a small-scale methodological test conducted to prepare for a main study and is intended to ensure that the instrument will work in practice (Kim, 2010). Ideally, the sample of a pilot test is similar to the sample in the main study but smaller. The process of testing consists of administering the instrument to the sample to ensure that the administration process runs smoothly and the data collected can be coded and analyzed properly and efficiently (Ruel et al., 2016). Essentially, a pilot study is a "dress rehearsal" of the administration of the instrument (Ruel et al., 2016). In this study, efforts to recruit a large enough sample were unsuccessful, thereby preventing the study from being conducted as a pilot study. The checklist instrument should undergo pilot testing before it is used in a larger study.

Potential for Bias

A third limitation is the potential for bias, a type of systematic error. Several forms of bias could have potentially affected the results of this study: self-selection bias, which is a type of sampling bias; response bias and social desirability, which relate to how the data is collected; and researcher bias, which relates to how the data is analyzed and interpreted.

Self-Selection Bias

Self-selection bias can occur when participants in a study are able to decide entirely for themselves whether to participate. To the extent that participants' propensity

for participating in the study is correlated with the substantive topic being analyzed, the resulting data can be affected by self-selection bias (Lavrakas, 2008). In this study, the two participants decided entirely on their own whether to participate, and it is possible that their decision to participate was related to their own interests in food and cooking. Such a correlation would constitute self-selection bias. Similarly, self-selection bias could have occurred if a potential participant decided not to participate because of a lack of interest in food or cooking or a belief that he/she lacked the food preparation equipment needed to participate.

Response Bias

The second type of bias is response bias (also referred to as participant bias, subject bias, or interviewer effect). It occurs when a study subject reports information or behavior in a manner that reflects perceptions or beliefs about the researcher or the study (Brito, 2017). (To put it another way, participant bias occurs when either of the questions "Who is asking?" or "What is the reason for asking?" affects the answers that are produced.) Perceptions can be shaped by a researcher's facial expression, body language, tone, manner of dress, and/or style of language. They can also be affected by a researcher's demographic characteristics such as age, social status, race or ethnicity, and gender.

Much research has been conducted on the impact of a researcher's race/ethnicity on various aspects of the study process. West and Blom (2017) recently conducted a review on this topic, focusing primarily on studies examining the relationships of interviewer-level characteristics with survey outcomes. They determined that the effect of

the interviewer's race is strongly moderated by both respondent's race and the racial sensitivity of the question being asked, with respondents providing incomplete or inaccurate answers in order not to offend an interviewer (West and Blom, 2017). Such a tendency has been referred to as "interpersonal deference" (West and Blom, 2017). Other studies have found, however, that non-racial items in surveys are not influenced by the interviewer's race or ethnicity (Davis et al., 2010). In other words, interviewer effects based on the interviewer's race/ethnicity tend to arise only in connection with survey items that are explicitly racial or ethnic.

In the context of public health surveys, Davis et al. (2010) suggest that characteristics of the interviewer can affect the results in two ways: How a respondent forms an answer to a question, and how a respondent edits his/her answer before communicating it. The researchers note that public health surveys may be especially vulnerable to the latter characteristics, since a respondent may perceive that his/her answers could affect access to health services or lead to stigmatization as a result of health behaviors. In such a situation, respondents may scrutinize the interviewer for clues about which responses will lead to the best outcomes for themselves and respond accordingly (Davis et al., 2010).

The potential for response bias in this study is limited. With respect to the data collected by the food preparation equipment checklist, study protocol required the researcher to view each item before marking it present in the participant's home. This allowed the researcher to validate each participant's responses in real time. Thus, there is no response bias in connection with this part of the interview.

On the other hand, the process for collecting data in the form of a participant's responses to the supplementary questions may have contributed to response bias. The researcher is a white, English-speaking female born in the United States, while both of the study participants were younger than the researcher, born outside of the United States, and preferred to converse in Spanish during the interview. Moreover, the researcher had recently taught the nutrition component of the VALÉ program attended by these participants. It is possible that the participants may have viewed the researcher as an authority figure whose purpose in conducting this study was to "check up on them" to determine whether they had fully implemented the lessons learned during the VALÉ program. If so, the respondents may have answered the questions in a way that reflected this belief. To allay any concerns about the purpose of the study and to encourage respondents to answer the questions frankly and accurately, the researcher arranged for the interviews to be conducted in Spanish using a native Spanish-speaking George Mason University undergraduate student as a translator, informed each participants before the start of her interview that the purpose of the study was to improve the shared meal component of future VALÉ cohorts and that there were no right or wrong answers, and used a semi-structured interview format that allowed the participants to answer the questions in their own words taking as much time as they wished.

Finally, to the best of the researcher's knowledge, none of the supplemental questions were explicitly racial or ethnic. For this reason, it seems unlikely that the study results include any response bias due to any racial and ethnic differences between the researchers and study participants.

Social Desirability Bias

Social desirability bias refers to the tendency for respondents to answer questions according to how they believe their responses will be perceived by others. Often they do this to project a favorable image of themselves or to avoid receiving criticism (Ruel et al., 2016). Studies that can be vulnerable to social desirability bias include those that rely on self-reported behavioral measures. Manifestations of social desirability bias include an over-reporting of behavior that is believed to be more socially desirable and an underreporting of behavior that is believed to be less socially desirable. One technique for reducing the potential for social desirability bias is to structure the interview setting to promote openness (Fadnes, Taube, & Tylleskär, 2008).

The results of this study may reflect social desirability bias due to the participants' previous participation in the VALE program. There they learned about the importance of providing balanced and healthy meals within the home in lessons taught by the researcher. Study participants may have wanted to report practices in their homes consistent with those lessons.

Social desirability bias may also have occurred as a result of the researcher's own interests in the subjects being discussed. These interests may have been subtly communicated to the participants through the researcher's facial expressions, body language, and tone of voice during the interviews, prompting them to respond in ways that aligned with the researcher's interest.

To mitigate the potential for social desirability bias, the researcher sought to promote openness using the same approach taken to protect against response bias,

specifically to conduct the interview in Spanish, to inform participants of the purpose of the study and to assure them that there were no right or wrong answers, and most importantly, to allow participants ample time to respond. The researcher also sought to display neutral reactions in her speech and conduct during the interviews.

Confirmation Bias

Finally, the study results may reflect confirmation bias (also called researcher bias). This type of bias can occur when the characteristics of the researcher inadvertently affect results through biased recording, interpretation, or evaluation of participant responses (Althubaiti, 2016). In this study, confirmation bias may occur because of the researcher's own interests in food, cooking, and nutrition. To protect against this type of bias, the researcher audio recorded the interviews (although the recording for the first interview was subsequently lost), and she used a native Spanish speaker who did not participate in the interview to translate the Spanish portion of the second interview's transcript into English. The researcher also sought to evaluate study results objectively, using specialized coding software (NVivo) to parse language and identify themes slowly and methodically.

Use of Instrument in Future Research

There is a great need for research into the HFE and its role in the development of pediatric obesity. As discussed above, understanding how children and their families procure and consume food within the home may improve the efficacy of programs preventing or reversing pediatric obesity. Although the number of studies examining aspects of the HFE has grown rapidly in recent years, much work remains to be done.

Two crucial steps in any assessment of the HFE are the identification of components that can be targeted in obesity prevention efforts and the development and validation of instruments that can be used to collect data about these components. This study represents an example of both. It identifies home food preparation equipment as one aspect of the HFE that may promote greater intake of healthy foods but which has been explored only minimally in previous studies. It then provides a comprehensive checklist that can be used to collect data about home food preparation equipment in future cohorts of the VALÉ intervention as well as other studies assessing the HFE as discussed below. In this respect, it provides a tool for operationalizing the constructs of food availability and food accessibility, which are included in each of the four models of the HFE described above.

A notable strength of the checklist is its adaptability. Although it was developed for an intervention targeting pediatric obesity among children from low income Central American immigrant families, its comprehensiveness means that it can be used in other populations with different demographic and socioeconomic characteristics subject to some modification. For example, if the checklist were to be used in a study of the HFE of Chinese immigrants, woks and rice cookers might be included to reflect equipment frequently used in the preparation of traditional Asian cuisine. Methods for identifying these modifications could include reviews of cookbooks and websites with recipes targeted to the population of interest and perusing food preparation equipment sold in local markets and grocery stores that cater to the population's food preferences. Any such modifications would also need to be translated into the preferred language of the target

population (which could be easily done using Google Translate), followed by an expert review of the translated modifications to establish their face validity. In addition, field and possibly pilot testing should be done in samples of the population of interest.

