IMPROVING NUTRITION IN COMMUNITY CHILD-CARE CENTERS – A BEST FOOD FOR FAMILIES, INFANTS, AND TODDLERS (BEST FOOD FITS) INTERVENTION

by

Courtney P. Thompson, B.S.

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Committee Members:

Sylvia Crixell

Lesli Biediger-Friedman

BJ Friedman

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CHAPTER I

Background

Obesity

Incidence of Overweight and Obesity in Children

The prevalence of overweight and obesity is one of the United States' (US) most pressing health concerns, transcending age, race, and sex. Of particular concern is the high incidence of childhood overweight/obesity. Childhood obesity for ages 2-19 is defined as body mass index (BMI) $\geq 95^{th}$ percentile for the child's age and sex as measured on the Centers for Disease Control and Prevention (CDC) sex specific BMI growth charts, while childhood overweight for ages 2-19 is defined as BMI $\geq 85^{th}$ and $< 95^{th}$ percentile for the child's age and sex as measured on the CDC sex specific BMI growth charts.[1] Heavier children under 2 years of age are not officially classified as "obese" but instead may be characterized as having excess weight. Excess weight is defined as a child's weight falling at or above the 95^{th} percentile on the CDC sex specific weight-for-recumbent length growth charts.[2] According to National Health and Nutrition Examination Survey (NHANES) data collected in 2009 – 2010, 31.8% of US children ages 2-19 were either overweight or obese, with 16.9% classified as obese.[3] Rates of excess weight/obesity in age categories 0-2, 2-5, 6-11, and 12-19 years, were 9.7%, 12.1%, 18.0%, and 18.4%, respectively.[3] For the past 30 years, obesity rates in children have increased.[2] However, recent national data indicate that the overall prevalence of obesity in children and adolescents has stabilized from 1999 to 2010.[3] For example, a recent US study of 40 states, not including Texas, reported a decline in preschool obesity

rates.[4] Despite this positive trend, childhood obesity remains a critical issue facing the nation.

The rate of childhood obesity is not evening distributed among the states.[5] Analysis of data gathered from the National Survey of Children's Health (NSCH), determined that children in southern states exhibited higher rates of obesity compared to children across the rest of nation.[5] For example, children living in the West South-Central region (Arkansas, Louisiana, Oklahoma, and Texas) had a 38% greater odds of being obese than children living in the Pacific Region (Washington, Oregon, California, Alaska, and Hawaii).[5] In Texas, out of the 889 children ages 10-17 years assessed in the NSCH, 19.11% were obese.[5] As a point of reference, in Washington state, 10.75% of 877 children ages 10-17 years were obese.[5] It is imperative that strategies to prevent obesity be implemented, particularly in Southern states.

Consequences of Overweight and Obesity in Children

Overweight in children is associated with many negative consequences. Depression is the most immediately detectable consequence of overweight in a child.[6] As the age of the child and the severity of obesity increase, self-esteem decreases.[6] Obesity related diseases in adulthood are now being diagnosed more frequently in children.[7] For example, wheezing, asthma, and sleep apnea[8] are becoming more common among overweight and obese children in the US. Overweight and obese youth also have increased incidence of diseases associated with adult metabolic syndrome while they are still children, such as type 2 diabetes mellitus (T2DM) and high blood pressure.[9] The prevalence of T2DM in overweight and obese youth is 4.1 per 1000 youth.[10] Notably, this disease previously was not diagnosed in children.

Another significant consequence of obesity is the cost – to individuals and to society at large. In 2005, the US spent 20% of total health care costs on obesity related health concerns - around 190 billion US dollars.[11] Medical costs associated with obesity are increasing annually.[12] In fact, medical spending associated with obesity is typically double that for healthy weight individuals.[12] Loss of productivity is an indirect cost of obesity. Obese people display a higher rate of absenteeism, disability, and premature morbidity[12]. Employers may discriminate against an obese or overweight person.

Weight status often transitions from childhood to adulthood, with overweight children more likely to remain overweight or become obese through adolescence, and lean children more likely to remain lean as they grow older.[13] Obese adults who were obese as children are at risk of having more obesity-related comorbidities than adults who were not obese during childhood. In fact, results of the Fels Longitudinal Study imply that risk for metabolic syndrome in adults can be identified early in life.[14] Due to the fact that adult obesity rates are predicted to climb from 35.9% in 2009-2010[15] to 40% by 2015,[9] focus on childhood obesity prevention is needed to decrease obesity in later life.