The checklist is also versatile in terms of its mode and place of administration. It can be administered either inside or outside the home as part of an interview conducted by a researcher or by a study participant who self-reports. A traditional pen and paper format can be used, or the checklist can be administered electronically via a phone, tablet, or computer. The minimal participant burden associated with the checklist means that it can be used in studies and interventions of varying sizes (small to large) and types (quantitative, qualitative, and mixed methods).

Mitigating Self-Selection Bias

It is important to recognize that in studies relying on convenience samples, a prospective participant's decision to participate or not to participate may be related to the outcome under consideration. For example, in this study, as discussed above in the discussion of self-selection bias, a VALÉ parent may have declined to participate because of a lack of access to a kitchen and/or home food preparation equipment or if other conditions (e.g., having to share kitchen space or food preparation equipment with others) created the potential for a lack of access. Under such circumstances, an analysis of data collected with the checklist would produce results that are biased most likely in the direction of having adequate home food preparation equipment. Any intervention designed on the basis of those results would run the risk of being ineffective. For this reason, when designing a study that will collect data on home food preparation

equipment, it is important to consider ways to ensure that a sample is representative of the population being studied. For example, if researchers are concerned that potential study participants may be unwilling to participate because they lack access to a kitchen and/or home food preparation equipment, researchers could design the study so that participants self-report by completing the checklist outside of the presence of study personnel or even have participants complete the checklist anonymously. Similarly, if researchers believe that participants may share kitchen space or food preparation equipment with others, the researchers could add language to the checklist clarifying that items should be checked only if they are present in a participant's home *and* the participant regularly uses them or otherwise has regular access to them.

Appendix A: Housing Quality Standards



§ 982.401

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under HAP contract on the first day of the month for which the receiving PHA is billing the initial PHA under this section. If administrative fees are prorated for the HCV program, the proration will apply to the amount of the administrative fee for which the receiving PHA may bill under this section (e.g., the receiving PHA may bill for the lesser of 80 percent of the initial PHA's prorated ongoing administrative fee or 100 percent of the receiving PHA's prorated ongoing administrative fee). If both PHAs agree, the PHAs may negotiate a different amount of reimbursement.

(4) When a portable family moves out of the HCV program of a receiving PHA that has not absorbed the family, the PHA in the new jurisdiction to which the family moves becomes the receiving PHA, and the first receiving PHA is no longer required to provide assistance for the family.

(5) In administration of portability, the initial PHA and the receiving PHA must comply with financial procedures required by HUD, including the use of HUD-required billing forms. The initial and receiving PHA must also comply with billing and payment deadlines under the financial procedures.

(6) A PHA must manage the PHA HCV program in a manner that ensures that the PHA has the financial ability to provide assistance for families that move out of the PHA's program under the portability procedures, and that have not been absorbed by the receiving PHA, as well as for families that remain in the PHA's program.

(7) HUD may reduce the administrative fee to an initial or receiving PHA if the PHA does not comply with HUD portability requirements.

(f) *Portability funding.* (1) HUD may transfer units and funds for assistance to portable families to the receiving PHA from funds available under the initial PHA ACC.

(2) HUD may provide additional funding (e.g., funds for incremental units) to the initial PHA for funds transferred to a receiving PHA for portability purposes.

(3) HUD may provide additional funding (e.g., funds for incremental units) to the receiving PHA for absorption of portable families.

(4) HUD may require the receiving PHA to absorb portable families.

(g) *Special purpose vouchers.* (1) The initial PHA must submit the codes used for special purpose vouchers on the form HUD-50058, Family Report, and the receiving PHA must maintain the codes on the Family Report, as long as the Receiving PHA chooses to bill the initial PHA.

(2) Initial and receiving PHAs must administer special purpose vouchers, such as the HUD-Veterans Affairs Supportive Housing vouchers, in accordance with HUD-established policy in cases where HUD has established alternative program requirements of such special purpose vouchers.

[80 FR 50573, Aug. 20, 2015]

Subpart I—Dwelling Unit: Housing Quality Standards, Subsidy Standards, Inspection and Maintenance

SOURCE: 60 FR 34695, July 3, 1995, unless otherwise noted.

§ 982.401 Housing quality standards (HQS).

(a) *Performance and acceptability requirements.* (1) This section states the housing quality standards (HQS) for housing assisted under the HCV program.

(2)(i) The HQS consist of:

(A) Performance requirements; and

(B) Acceptability criteria or HUD approved variations in the acceptability criteria.

(ii) This section states performance and acceptability criteria for these key aspects of housing quality:

(A) Sanitary facilities;

(B) Food preparation and refuse disposal;

(C) Space and security;

(D) Thermal environment;

(E) Illumination and electricity;

(F) Structure and materials;

(G) Interior air quality;

(H) Water supply;

(I) Lead-based paint;

(J) Access;

(K) Site and neighborhood;

(L) Sanitary condition; and

(M) Smoke detectors.

(3) All program housing must meet the HQS performance requirements both at commencement of assisted occupancy, and throughout the assisted tenancy.

(4)(i) In addition to meeting HQS performance requirements, the housing must meet the acceptability criteria stated in this section, unless variations are approved by HUD.

(ii) HUD may approve acceptability criteria variations for the following purposes:

(A) Variations which apply standards in local housing codes or other codes adopted by the PHA; or

(B) Variations because of local climatic or geographic conditions.

(iii) Acceptability criteria variations may only be approved by HUD pursuant to paragraph (a)(4)(ii) of this section if such variations either:

(A) Meet or exceed the performance requirements; or

(B) Significantly expand affordable housing opportunities for families assisted under the program.

(iv) HUD will not approve any acceptability criteria variation if HUD believes that such variation is likely to adversely affect the health or safety of participant families, or severely restrict housing choice.

(b) *Sanitary facilities*—(1) *Performance requirements.* The dwelling unit must include sanitary facilities located in the unit. The sanitary facilities must be in proper operating condition, and adequate for personal cleanliness and the disposal of human waste. The sanitary facilities must be usable in privacy.

(2) *Acceptability criteria.* (i) The bathroom must be located in a separate private room and have a flush toilet in proper operating condition.

(ii) The dwelling unit must have a fixed basin in proper operating condition, with a sink trap and hot and cold running water.

(iii) The dwelling unit must have a shower or a tub in proper operating condition with hot and cold running water.

(iv) The facilities must utilize an approvable public or private disposal system (including a locally approvable septic system).

(c) *Food preparation and refuse disposal*—(1) *Performance requirement.* (i) The dwelling unit must have suitable space and equipment to store, prepare, and serve foods in a sanitary manner.

(ii) There must be adequate facilities and services for the sanitary disposal of food wastes and refuse, including facilities for temporary storage where necessary (e.g., garbage cans).

(2) *Acceptability criteria.* (i) The dwelling unit must have an oven, and a stove or range, and a refrigerator of appropriate size for the family. All of the equipment must be in proper operating condition. The equipment may be supplied by either the owner or the family. A microwave oven may be substituted for a tenant-supplied oven and stove or range. A microwave oven may be substituted for an owner-supplied oven and stove or range if the tenant agrees and microwave ovens are furnished instead of an oven and stove or range to both subsidized and unsubsidized tenants in the building or premises.

(ii) The dwelling unit must have a kitchen sink in proper operating condition, with a sink trap and hot and cold running water. The sink must drain into an approvable public or private system.

(iii) The dwelling unit must have space for the storage, preparation, and serving of food.

(iv) There must be facilities and services for the sanitary disposal of food waste and refuse, including temporary storage facilities where necessary (e.g., garbage cans).

(d) *Space and security*—(1) *Performance requirement.* The dwelling unit must provide adequate space and security for the family.

(2) *Acceptability criteria.* (i) At a minimum, the dwelling unit must have a living room, a kitchen area, and a bathroom.

(ii) The dwelling unit must have at least one bedroom or living/sleeping room for each two persons. Children of opposite sex, other than very young children, may not be required to occupy the same bedroom or living/sleeping room.

(iii) Dwelling unit windows that are accessible from the outside, such as basement, first floor, and fire escape windows, must be lockable (such as

window units with sash pins or sash locks, and combination windows with latches). Windows that are nailed shut are acceptable only if these windows are not needed for ventilation or as an alternate exit in case of fire.

(iv) The exterior doors of the dwelling unit must be lockable. Exterior doors are doors by which someone can enter or exit the dwelling unit.

(e) *Thermal environment*—(1) *Performance requirement*. The dwelling unit must have and be capable of maintaining a thermal environment healthy for the human body.

(2) *Acceptability criteria*. (i) There must be a safe system for heating the dwelling unit (and a safe cooling system, where present). The system must be in proper operating condition. The system must be able to provide adequate heat (and cooling, if applicable), either directly or indirectly, to each room, in order to assure a healthy living environment appropriate to the climate.

(ii) The dwelling unit must not contain unvented room heaters that burn gas, oil, or kerosene. Electric heaters are acceptable.

(f) *Illumination and electricity*—(1) *Performance requirement*. Each room must have adequate natural or artificial illumination to permit normal indoor activities and to support the health and safety of occupants. The dwelling unit must have sufficient electrical sources so occupants can use essential electrical appliances. The electrical fixtures and wiring must ensure safety from fire.

(2) *Acceptability criteria*. (i) There must be at least one window in the living room and in each sleeping room.

(ii) The kitchen area and the bathroom must have a permanent ceiling or wall light fixture in proper operating condition. The kitchen area must also have at least one electrical outlet in proper operating condition.

(iii) The living room and each bedroom must have at least two electrical outlets in proper operating condition. Permanent overhead or wall-mounted light fixtures may count as one of the required electrical outlets.

(g) *Structure and materials*—(1) *Performance requirement*. The dwelling unit must be structurally sound. The struc-

ture must not present any threat to the health and safety of the occupants and must protect the occupants from the environment.

(2) *Acceptability criteria*. (i) Ceilings, walls, and floors must not have any serious defects such as severe bulging or leaning, large holes, loose surface materials, severe buckling, missing parts, or other serious damage.

(ii) The roof must be structurally sound and weathertight.

(iii) The exterior wall structure and surface must not have any serious defects such as serious leaning, buckling, sagging, large holes, or defects that may result in air infiltration or vermin infestation.

(iv) The condition and equipment of interior and exterior stairs, halls, porches, walkways, etc., must not present a danger of tripping and falling. For example, broken or missing steps or loose boards are unacceptable.

(v) Elevators must be working and safe.

(h) *Interior air quality*—(1) *Performance requirement*. The dwelling unit must be free of pollutants in the air at levels that threaten the health of the occupants.

(2) *Acceptability criteria*. (i) The dwelling unit must be free from dangerous levels of air pollution from carbon monoxide, sewer gas, fuel gas, dust, and other harmful pollutants.

(ii) There must be adequate air circulation in the dwelling unit.

(iii) Bathroom areas must have one openable window or other adequate exhaust ventilation.

(iv) Any room used for sleeping must have at least one window. If the window is designed to be openable, the window must work.

(i) *Water supply*—(1) *Performance requirement*. The water supply must be free from contamination.

(2) *Acceptability criteria*. The dwelling unit must be served by an approvable public or private water supply that is sanitary and free from contamination.

(j) *Lead-based paint performance requirement*. The Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4821–4846), the Residential Lead-Based Paint Hazard Reduction Act of 1992 (42 U.S.C. 4851–4856), and implementing regulations at part 35, subparts A, B, M, and

R of this title apply to units assisted under this part.

(k) *Access performance requirement.* The dwelling unit must be able to be used and maintained without unauthorized use of other private properties. The building must provide an alternate means of exit in case of fire (such as fire stairs or egress through windows).

(l) *Site and Neighborhood—(1) Performance requirement.* The site and neighborhood must be reasonably free from disturbing noises and reverberations and other dangers to the health, safety, and general welfare of the occupants.

(2) *Acceptability criteria.* The site and neighborhood may not be subject to serious adverse environmental conditions, natural or manmade, such as dangerous walks or steps; instability; flooding, poor drainage, septic tank back-ups or sewage hazards; mudslides; abnormal air pollution, smoke or dust; excessive noise, vibration or vehicular traffic; excessive accumulations of trash; vermin or rodent infestation; or fire hazards.

(m) *Sanitary condition—(1) Performance requirement.* The dwelling unit and its equipment must be in sanitary condition.

(2) *Acceptability criteria.* The dwelling unit and its equipment must be free of vermin and rodent infestation.

(n) *Smoke detectors performance requirement—(1)* Except as provided in paragraph (n)(2) of this section, each dwelling unit must have at least one battery-operated or hard-wired smoke detector, in proper operating condition, on each level of the dwelling unit, including basements but excepting crawl spaces and unfinished attics. Smoke detectors must be installed in accordance with and meet the requirements of the National Fire Protection Association Standard (NFPA) 74 (or its successor standards). If the dwelling unit is occupied by any hearing-impaired person, smoke detectors must have an alarm system, designed for hearing-impaired persons as specified in NFPA 74 (or successor standards).

(2) For units assisted prior to April 24, 1993, owners who installed battery-operated or hard-wired smoke detectors prior to April 24, 1993 in compliance with HUD's smoke detector re-

quirements, including the regulations published on July 30, 1992, (57 FR 33846), will not be required subsequently to comply with any additional requirements mandated by NFPA 74 (i.e., the owner would not be required to install a smoke detector in a basement not used for living purposes, nor would the owner be required to change the location of the smoke detectors that have already been installed on the other floors of the unit).

[60 FR 34695, July 3, 1995, as amended at 61 FR 27163, May 30, 1996; 63 FR 23861, Apr. 30, 1998; 64 FR 26646, May 14, 1999; 64 FR 49658, Sept. 14, 1999; 64 FR 50230, Sept. 15, 1999; 80 FR 8246, Feb. 17, 2015]

§ 982.402 Subsidy standards.

(a) *Purpose.* (1) The PHA must establish subsidy standards that determine the number of bedrooms needed for families of different sizes and compositions.

(2) For each family, the PHA determines the appropriate number of bedrooms under the PHA subsidy standards (family unit size).

(3) The family unit size number is entered on the voucher issued to the family. The PHA issues the family a voucher for the family unit size when a family is selected for participation in the program.

(b) *Determining family unit size.* The following requirements apply when the PHA determines family unit size under the PHA subsidy standards:

(1) The subsidy standards must provide for the smallest number of bedrooms needed to house a family without overcrowding.

(2) The subsidy standards must be consistent with space requirements under the housing quality standards (See § 982.401(d)).

(3) The subsidy standards must be applied consistently for all families of like size and composition.

(4) A child who is temporarily away from the home because of placement in foster care is considered a member of the family in determining the family unit size.

(5) A family that consists of a pregnant woman (with no other persons) must be treated as a two-person family.

Appendix B: Simulated Refrigerator and Pantry Inventory

Refrigerator & Pantry



Sleepy Time herbal tea
Cola de Caballo
??
Aloe Vera Tea (Sabila con nopal tea)

Chinese Tea
Knox gelatin
Provencal seasoning mix for ceviche

Old El Paso seasoning mixes
Jiffy corn muffin mix
Coffee

Stevia
coffee

Hamburger Helper
Jello
Chopped walnuts

Dried pasta (elbows, lasagna (two kinds), fettucini)



Relish
Yellow mustard
Wing sauce
garlic

BBQ sauce
Wing sauce
Teriyaki sauce
Hidden Valley ranch dressing

Ketchup Wine Chocolate sauce Hot sauce

Refrigerator & Pantry



Powdered sugar
AP (?) Flour
Granulated sugar

Cream of tartar
Vanilla

Thomas bagels (?)

Split peas (?)
Quinoa (?)
Dried garlic (?)



Butter (unsalted)

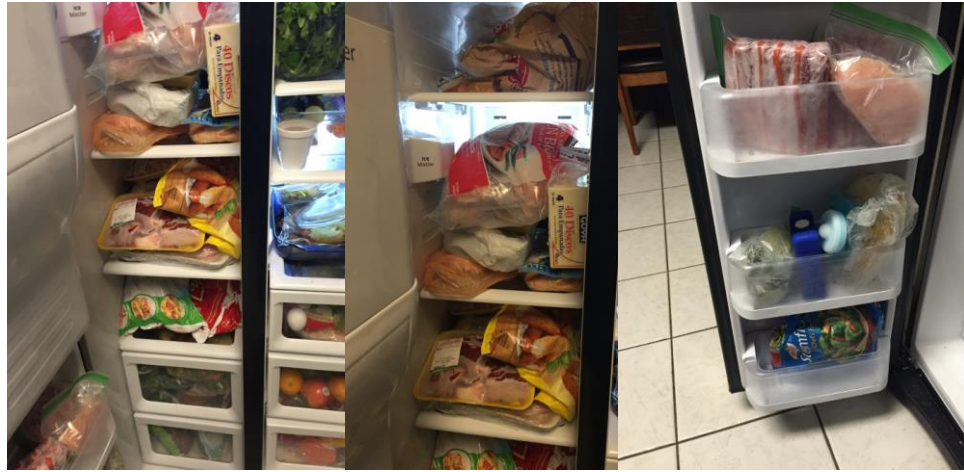
Pesto sauce
Chimichurri sauce
Sundried tomatoes in oil
Milk
Various salad dressing

(same as above)
Relish
Mustard
Wing sauce
Garlic
In back (BBQ sauce & mayonnaise)



Apple cider vinegar
Olive (?) oil
Sugar (?)
White rice
Spices

Refrigerator & Pantry



Tyson (?) frozen chicken
 Kirkland frozen boneless chicken breast
 Frozen empanadas
 Fresh (frozen) beef short ribs
 Fish sticks (?)
 Frozen fruit (?)
 Frozen vegetables (peas and carrots?)