Because of the severity of the consequences of the obesity epidemic, prevention is necessary, in particular because treatment is often ineffectual for adults. Adults who do lose weight do not consistently maintain the weight loss.[16] As people age, lifestyle changes are harder to implement and maintain.[13] Prevention and treatment of overweight and obesity among children are critical to combat the long-term health associations of obesity in adulthood.[16] By understanding the causes of overweight and obesity in children, effective prevention strategies can be developed.

Causes of Overweight and Obesity in Children

The cause of childhood obesity is often overly simplified as an energy imbalance, or an imbalance between calories consumed and energy expended.[17] But the causes of childhood weight status are complex, and best illustrated by socio-ecological modeling (SEM, Figure 1.1). The model shown in Figure 1.1 is an example of SEM displaying potential causes of obesity from sectors that influence an individual's food and activity choices.[18] These sectors include (1) individual factors (demographics, microbiome, personal preferences, tastes preferences, food acceptance), (2) community settings (schools, child-care centers, home), (3) sectors of influence (government, health care restaurants, grocery stores), and (4) social norms and values (religion, personal, beliefs). These sectors interplay; therefore, altering one sector can alter other sectors. Obesity prevention strategies that consider SEM modeling of the causes of obesity are more likely to address potentially important factors.

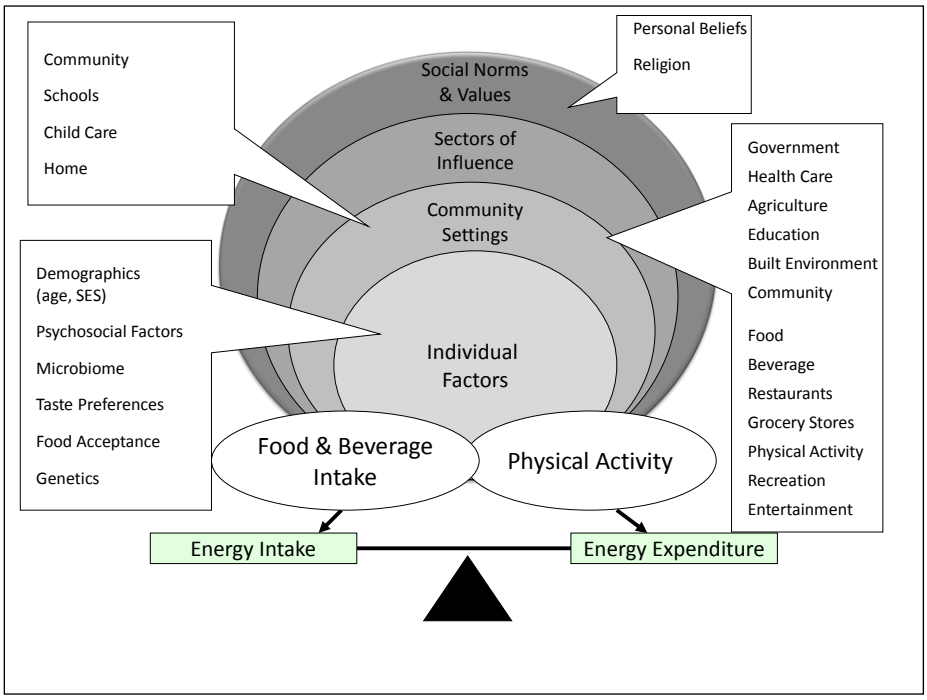

Figure 1.1 – Causes of Childhood Obesity as Described by the Socio-Ecological Model[17]

Individual factors affect everyday food choices. Some of the individual factors are predetermined, such as genetics. Other individual factors, like taste preferences and food acceptance, are influenced throughout childhood through frequent exposures to food items. Early exposures to novel healthful foods along with as many as 8 to 15 separate exposures[19] can increase their acceptance by children.[20] A child's taste profile may be increased by offering a variety of foods, leading to greater potential acceptance of those foods. When a child is young, the variety of food available is often determined by the community settings.