Krusteaz
 Honey Nut Cheerios (Whole Grain)
 Granola Bar (?)
 Carr's Water Crackers
 Coconut Flakes
 Honey
 Raw Almonds
 Rice Krispies (?)
 Quaker Oats
 Red Pepper Jelly
 Goya Chickpeas
 Goya Pink Beans
 Golden Sweet Whole Kernel Corn
 Low Sodium Tomato Sauce
 Canned Chicken Breast
 Goya White Hominy
 Evaporated Milk
 Canned chopped Tomatoes
 Tomato Sauce
 Spaghetti Sauce

Refrigerator & Pantry



Milk

Parsley
Eggplant
Prepared salad
Baby spinach

Eggs
Corn tortillas
Cheese (several kinds)

Apples
Oranges
Iceberg lettuce (?)

Appendix C: Interviewer Home Kitchen Equipment Checklist

Interviewer Home Kitchen Equipment Checklist

Tool/Item	Present (Y/N)	In Usable Condition (Y/N) (based on visual inspection)	Notes
Kitchen (for food prep & cleaning)			
Counterspace			
Sink			
Running (clean) water			
Soap (dishes & hands)			
Large Appliances			
Refrigerator			
Freezer			
Microwave			
Toaster			
Toaster Oven			
Stove top/range			
Oven			
Small Appliances			
Blender (counter or immersion)			

Crock Pot			
Pressure cooker (e.g., Instant Pot)			
Barbecue Grill (check outside)			
Electric Grill (e.g., Foreman grill)			
Hot Plate			
Waffle Iron			
Electric Mixer			
Food Processor			
Specialty Machine (e.g., bread machine, pasta maker, juicer, ice cream maker)			
Pots/Pans			
Stock Pot (e.g., boil water for pasta; cooking large quantities)			
Saucepot (smaller than stock pot)			
Saute pan (straight or slope-sided) (e.g., frying or sautéing food)			
Griddle (e.g., cornal)			
Baking Pan (e.g., 8x8, 13.9, bread pan)			
Sheet Pan (e.g., 9x14) (baking: roasting vegetables)			
Roasting pan (e.g., roasting meats)			
Glass or ceramic bakeware			

Mixing bowl - large				
Mixing bowl - medium				
Mixing bowl - small				
Measuring Devices				
Measuring cup (liquid; measurement increments)				
Measuring cups (dry — set)				
Measuring spoons (set)				
Knives				
Large (e.g., chef)				
Small (e.g., paring)				
Food prep/other tools				
Cutting board - meat				
Cutting board — nonmeat				
Oven mitt/potholder				
Colander/strainer				
Steamer insert				
Can opener				
Large spoon (wooden or heavy plastic for stirring food during prep/cooking)				
Spatula				

Ladle				
Vegetable peeler				
Potato masher				
Rolling pin				
Tongs				
Grater (e.g. box grater)				
Whisk				
Food thermometer				
Salad spinner				
Dish drainer				
Cookbook(s)				
Storage Equipment/Items				
Large/medium/small plastic or glass				
Meals				
Table dishes: plates (at least one per each family member)				
Table dishes: bowls (at least one per each family member)				
Cutlery: forks (at least one per each family member)				
Cutlery: spoons (at least one per each family member)				

Cutlery: knives (at least one per each family member)				
Items Not Listed				

Appendix D: Participant Home Kitchen Equipment Checklist (Spanish)

Lista de Verificación del Equipo de Cocina del Hogar del Participante










Cocina	Pequeños Accesorios
Cubierta	Liquidadora (de vaso o batidora de inmersión)
Pila de cocina	Olla de cocción lenta
Agua corriendo	Olla a presión (por ejemplo, olla instantánea)
Jabon para platos	Parrilla de barbacoa (revisar afuera)
Jabon para manos	Parrilla eléctrica (por ejemplo, parrilla Foreman)
Grandes Electrodomésticos	Hornillo eléctrico/ placa eléctrica
Refrigerador	Gofrera
Congelador	Batidora amasadora
Microonda	Procesador de alimentos
Tostadora	Máquina especializada (por ejemplo, máquina de pan, máquina para hacer pasta, exprimidor, máquina para hacer helados)
Horno tostador	
Estufa	
Horno	

Ollas/Sartenes	Aparatos de Medición
Cacerola/olla grande (por ejemplo, para hervir agua para la pasta; para cocinar grandes cantidades)	Taza medidora (líquido; incrementos de medida)
Cazo/olla pequeña (más pequeña que la cacerola)	Tazas de medir (seco - juego)
Sartén para saltear (recta o con pendiente) (por ejemplo, para freír o saltear alimentos)	Cucharas de medir (juego)
Plancha (por ejemplo, comal)	Cuchillos
Bandeja para horno (por ejemplo, 8x8, 13,9, bandeja para pan)	Grande (por ejemplo, de cocinero)
Bandeja plana (por ejemplo, 9x14) (para hornear; para asar verduras)	Pequeño (por ejemplo, mondador)
Sartén parrilla (por ejemplo, para asar carnes)	
Artículos de vidrio o cerámica para hornear	
Bol/cuenco para mezclar - grande	
Bol/cuenco para mezclar - mediano	
Bol/cuenco para mezclar - pequeño	










Preparación de Alimentos / Otras Herramientas	Tabla de cortar - carne
Cuchara grande (de plástico o de madera para revolver los alimentos durante la preparación /cocción)	Tabla de cortar – alimentos sin carne
Espátula	Guante de cocina / agarraderas de cocina
Cucharón	Colador / filtro
Pelador de verduras	Inserto de vapor
Machucador	Abrelatas
Rodillo	Equipos / Artículos de Almacenamiento
Tenazas	Plástico o vidrio - grande /mediano /pequeño
Rallador (por ejemplo, rallador de 4 lados)	Las Comidas
Batidor	Platos de mesa: platos (al menos uno por cada miembro de la familia)
Termómetro de alimentos	Platos de mesa: tazones (al menos uno por cada miembro de la familia)
Centrifugadora de ensalada	Cubiertos: tenedores (al menos uno por cada miembro de la familia)
Escurridores	Cubiertos: cucharas (al menos una por cada miembro de la familia)
Libro(s) de cocina	Cubiertos: cuchillos (al menos uno por cada miembro de la familia)










Appendix E: Home Kitchen Equipment Checklist Supplement (Spanish)










Lista de Verificación del Equipo de Cocina del Hogar del Participante




Pequeños Accesorios		
		
Liquadora (de vaso o batidora de inmersión)		Olla de cocción lenta
		
Olla a presión (por ejemplo, olla instantánea)	Parrilla de barbacoa	
		
Parrilla eléctrica (por ejemplo, parrilla Foreman)	Hornillo eléctrico/ placa eléctrica	Gofrera

		
Batidora amasadora		Procesador de alimentos
Ollas/Sartenes/Tazones		
		
Cacerola/olla grande	Cazo/olla pequeña	Sartén para saltear
		
Plancha	Bandeja para horno	Bandeja plana

		
Sartén parrilla	Artículos de vidrio o cerámica para hornear	Cuencos /cuencos mezclados
Aparatos de Medición		
		
Taza medidora (líquido; incrementos de medida)	Tazas de medir (seco - juego)	Cucharas de medir (juego)
Cuchillos/Preparación de Alimentos/Otras Herramientas Equipos / Artículos de Almacenamiento		
		
Cuchillos (grande, pequeño)	Cuchara grande	Espátula

		
Cucharón	Pelador de verduras	Machucador
		
Rodillo	Tenazas	Rallador (por ejemplo, rallador de 4 lados)
		
Batidor	Termómetro de alimentos	Centrifugadora de ensalada

		
Escurreplatos	Libro(s) de cocina	Tabla de cortar
		
Guante de cocina / agarraderas de cocina	Colador / filtro	Inserto de vapor
		
Abrelatas	Plástico o vidrio - grande /mediano /pequeño	

Las Comidas		
		
Platos de mesa: platos	Platos de mesa: tazones	Cubiertos: tenedores
		
Cubiertos: cucharas	Cubiertos: cuchillos	

Appendix F: Recruiting Script (English)

“VALE”: A Multidisciplinary Childhood Obesity Treatment Program for Latino Communities

Home Cooking Equipment Inventory Study Recruiting Script

If the potential recruit participated in the Winter 2019 VALE cohort, use OPTION A below.