Community settings, such as child-care centers, schools, and homes, are important because these settings are where children learn many of their individual food behaviors. Different meals and snacks are provided by different settings. These various food environments help cultivate children's food preferences.[21] Thus, food environments with plentiful amounts of fruits and vegetables may translate to greater acceptance of fruits and vegetables by children.[22] In contrast, if healthful foods are rarely offered to a child, the child will not have the opportunity to consume these foods and learn to prefer them. Also in these environmental settings, children will learn behaviors modeled to them by their caregivers and peers. When children observe their caregivers and peers enjoying novel foods, the children are more willing to try the new food.[20]

The last two spheres of influence, sectors of influence, and social norms and values, have more indirect roles in influencing food behavior choices of individuals.[23] Sectors of influence can range from the microenvironment, including local government, restaurants, and grocery stores, to the macro-environment, including the national

government, national health care system, and national agricultural systems. The micro- and macro-environments can determine what types of grocery stores (stores offering fresh produce compared to convenient stores) are locally available, and which restaurants and recreational facilities are present in a community, which resources are allocated to specific communities, which policies are enforced in different community settings.[17] The social norms and values level is defined as the ideology or beliefs of certain groups that can influence food decisions. Despite the distal role of the sectors of influence level and social norms and values levels, these levels have a substantial effect on an individual's food behaviors.[23]

Strategies to prevent obesity should be aligned with the SEM to focus on behavioral change. Obesity prevention is likely to be more effective when it encompasses a variety of tiers in the SEM. By examining the broader influences of children's dietary habits, effective obesity prevention strategies can be developed.

Child-Care Centers

Prevalence of Child-Care Centers

According to the Child Care Aware of America (CCA), the nation's leading voice on child-care centers (CCC), CCC can have a lasting effect on children's lives in many ways.[24] For many young children today, the CCC is a second home. More mothers are working, which has created a need for more children to be in child care.[24] In the US, approximately 11 million children under the age of 5 are in child-care daily.[24] Many times children spend 35 or more hours a week in a CCC if the child's mother is working.[24] According to the CCA 2012 State Fact Sheet, more than 1 million children in Texas need child-care services.[24] Because 82% of children younger than 6 years of age

are in some sort of child-care [25], the CCC is an important setting for childhood obesity prevention.

Types of Centers

In Texas, there are two main types of CCC based on their setting: center based and home based. Children are enrolled in the different setting depending on what parents prefer.[26] According to the Texas Department of Family and Protective Services (DFPS), neither type of center can offer care for periods longer than 24 hours.[27] DFPS defines center based CCC as a center that provides care for at least 7 children or more in a location other than the caregiver's home.[27] These centers must provide care to children at least 2 hours per day for at least 3 days per week.[27] Center based CCC are typically located in a nonresidential setting, such as at a school, church, or business.[26] Home based CCCs are smaller, with as few as 1 and no more than 12 children in attendance in a residential setting.[26] Regardless of the type of center, in order for a center to be licensed and recognized by the State of Texas, the center must follow the minimum standards for CCC.[28]

Texas Requirements for Nutrition and Food Service in Child-care Centers

The State of Texas DFPS enforces minimum standards for health and safety of CCC.[29] Individual CCC can establish additional policies and procedures beyond the minimum requirements. For example, if a CCC is participating in the Child and Adult Care Food Program (CACFP), that center can elect to meet CACFP requirements instead of the minimum requirements from Texas.[28]

Basic Requirements for Snack and Mealtime

There are several basic requirements for snacks and mealtimes at CCC. For example, while meals do not have to be served in family-style meal service, all mealtimes must be unhurried and include supervision. When preparing food for meals, enough food must be prepared so each child may have seconds from fruit, grain, milk, or vegetable groups. For snacks, one serving from fruit or vegetable group, milk group, grain or meat/meat alternative group must be served. If a child is having reoccurring eating problems during snack or mealtimes, a child-care worker is required to discuss this problem with the parent. During meal and snack times, food may not be used as a reward or punishment and a child may never be forced to eat.[28]

The Texas DFPS also requires the CCC to accommodate parents who provide meals and snacks for their child based on special need, as specified in a physician's note. For example, if a parent provides meals, the CCC must provide a safe storage space for them. Additionally, if a parent provides a meal or snack to share with the other CCC children, the center must ensure that the meal or snack meets any special dietary requirements of other children. The CCC is responsible for snacks if the parent only provides the meal for their child.[28]

The Texas CCC standards regulate timing and nutritional quality of meals and snacks served to children. All children who eat table food must receive regular meals and snacks at least every 3 hours unless a child is asleep. If a child is receiving over night care, the center must offer an evening meal or snack and breakfast to that child. If a child is in care for less than four hours, one snack must be served to that child. If a child is in care for more than seven hours, the center must serve the child two meals and one snack,

or two snacks and one meal that are equal to ½ of their daily food needs. Daily food requirements as per the DFPS Minimum Standards for CCC are included in Table 1.1 and Table 1.2.[28]

Table 1.1: Texas Department of Family and Protective Services Minimum Standards for Child-care Center Meals: Ages 12 months – 2 years[28]

Food Groups	**Number of Servings to Meet ⅓ Daily Needs**	**Number of Servings to Meet ½ Daily Needs**	**Serving Size**
Milk	1 ⅓	2	4 oz. milk or ½ oz. cheese or 4 oz. yogurt
Meat/Meat Alternative	1	1 ½	½ to 1 oz. cooked lean meat or ½ to 1 egg or ¼ c. cooked beans
Vegetables and Fruit	1 ⅓+	2+	2 to 3 Tbsp. cooked vegetables or 2 to 3 Tbsp. canned fruit or ¼ small fresh fruit or ¼ c. juice
Whole Grains	1 ⅓+	2+	½ slice bread or ¼ c. cooked cereal or ¼ c. pasta or rice or 1 or 2 crackers

Basic Requirements for Beverages

Texas DFPS regulates when and what types of beverages are served to children in CCC. Drinking water must be available for each child at all times including during meals and snacks, and during activity play. No sugar sweetened beverages are to be served unless during a special occasion (holiday or birthday). Fruit or vegetable juice may be served only to children 12 months and older and only if the CCC is using 100% juice. No more than 4 ounces of fruit or vegetable juice may be served to children 12 months through five years. Powdered milk may be served if prepared, stored, and served correctly.[28]

Basic Requirements for Written Menus

Texas DFPS mandates that CCC menus of meals and snacks must be posted daily. A substitution can be made only if the substitution is of comparable food value. Any

substitutions must be kept on record. Menus must be dated and stored for three months. Rotation menus are acceptable but there must be a record of what meal was used for each date.[28]

Table 1.2: Texas Department of Family and Protective Services Minimum Standards for Child-care Center Meals: Ages 3 years – 5 years[28]

Food Groups	**Number of Servings to Meet ⅓ Daily Needs**	**Number of Servings to Meet ½ Daily Needs**	**Serving Size**
Milk	⅔	1	¾ c. 1% milk or 1 ½ oz. cheese or ¾ c. yogurt
Meat/Meat Alternative	⅔	1	1 ½ oz. cooked lean meat or ¾ egg or ¼ c. cooked beans
Vegetables	1	1 ½	½ c. raw or cooked vegetable or ½ c. raw leafy vegetable
Fruit	⅔	1	½ c. canned or chopped fruit or 1 piece fruit or melon wedge or ½ c. juice
Whole Grains	2	3	½ slice bread or ¼ c. cooked cereal ½ oz. ready to eat cereal or ¼ c. cooked pasta or rice or 3 to 5 crackers

Child and Adult Care Food Program Requirements

CACFP is a federal program reimbursing child-care providers for meals and snacks served to children based on a child's family income[30]. CACFP reimburses centers per child, per meal.[30] In 2008, CACFP spent approximately $2.4 billion for meals and snacks served to about 2 million children.[30] As stated previously, licensed centers in Texas may elect to follow the food requirements of CACFP if they wish to receive money for their meals. Instead of listing food groups required for the child during child-care, CACFP provides recommendations depending on meal.[31] CACFP's recommendations are included in the following tables (Table 1.3, Table 1.4, Table 1.5). Items listed in these tables are the requirements to be reimbursed. CCC can supplement the meals and snacks with additional food items without reimbursement.