If the potential recruit is a CAB member, use OPTION B below.

OPTION A

Hi, [name of potential recruit]. This is [name of caller] from George Mason University. We really enjoyed having you and your family participate in the VALE study a few months ago at Kilby. I hope you are doing well.

I'm calling because we would like to do a short follow-up study with some previous VALE participants. The study will look at the the equipment and appliances that you have in your home and that can be used to make meals for your family. This information will help us improve the VALE nutrition lessons and meal menus. To do this, two VALE staff members would like to visit your home and interview the person who makes most of the meals your family eats. The first would be Kelly Kogan. She taught the nutrition part of the program and oversaw the preparation of the meals for your group. The other would be a Spanish-speaking staff member who will be able to provide translation. Kelly would like to talk about where your food is stored and the equipment and appliances used to prepare it. The visit should take about 60 minutes. We can schedule it at a time that is convenient for you. And, at the end of the visit, we'll give you a \$50 gift card to [name of store where gift card can be used] for your time. Is this something that you would be interested in doing?

- *If the potential recruit says "no", thank him/her for their time.*
- *If the potential recruit indicates some interest but says he/she would like to think further about participating, arrange a time to call back to obtain a final answer.*
- *If the potential recruit says "yes," continue as follows:*

Thanks for agreeing to participate. As I mentioned, Kelly will be one of the staff members visiting your home. She'll have a list of various items that she'll ask you about. Don't worry if you don't have all of the items on the list. It is just a way to help her remember everything that she would like to ask about. It will also help her keep a record of the items you have.

During the interview, Kelly may ask you to show her items you keep out of view in cabinets or closets. She may also ask you some follow-up questions about some of the items on her list.

In addition, with your permission, we would like to audio record the interview. This will ensure we accurately remember what you say.

Before the interview starts, we'll give you a sheet with information about the study. We'll give you time to review it. Then we'll ask you to sign it indicating that you are okay with participating in it. (This will be like what you did for the VALE study.) Your participation is entirely voluntarily. Your name will not be given out. All information you provide will be kept in a safe and locked space so that it remains confidential.

Finally, as I mentioned earlier, after you complete the interview, we'll give you a \$50 gift card to [name of store where gift card can be used].

Are you still interested in participating in this study?

- *If the potential recruit says "no", thank him/her for their time.*
- *If the potential recruit indicates some interest but says he/she would like to think further about participating, arrange a time to call back to obtain a final answer.*
- *If the potential recruit says "yes," schedule date and time for home visit.*

OPTION B

Hi, [name of potential recruit]. This is [name of caller] from George Mason University. I'm a [VALE job title] with the VALE study. I understand that you are currently a member of the Community Advisory Board that provides recommendations and guidance to VALE.

I'm calling because we would like to do a short follow-up study with some CAB members and other previous VALE participants. The study will look at the the equipment and appliances that you have in your home and that can be used to make meals for your family. This information will help us improve the VALE nutrition lessons and meal menus. To do this, two VALE staff members would like to visit your home and interview the person who makes most of the meals your family eats. One of these persons will be Kelly Kogan. She taught the nutrition part of the program and oversaw the preparation of the meals for the last VALE group. The other would be a Spanish-speaking staff member who will be able to provide translation. Kelly would like to talk about where your food is stored and the equipment and appliances used to prepare it. The visit should take about 60 minutes. We can schedule it at a time that is convenient for you. And, at the end of the visit, we'll give you a \$50 gift card to [name of store where gift card can be used] for your time. Is this something that you would be interested in doing?

- *If the potential recruit says "no", thank him/her for their time.*
- *If the potential recruit indicates some interest but says he/she would like to think further about participating, arrange a time to call back to obtain a final answer.*
- *If the potential recruit says "yes," continue as follows:*

Thanks for agreeing to participate. As I mentioned, Kelly will be one of the staff members visiting your home. She'll have a list of various items that she'll ask you about. Don't worry if you don't have all of the items on the list. It is just a way to help her remember everything that she would like to ask about. It will also help her keep a record of the items you have.

During the interview, Kelly may ask you to show her items you keep out of view in cabinets or closets. She may also ask you some follow-up questions about some of the items on her list.

In addition, with your permission, we would like to audio record the interview. This will ensure we accurately remember what you say.

Before the interview starts, we'll give you a sheet with information about the study. We'll give you time to review it. Then we'll ask you to sign it indicating that you are okay with participating in it. (This will be like what you did for the VALE study.) Your participation is entirely voluntarily. Your name will not be given out. All information you provide will be kept in a safe and locked space so that it remains confidential.

Finally, as I mentioned earlier, after you complete the interview, we'll give you a \$50 gift card to [name of store where gift card can be used].

Are you still interested in participating in this study?

- *If the potential recruit says "no", thank him/her for their time.*
- *If the potential recruit indicates some interest but says he/she would like to think further about participating, arrange a time to call back to obtain a final answer.*
- *If the potential recruit says "yes," schedule date and time for home visit.*

Appendix G: Recruiting Script (Spanish)

“VALÉ”: A Multidisciplinary Childhood Obesity Treatment Program for Latino Communities

Home Cooking Equipment Inventory Study
Recruiting Script – SPANISH LANGUAGE VERSION

If the potential recruit participated in the Winter 2019 VALE cohort, use OPTION A below.

If the potential recruit is a CAB member, use OPTION B below.

OPTION A

Hola, [nombre del recluta potencial]. Habla [nombre de la persona que llama] de la Universidad George Mason. Realmente disfrutamos de que usted y su familia participaron en el estudio VALE hace unos meses en Kilby. Espero que te encuentres bien.

Estoy llamando porque nos gustaría hacer un breve estudio de seguimiento con algunos participantes anteriores de VALE. El estudio analizará los equipos y electrodomésticos que tiene en su hogar y que pueden usarse para preparar comidas para su familia. Esta información nos ayudará a mejorar las lecciones de nutrición y los menús de comidas de VALE. Para hacer esto, dos miembros del personal de VALE desean visitar su hogar y entrevistar a la persona que prepara la mayoría de las comidas que come su familia. La primera sería Kelly Kogan. Ella enseñó la parte de nutrición del programa y supervisó la preparación de las comidas para su grupo. El otro sería un miembro del personal que habla español y que será capaz de proporcionar la traducción. A Kelly le gustaría hablar sobre dónde se guarda su comida y el equipo y los aparatos utilizados para prepararla. La visita debe durar unos 60 minutos. Podemos programarlo en un momento que sea conveniente para usted. Al final de la visita, le daremos una tarjeta de regalo de \$50 para [nombre de la tienda donde se puede usar la tarjeta de regalo] para su tiempo. ¿Es esto algo que le interesaría hacer?

- *If the potential recruit says "no", thank him/her for their time.*
- *If the potential recruit indicates some interest but says he/she would like to think further about participating, arrange a time to call back to obtain a final answer.*
- *If the potential recruit says "yes," continue as follows:*

Gracias por aceptar participar. Como mencioné, Kelly será uno de los miembros del personal que visitará su hogar. Tendrá una lista de varios artículos sobre los que te preguntará. No se preocupe si no tiene todos los elementos en la lista. Es solo una manera de ayudarla a recordar todo lo que le gustaría preguntar. También le ayudará a mantener un registro de los artículos que tiene.

Durante la entrevista, Kelly puede pedirle que le muestre los artículos que mantiene fuera de la vista en armarios o cabinets. También puede hacerle algunas preguntas de seguimiento sobre algunos de los elementos de su lista.

Además, con su permiso, nos gustaría grabar la entrevista en audio. Esto asegurará que recordemos con precisión lo que dice.

Antes de que comience la entrevista, le daremos una hoja con información sobre el estudio. Le daremos tiempo para revisarlo. Luego, le pediremos que lo firme indicando que está de acuerdo con participar en él. (Esto será como lo que hizo para el estudio VALE). Su participación es completamente voluntaria. Tu nombre no será dado a conocer. Toda la información que proporcione se guardará en un espacio seguro y cerrado para que se mantenga confidencial.

Finalmente, como mencioné anteriormente, después de completar la entrevista, le daremos una tarjeta de regalo de \$50 para [nombre de la tienda donde se puede usar la tarjeta de regalo].

¿Sigues interesado en participar en este estudio?

- *If the potential recruit says "no", thank him/her for their time.*
- *If the potential recruit indicates some interest but says he/she would like to think further about participating, arrange a time to call back to obtain a final answer.*
- *If the potential recruit says "yes," schedule date and time for home visit.*

OPTION B

Hola, [nombre del recluta potencial]. Habla [nombre de la persona que llama] de la Universidad George Mason. Soy un [título de trabajo VALE] con el estudio VALE. Entiendo que actualmente es miembro de la Junta Asesora de la Comunidad que brinda recomendaciones y orientación a VALE.