Table 1.3: Child and Adult Food Program Required Food Components for a Reimbursable Breakfast[31]		
Food Components	**Ages 1-2**	**Ages 3-5**
1 Milk		
fluid milk	½ cup	¾ cup
1 fruit/vegetable		
juice, fruit and/or vegetable	¼ cup	½ cup
1 grains/bread		
bread or	½ slice	½ slice
cornbread or biscuit or roll or muffin or	½ serving	½ serving
cold dry cereal or	¼ cup	⅓ cup
hot cooked cereal or	¼ cup	¼ cup
pasta or noodles or grains	¼ cup	¼ cup

Table 1.4: Child and Adult Food Program Required Food Components for a Reimbursable Lunch or Supper[31]		
Food Components	**Ages 1-2**	**Ages 3-5**
1 Milk		
fluid milk	½ cup	¾ cup
2 fruits/vegetables		
juice, fruit and/or vegetable	¼ cup	½ cup
1 grains/bread		
bread or	½ slice	½ slice
cornbread or biscuit or roll or muffin or	½ serving	½ serving
cold dry cereal or	¼ cup	1/3 cup
hot cooked cereal or	¼ cup	¼ cup
pasta or noodles or grains	¼ cup	¼ cup
1 meal/meat alternative		
meat or poultry or fish or	1 oz.	1 ½ oz.
alternate protein product or	1 oz.	1 ½ oz.
cheese or	1 oz.	1 ½ oz.
egg or	½	¾
cooked dry beans or peas or	¼ cup	⅜ cup
peanut or other nut or seed butters or	2 Tbsp.	3 Tbsp.
nuts and/or seeds or	½ oz.	¾ oz.
yogurt	4 oz	6 oz.

Table 1.5: Child and Adult Food Program Required Food Components for a Reimbursable Snack[31]		
Food Components (select two)	**Ages 1-2**	**Ages 3-5**
1 Milk fluid milk	 ½ cup	 ½ cup
2 fruits/vegetables juice, fruit and/or vegetable	 ½ cup	 ½ cup
1 grains/bread bread or cornbread or biscuit or roll or muffin or cold dry cereal or hot cooked cereal or pasta or noodles or grains	 ½ slice ½ serving ¼ cup ¼ cup ¼ cup	 ½ slice ½ serving ⅓ cup ¼ cup ¼ cup
1 meal/meat alternative meat or poultry or fish or alternate protein product or cheese or egg or cooked dry beans or peas or peanut or other nut or seed butters or nuts and/or seeds or yogurt	 ½ oz. ½ oz. ½ oz. ½ ⅛ cup 1 Tbsp. ½ oz. 2 oz.	 ½ oz. ½ oz. ½ oz. ½ ⅛ cup 1 Tbsp. ½ oz. 2 oz.

Other Nutrition Standards for Pre-school Children

CCCs can choose to provide foods that exceed the minimum requirements of the Texas State DFPS and CACFP in order to meet other national nutritional standards. For example, CCCs can create menus based on standards of the US Department of Agriculture (USDA). The USDA provides two tools to help create more healthful menus, including: (1) MyPlate and (2) the Healthy Eating Index-2010 (HEI-2010).

In 2011, the USDA released MyPlate as the USDA's new icon for nutrition education, replacing MyPyramid.[32] MyPlate offers users an easy reminder of how an individual's actual plate of food should look.[32] MyPlate provides a practical approach for consumers to follow the Dietary Guidelines for America (DGA) and thus create a healthful diet.[33] Along with MyPlate, the USDA introduced SuperTracker, the new interactive online personalized nutrition and physical activity planner on the ChooseMyPlate.gov website.[34] MyPlate is also recommended by the Academy of

Nutrition and Dietetics in their position statement, *Total Diet Approach to Healthy Living*, promoting an overall healthful diet by not focusing on one food component.[18] By following MyPlate, CCCs can provide well-balanced meals to children.

The HEI-2010 measures the quality and compliance of a diet in relation to the current DGA, giving the diet a numerical score.[35] HEI-2010 was updated when the DGA were updated. Like previous HEI versions, HEI-2010 is comprised of 12 components including adequacy for total fruit, whole fruit, total vegetables, greens and beans, whole grains, dairy, total protein foods, seafood and plant proteins and fatty acids; and moderation for refined grains, sodium, and empty calories.[36] HEI scores are traditionally applied to assess the diets of individual, but have recently been applied to assess community level diets. [35] HEI-2010 provides a score that indicates a CCC's menu overall quality of diet, thus providing a different analysis than with MyPlate.[35]

Role of Child-care Centers in Obesity Prevention

Early childhood is characterized by physical, physiological, and emotional growth.[10] Obesity prevention needs to occur when the children are learning eating behaviors and food preferences.[21] As previously stated, CCCs fall in the community setting in the SEM as seen in Figure 1.1. Due to the interplay among sectors, CCCs can potentially influence some individual factors like taste preferences and food acceptance in a child's early life, as seen in Figure 1.2. Figure 1.2 illustrates the different areas of the SEM that CCCs affect. CCCs can potentially promote healthful eating through their menus and food items served, and through appropriate modeling via the actions of the director and staff. Because of its influencing role in children's lives, CCCs are an ideal setting for childhood obesity prevention.[37]

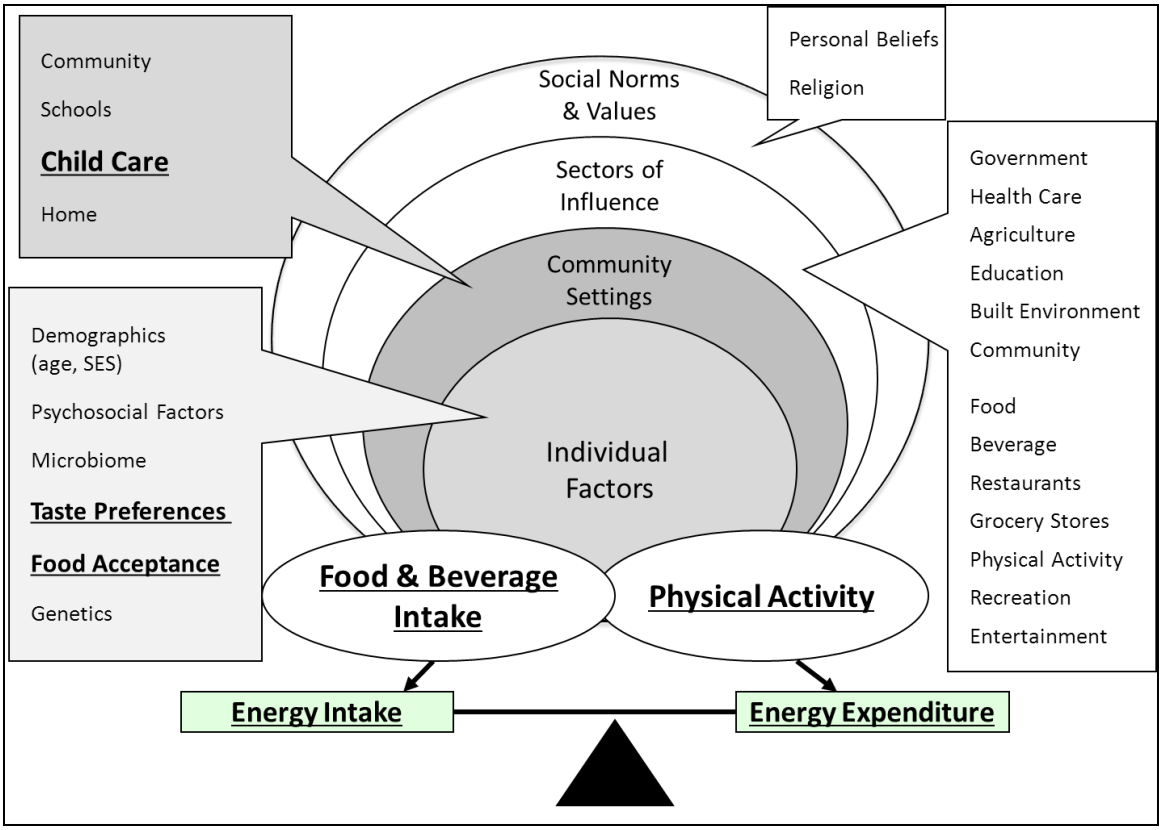

Figure 1.2 – Causes of Childhood Obesity that are Influenced by Child-care Centers.[17] Influences are bolded and underlined.

Research on Child-care Menus and Nutrition Practices

Few studies have analyzed the food and nutrition practices provided in CCC settings. These studies investigated the foods provided to children either through administering surveys to directors and staff, by observing meals, by collecting and analyzing menus, or through a combination of these methods. Some investigators measured specific nutrients and/or food categories provided on menus as well as menu accuracy. Other studies evaluated the effects of an intervention on CCC menus and nutrition practices.