Llamo porque nos gustaría hacer un breve estudio de seguimiento con algunos miembros del CAB y otros participantes anteriores de VALE. El estudio analizará los equipos y electrodomésticos que tiene en su hogar y que pueden usarse para preparar comidas para su familia. Esta información nos ayudará a mejorar las lecciones de nutrición y los menús de comidas de VALE. Para hacer esto, dos miembros del personal de VALE desean visitar su hogar y entrevistar a la persona que prepara la mayoría de las comidas que come su familia. Una de estas personas será Kelly Kogan. Ella enseñó la parte de nutrición del programa y supervisó la preparación de las comidas para el último grupo de VALE. El otro sería un miembro del personal que habla español y que será capaz de proporcionar la traducción. A Kelly le gustaría hablar sobre dónde se guarda su comida y el equipo y los aparatos utilizados para prepararla. La visita debe durar unos 60 minutos. Podemos programarlo en un momento que sea conveniente para usted. Al final de la visita, le daremos una tarjeta de regalo de \$50 para [nombre de la tienda donde se puede usar la tarjeta de regalo] para su tiempo. ¿Es esto algo que te interesaría hacer?

- *If the potential recruit says "no", thank him/her for their time.*
- *If the potential recruit indicates some interest but says he/she would like to think further about participating, arrange a time to call back to obtain a final answer.*
- *If the potential recruit says "yes," continue as follows:*

Gracias por aceptar participar. Como mencioné, Kelly será uno de los miembros del personal que visitará su hogar. Tendrá una lista de varios artículos sobre los que te preguntará. No se preocupe si no tiene todos los elementos en la lista. Es solo una manera de ayudarla a recordar todo lo que le gustaría preguntar. También le ayudará a mantener un registro de los artículos que tiene.

Durante la entrevista, Kelly puede pedirle que le muestre los artículos que mantiene fuera de la vista en armarios o cabinets. También puede hacerle algunas preguntas de seguimiento sobre algunos de los elementos de su lista.

Además, con su permiso, nos gustaría grabar la entrevista en audio. Esto asegurará que recordemos con precisión lo que dice.

Antes de que comience la entrevista, le daremos una hoja con información sobre el estudio. Le daremos tiempo para revisarlo. Luego, le pediremos que lo firme indicando que está de acuerdo con participar en él. (Esto será como lo que hizo para el estudio VALE). Su participación es completamente voluntaria. Tu nombre no será dado a conocer. Toda la información que proporcione se guardará en un espacio seguro y cerrado para que se mantenga confidencial.

Finalmente, como mencioné anteriormente, después de completar la entrevista, le daremos una tarjeta de regalo de \$50 para [nombre de la tienda donde se puede usar la tarjeta de regalo].

¿Sigues interesado en participar en este estudio?

- *If the potential recruit says "no", thank him/her for their time.*
- *If the potential recruit indicates some interest but says he/she would like to think further about participating, arrange a time to call back to obtain a final answer.*
- *If the potential recruit says "yes," schedule date and time for home visit.*

Appendix H: Consent Form (English)

“VALÉ”: A Multidisciplinary Childhood Obesity Treatment Program for Latino Communities

Home Cooking Equipment Inventory Study

Informed Consent

RESEARCH PROCEDURES

This study is being conducted as part of the VALÉ program. If you choose to participate, you will be asked about the food and the equipment in your home that can be used to prepare meals for your family. To be specific, you will be asked where your family’s food is stored, what food-related equipment is present in your home, and what food-related equipment is used to change the food into meals your family eats. You will also be asked some questions about some of those items. You will not be judged on any information you provide. All of the information will be used to help us improve VALÉ for future participants. The visit should take about 60 minutes.

RISKS

If you participate in this study, you could experience some uncomfortable emotions when talking about family meal preparation. If so, you can skip any questions you do not want to answer.

BENEFITS

If you participate in this study, there are no benefits to you other than to help VALÉ researchers and staff improve the program for future VALÉ participants.

CONFIDENTIALITY

The data obtained as part of this study will be confidential. All materials used or created will remain confidential and be available only to VALÉ staff. The recording of the interview will be used to make sure that your responses are recorded accurately. All recordings will be permanently erased after they are transcribed and translated. All recordings, notes, translations, and transcriptions will be kept locked in a safe space accessible to VALE staff only. Your name, the names of your family members, and any identifying information will not be visible in any way or included in any report. The de-identified data could be used for future research without additional consent from participants.

There is one exception to confidentiality. It is our legal responsibility to report situations of suspected child abuse or neglect to appropriate authorities. Although we are not seeking this type of information in this study nor will you be asked questions about these issues, we will disclose them as required under the law if discovered.

PARTICIPATION

Your participation in this study is voluntary. You can choose not to participate or to stop participating at any time. If you choose to participate, there will be no cost to you other than the time you spend identifying the equipment in your home and answering the interviewer’s questions. If you choose not to participate, there will be no penalty.

If you participate in the full interview, you will receive a \$50 gift card in return for your time. You will receive the gift card at the end of the interview.

CONTACT

This research is being conducted by Kelly Kogan. She is working with Dr. Sina Gallo, RD, PhD of George Mason University. If you have questions or want to report a problem with the research, you can call Dr. Gallo at (703) 993-5814. You may also call the George Mason University Institutional Review Board office at 703-993-4121.

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

CONSENT

I have read this form, all of my questions have been answered by the research staff, and I agree to participate in this study.

Participant Signature

Witness Signature

Date

Date

Appendix I: Consent Form (Spanish)

“VALÉ”: un Programa Multidisciplinario de Tratamiento de la Obesidad Infantil Para Comunidades Latinas

Estudio de Inventario de Equipos de Cocina en Casa Consentimiento Informado

PROCEDIMIENTOS DE INVESTIGACION

Este estudio se está realizando como parte del programa VALÉ. Si decide participar, se le preguntará acerca de la comida y el equipo en su hogar que se puede usar para preparar comidas para su familia. Para ser específicos, se le preguntará dónde se almacenan los alimentos de su familia, qué equipo relacionado con los alimentos está presente en su hogar, y qué equipo relacionado con los alimentos se utiliza para cambiar los alimentos en comidas que su familia come. También se le harán algunas preguntas sobre algunos de esos artículos. No se lo juzgará por la información que proporcione. Toda la información se utilizará para ayudarnos a mejorar VALÉ para futuros participantes. La visita dura unos 60 minutos.

LOS RIESGOS

Si participa en este estudio, podría experimentar algunas emociones incómodas al hablar sobre la preparación de comidas familiares. Si es así, puede omitir cualquier pregunta que no quiera responder.

BENEFICIOS

Si participa en este estudio, no hay más beneficios para usted que ayudar a los investigadores y al personal de VALÉ a mejorar el programa para los futuros participantes de VALÉ.

LA CONFIDENCIALIDAD

Los datos obtenidos como parte de este estudio serán confidenciales. Todos los materiales utilizados o creados serán confidenciales y estarán disponibles solo para el personal de VALÉ. La grabación de la entrevista se utilizará para asegurarse de que sus respuestas se graben con precisión. Todas las grabaciones se borrarán permanentemente una vez que se hayan transcrito y traducido. Todas las grabaciones, notas, traducciones y transcripciones se guardarán en un espacio seguro al que solo podrá acceder el personal de VALE. Su nombre, los nombres de los miembros de su familia y cualquier información de identificación no serán visibles de ninguna manera ni se incluirán en ningún informe. Los datos no identificados podrían utilizarse para futuras investigaciones sin el consentimiento adicional de los participantes.

Hay una excepción a la confidencialidad. Es nuestra responsabilidad legal reportar situaciones de sospecha de abuso o negligencia infantil a las autoridades correspondientes. Si bien no buscamos este tipo de información en este estudio ni se le harán preguntas sobre estos temas, los revelaremos según lo exija la ley si se descubre.

PARTICIPACIÓN

Tu participación en este estudio es voluntaria. Puede elegir no participar o dejar de participar en cualquier momento. Si elige participar, no le costará más que el tiempo que dedique a identificar el equipo en su hogar y a responder las preguntas del entrevistador. Si elige no participar, no habrá penalización.

Si participa en la entrevista completa, recibirá una tarjeta de regalo de \$ 50 a cambio de su tiempo. Recibirá la tarjeta de regalo al final de la entrevista.

CONTACTO

Esta investigación está siendo realizada por Kelly Kogan. Ella está trabajando con la Dra. Sina Gallo, RD, PhD de la Universidad George Mason. Si tiene preguntas o desea informar un problema con la investigación, puede llamar al Dr. Gallo al (703) 993-5814. También puede llamar a la oficina de la Junta de Revisión Institucional de la Universidad George Mason al 703-993-4121.

Esta investigación ha sido revisada de acuerdo con los procedimientos de la Universidad George Mason que rigen su participación en esta investigación.

CONSENTIMIENTO

He leído este formulario, todas las preguntas fueron respondidas por el personal de investigación y acepto participar en este estudio.

Firma del participante

Firma de testigo

Fecha

Fecha

Appendix J: Home Interview Script (English)

VALÉ™: A Multidisciplinary Childhood Obesity Treatment Program for Latino Communities

Home Cooking Equipment Inventory Study Home Interview Script

A. Introduction

Thank you for letting us visit your home to interview you about the cooking equipment and appliances you have and that you use to make meals for your family. As *[name of person who called them to arrange for the interview]* mentioned, this information will help us improve the VALE nutrition lessons and meal menus.

B. Signing the Informed Consent Form

Before we get started, we'll like you to read and sign the consent form. *[Give them the consent form, let them read it, answer any questions they have, and then have them sign it.]*

In addition, I'd like to confirm that you are the person who is responsible for preparing most of the family meals. *[If the participant answers "yes" to this question, use Option A below. If the participant answers "no" to this question, use Option B below.]*

OPTION A

C. Taking the Home Food Equipment Inventory

- **If present in the participant's kitchen area:** Is this where you store and prepare the food that your family eats?
- **If not present in the participant's kitchen area:** Can you show us where you store and prepare the food that your family eats?

After confirming that you are present in the part of the home where food is stored and prepared, give the participant a copy (in English or Spanish based on participant's preference) of the Participant Home Food Equipment Inventory. Use the Interviewer Home Food Equipment Inventory to check off those items the Participant has in his/her home and to make notes: Here is a list of items that some people may use to prepare food at home. I would like to go through them one by one so you can tell me if you have any of them in your home. I'd like you to mention all items you have, even if you never use them or use them infrequently. Also, when we are going through the list, please point out the items to me. Or, if they aren't visible from where we are standing, please show them to me. For example, if an item is in a drawer or cabinet, it would be helpful if you could open the drawer or cabinet and show the item to me. *[Go through the list of items, one by one, with the participant.]*

D. Asking the Questions

[All of the questions refer to items on both the Interviewer's and Participant's Home Equipment Inventory. Keep those documents available and refer to them as necessary during the interview.]

After the participant has identified all items on the Participant Home Food Equipment Inventory: Now I'd like to ask you some questions about your family's meals and the items you may use or not use when preparing them. At any time, you can choose not to answer a question. You can also choose to stop the interview. If you would like to skip a question or want to come back to it later, that is ok. During this part of the interview, we want you to be as comfortable as possible.

Most Frequently Prepared Meals

- Please describe the meals you prepare most frequently at home. *[If necessary, distinguish between favorite family meals and frequently-prepared meals prepared as they may not be the same.]*
- What are the ingredients you use in them?
- What tools do you use to prepare them?

Items Used Most Frequently

- With the exception of *[refer the participant to the Kitchen and Meals sections of the Participant Home Food Equipment Inventory; if necessary, read those items out loud]*, which of the items that are present in your home do you use most frequently to prepare food for your family?
- Why do use them frequently?

Items Used Least Frequently

- With the exception of *[refer the participant to the Kitchen and Meals sections of the Participant Home Food Equipment Inventory; if necessary, read those items out loud]*, which of the items that are present in your home do you use least frequently to prepare food for your family?
- Why do you use them infrequently?

Items That Have Never Been Used

- With the exception of *[refer the participant to the Kitchen and Meals sections of the Participant Home Food Equipment Inventory; if necessary, read those items out loud]*, are there any items present in your home that you have never used?
- What are they?
- How did you acquire them?
- Why have you never used them?

Items Considered Most Important

- Among the items present in your home, what are the three items you consider most important in helping you prepare meals for your family?
- Why?

Items Considered Least Important

- Among the items present in your home, what are the three items you consider least important in helping you prepare meals for your family?
- Why?

E. Conclusion

Thank you for your time. We appreciate your welcoming us into your home and letting us ask our questions. Please feel free to contact a member of the George Mason University VALE staff if you have any comments or questions later. To thank you for your time, we are providing you with a \$50 gift card to [name of store where gift card can be used].

OPTION B

C. Taking the Home Food Equipment Inventory

- **If present in the participant's kitchen area:** Is this where the food that your family eats is stored and prepared?
- **If not present in the participant's kitchen area:** Can you show us where the food that your family eats is stored and prepared?

After confirming that you are present in the part of the home where food is stored and prepared, give the participant a copy (in English or Spanish based on participant's preference) of the Participant Home Food Equipment Inventory. Use the Interviewer Home Food Equipment Inventory to check off those items the Participant has in his/her home and to make notes: Here is a list of items that some people may use to prepare food at home. I would like to go through them one by one so you can tell me if you have any of them in your home. I'd like you to mention all items you have, even if you never use them or use them infrequently. Also, when we are going through the list, please point out the items to me. Or, if they aren't visible from where we are standing, please show them to me. For example, if an item is in a drawer or cabinet, it would be helpful if you could open the drawer or cabinet and show the item to me. [Go through the list of items, one by one, with the participant.]

D. Asking the Questions

[All of the questions refer to items on both the Interviewer's and Participant's Home Equipment Inventory. Keep those documents available and refer to them as necessary during the interview.]

After the participant has identified all items on the Participant Home Food Equipment Inventory:

Now I'd like to ask you some questions about your family's meals and the items that are used or not used when preparing them. At any time, you can choose not to answer a question. You can also choose to stop the interview. If you would like to skip a question or want to come back to it later, that is ok. During this part of the interview, we want you to be as comfortable as possible.

Most Frequently Prepared Meals

- Please describe the meals that are prepared most frequently at home. [*If necessary, distinguish between favorite family meals and frequently-prepared meals prepared as they may not be the same.*]
- What are the ingredients that are used in them?
- What tools are used to prepare them?

Items Used Most Frequently

- With the exception of [*refer the participant to the Kitchen and Meals sections of the Participant Home Food Equipment Inventory; if necessary, read those items out loud*], which of the items that are present in your home are used most frequently to prepare food for your family?
- Why are they used frequently?

Items Used Least Frequently

- With the exception of [*refer the participant to the Kitchen and Meals sections of the Participant Home Food Equipment Inventory; if necessary, read those items out loud*], which of the items that are present in your home are used least frequently to prepare food for your family?
- Why are they used infrequently?

Items That Have Never Been Used

- With the exception of [*refer the participant to the Kitchen and Meals sections of the Participant Home Food Equipment Inventory; if necessary, read those items out loud*], are there any items present in your home that have never been used?
- What are they?
- How were they acquired?
- Why have they never been used?

Items Considered Most Important

- Among the items present in your home, what are the three items considered most important in helping to prepare meals for your family?

- Why?

Items Considered Least Important

- Among the items present in your home, what are the three items considered least important in helping to prepare meals for your family?
- Why?

E. Conclusion

Thank you for your time. We appreciate your welcoming us into your home and letting us ask our questions. Please feel free to contact a member of the George Mason University VALE staff if you have any comments or questions later. To thank you for your time, we are providing you with a \$50 gift card to [*name of store where gift card can be used*].

Appendix K: Home Interview Script (Spanish)

VALÉ™: A Multidisciplinary Childhood Obesity Treatment Program for Latino Communities

Home Cooking Equipment Inventory Study Home Interview Script – SPANISH LANGUAGE VERSION

A. Introducción

Gracias por permitirnos visitar su casa para entrevistarle sobre el equipo de cocina y los electrodomésticos que tiene y que utiliza para preparar comidas para su familia. Como mencionó [*nombre de la persona que los llamó para concertar la entrevista*], esta información nos ayudará a mejorar las lecciones de nutrición y menús de VALE.

B. Firmar el formulario de consentimiento informado

Antes de comenzar, nos gustaría que lea y firme el formulario de consentimiento. [*Déles el formulario de consentimiento, permítale que lo lean, respondan cualquier pregunta que tengan y luego pídale que lo firmen*].

Además, me gustaría confirmar que usted es la persona responsable de preparar la mayoría de las comidas familiares. [*Si el participante responde "sí" a esta pregunta, use la Opción A a continuación. Si el participante responde "no" a esta pregunta, use la Opción B a continuación.*]

OPCION A

C. Tomando el inventario de equipos de alimentos para el hogar

- **•Si está presente en el área de la cocina del participante:** *¿Es aquí donde guarda y prepara los alimentos que come su familia?*
- **• Si no está presente en el área de la cocina del participante:** *¿Puede mostrarnos dónde guarda y prepara los alimentos que come su familia?*

Después de confirmar que está presente en la parte del hogar donde se guardan y preparan los alimentos, entregue al participante una copia (en inglés o español según la preferencia del participante) del Inventario de equipos de alimentos para el hogar del participante.

Utilice el Inventario de equipos alimentarios para el hogar de Interviewer para marcar los elementos que el Participante tiene en su hogar y para tomar notas: Aquí hay una lista de artículos que algunas personas pueden usar para preparar comida en casa. Me gustaría revisarlos uno por uno para que pueda decirme si tiene alguno de ellos en su hogar. Me gustaría que mencionara todos los artículos que tiene, incluso si nunca los usa o los usa con poca frecuencia. Además, cuando estemos en la lista, señálemelos. O, si no son visibles desde donde estamos parados, enséñamelos. Por ejemplo, si un artículo está en un cajón o gabinete, sería útil si pudiera abrir el cajón o gabinete y mostrarme el artículo. [*Ir a través de la lista de elementos, uno por uno, con el participante.*]

D. Haciendo las preguntas

[Todas las preguntas se refieren a los elementos del inventario de equipos domésticos del entrevistador y del participante. Mantenga esos documentos disponibles y consúltelos según sea necesario durante la entrevista.]

Después de que el participante haya identificado todos los artículos en el Inventario de equipos de alimentos para el hogar del participante: Ahora me gustaría hacerle algunas preguntas sobre las comidas de su familia y los elementos que puede usar o no al prepararlos. En cualquier momento, puede elegir no responder una pregunta. También puede optar por detener la entrevista. Si desea omitir una pregunta o desea volver a ella más tarde, está bien. Durante esta parte de la entrevista, queremos que se sienta lo más cómodo posible.

Las comidas más frecuentemente preparadas

- Describa las comidas que prepara con mayor frecuencia en su hogar. [Si es necesario, distinga entre las comidas familiares favoritas y las preparadas con frecuencia, ya que pueden no ser las mismas.]
- ¿Cuáles son los ingredientes que usas en ellos?
- ¿Qué herramientas utilizas para prepararlas?

Artículos usados con mayor frecuencia

- Con la excepción de [referir al participante a las secciones de Cocina y Comidas del Inventario de Equipos de Alimentos para el Hogar del Participante; si es necesario, lea esos artículos en voz alta], ¿cuál de los artículos que están presentes en su hogar utiliza con más frecuencia para preparar alimentos para su familia?
- ¿Por qué se usan con frecuencia?

Artículos usados con menos frecuencia

- Con la excepción de [referir al participante a las secciones de Cocina y Comidas del Inventario de Equipos de Alimentos para el Hogar del Participante; si es necesario, lea esos artículos en voz alta], ¿cuál de los artículos que están presentes en su hogar utiliza con menos frecuencia para preparar alimentos para su familia?
- ¿Por qué se usan con menos frecuencia?

Artículos que nunca han sido usado

- Con la excepción de [referir al participante a las secciones de Cocina y Comidas del Inventario de Equipos de Alimentos para el Hogar del Participante; si es necesario, lea esos artículos en voz alta], ¿hay algún elemento presente en su hogar que nunca haya usado?
- ¿Qué son?
- ¿Cómo fueron adquiridos?
- ¿Por qué nunca se han utilizado?

Artículos considerados más importantes

- Entre los elementos presentes en su hogar, ¿cuáles son los tres elementos que considera más importantes para ayudarlo a preparar comidas para su familia?
- ¿Por qué?

Artículos considerados menos importantes

- Entre los elementos presentes en su hogar, ¿cuáles son los tres elementos que considera menos importantes para ayudarlo a preparar las comidas para su familia?
- ¿Por qué?

E. Conclusión

Gracias por tu tiempo. Agradecemos que nos reciba en su hogar y nos permita hacer nuestras preguntas. No dude en comunicarse con un miembro del personal de VALE de la Universidad George Mason si tiene algún comentario o pregunta más adelante. Para agradecerle su tiempo, le proporcionamos una tarjeta de regalo de \$50 para [nombre de la tienda donde se puede usar la tarjeta de regalo].

OPCION B

C. Tomando el inventario de equipos de alimentos para el hogar

- **Si está presente en el área de cocina del participante:** ¿Es aquí donde se guarda y prepara la comida que come su familia?
- **Si no está presente en el área de cocina del participante:** ¿Nos puede mostrar dónde se guardan y preparan los alimentos que come su familia?

Después de confirmar que está presente en la parte del hogar donde se guardan y preparan los alimentos, entregue al participante una copia (en inglés o español según la preferencia del participante) del Inventario de equipos de alimentos para el hogar del participante. Utilice el Inventario de equipos alimentarios para el hogar de Interviewer para marcar los elementos que el Participante tiene en su hogar y para tomar notas: Aquí hay una lista de artículos que algunas personas pueden usar para preparar comida en casa. Me gustaría revisarlos uno por uno para que pueda decirme si tiene alguno de ellos en su hogar. Me gustaría que mencionara todos los artículos que tiene, incluso si nunca los usa o los usa con poca frecuencia. Además, cuando estemos en la lista, señálemelos. O, si no son visibles desde donde estamos parados, enséñamelos. Por ejemplo, si un artículo está en un cajón o gabinete, sería útil si pudiera abrir el cajón o gabinete y mostrarme el artículo. [Ir a través de la lista de elementos, uno por uno, con el participante.]

D. Haciendo las preguntas

[Todas las preguntas se refieren a los elementos del inventario de equipos domésticos del entrevistador y del participante. Mantenga esos documentos disponibles y consúltelos cuando sea necesario durante la entrevista.]

Después de que el participante haya identificado todos los artículos en el Inventario de equipos de alimentos para el hogar del participante:

Ahora me gustaría hacerle algunas preguntas sobre las comidas de su familia y los artículos que se usan o no se usan al prepararlos. En cualquier momento, puede elegir no responder una pregunta. También puede optar por detener la entrevista. Si desea omitir una pregunta o desea volver a ella más tarde, está bien. Durante esta parte de la entrevista, queremos que se sienta lo más cómodo posible.

Comidas más frecuentes

- Describa las comidas que se preparan con mayor frecuencia en el hogar. *[Si es necesario, distinga entre las comidas familiares favoritas y las preparadas con frecuencia, ya que pueden no ser las mismas.]*
- ¿Cuáles son los ingredientes que se utilizan en ellos?
- ¿Qué herramientas se utilizan para prepararlos?

Artículos usados con mayor frecuencia

- Con la excepción de *[referir al participante a las secciones de Cocina y Comidas del Inventario de equipos de alimentos para el hogar del participante; si es necesario, lea esos artículos en voz alta]*, ¿cuáles de los artículos que están presentes en su hogar se usan con mayor frecuencia para preparar alimentos para su familia?
- ¿Por qué se usan con frecuencia?

Artículos usados con menos frecuencia

- Con la excepción de *[referir al participante a las secciones de Cocina y Comidas del Inventario de equipos de alimentos para el hogar del participante; si es necesario, lea esos artículos en voz alta]*, ¿cuál de los artículos que están presentes en su hogar se usa con menos frecuencia para preparar alimentos para su familia?
- ¿Por qué se usan con menos frecuencia?

Artículos que nunca han sido usados

- Con la excepción de *[referir al participante a las secciones de Cocina y Comidas del Inventario de equipos de alimentos para el hogar del participante; si es necesario, lea esos artículos en voz alta]*, ¿hay algún elemento presente en su hogar que nunca haya sido usado?
- ¿Qué son?
- ¿Cómo fueron adquiridos?
- ¿Por qué nunca se han utilizado?

Artículos considerados más importantes

- Entre los elementos presentes en su hogar, ¿cuáles son los tres elementos que se consideran más importantes para ayudarle a preparar las comidas para su familia?

- ¿Por qué?

Artículos considerados menos importantes

- Entre los elementos presentes en su hogar, ¿cuáles son los tres elementos que se consideran menos importantes para ayudarle a preparar las comidas para su familia?
- ¿Por qué?

E. Conclusión

Gracias por tu tiempo. Agradecemos que nos reciba en su hogar y nos permita hacer nuestras preguntas. No dude en comunicarse con un miembro del personal de VALE de la Universidad George Mason si tiene algún comentario o pregunta más adelante. Para agradecerle su tiempo, le proporcionamos una tarjeta de regalo de \$50 para *[nombre de la tienda donde se puede usar la tarjeta de regalo]*.

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Biography

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