Studies Analyzing Specific Nutrients and/or Food Categories

A compilation of studies regarding the quality of meals and food items served in CCCs is included in Table 1.6. Based on their analyses of meal quality, studies have noted a variety of problems associated with meals in CCC, including an excess of energy[38], saturated fat,[38-40] carbohydrates,[38] protein,[38] sodium, [38,41] added sugars,[40] and niacin,[38]; and inadequate amounts of vitamin D,[41] vitamin E,[35,41] vitamin A,[38] vitamin K,[38] potassium,[41] and fiber.[38]

Sorting menus items into food categories allows researchers to more carefully investigate the overall menu and food items served at CCCs. Food categories have been assessed by comparing menus to national USDA standards (MyPyramid,[40] Food Guide Pyramid,[42] and HEI-2005[35]), self-administered surveys (Nutrition and Physical Activity Self-Assessment for Child Care surveys,[43,44] and Study of Healthy Activity and Eating Practices and Environments in Head Start[45]), and direct observations of the meals or snacks.[40,42,46-48] Results of studies investigating food categories offered on menus have revealed that some child-care menus provide adequate amounts of dairy[41] and meats/alternatives,[42] and inadequate amounts of grains.[40,42,48] However, research provides conflicting information on whether menus provide enough fruits and vegetables. While some studies have reported that children in CCC are receiving adequate amounts of fruits[42-4542-45]and vegetables,[43-45] other studies have reported inadequate amounts of fruits[40] and vegetables[40,42] on CCC menus.

While investigating the overall meal items served, Erinosho et al. assessed diet quality of CCC's menus in relation to the HEI-2005.[35] Similar to the HEI-2010, the HEI-2005 is based on the 2005 DGA. This recent study was the first to establish a scoring

system for CCC menus.[35] The researchers concluded that the mean score of 59.12 for meals being served to children in 20 North Carolina CCC was significantly lower than the optimum score of 100.[35] This data indicates that the quality of the meals being served to children in CCC should be improved.

Table 1.6: Studies Analyzing Specific Nutrients and/or Food Categories in Child-care Centers in the United States

Reference	**Setting and Sample**	**Study Design/Methods**	**Study Purpose**	**Results/Conclusions**
Meir et al. (2007)[38]	198 Mexican American preschoolers living on the Mexican-Texan border attending Head Start	Analysis of 2, 24 hour recalls using NutriPac software	Nutrient intake of CCC menus compared to Recommended Dietary Allowances (RDA)	Meals exceeded recommendations for total energy, fat, saturated fat, carbohydrates, protein, sodium, niacin; and inadequate amounts of fiber, vitamin A, and potassium
Oakley et al. (1995)[39]	92 CCC in Mississippi	Analysis of 1 week of CCC menus using Nutritionist III software	Nutrient content of menus compared to Child and Adult Care Food Program (CACFP), guidelines, RDA, and the Dietary Guidelines for Americans (DGA)	• Centers participating in CACFP had significant lower amounts of energy and nutrients • Mean fat exceed recommendations for all centers
Ball et al. (2008)[40]	117 children (ages 2 – 5 years old) from 20 CCC in North Carolina	• Collection of menus and observation of meals by a researcher using the Dietary Observation for Child Care • Analysis of menus with Nutrition Data System for Research (NDS-R)	Nutrient content of menus compared to MyPyramid	Children are under consuming-whole grains, whole fruits, or vegetables, and over consuming saturated fat and added sugar in CCC

Table 1.6: Continued

Reference	Setting and Sample	Study Design/Methods	Study Purpose	Results/Conclusions
Zuercher et al. (2011)[41]	1 CCC in Indiana	Analysis of a 4 week long rotation lunch menu with NDS-R	Nutrient content of revised menus compared to original menus in relation to Dietary Reference Intakes (DRI) and MyPyramid	• Revised menus provided less energy, and more whole grains and fiber • Both offered adequate amounts of dairy; inadequate amounts of vitamins D and E, and potassium; and excessive amounts of sodium
Erinosho et al. (2011)[46]	40 CCC in New York	• Administration and assessment of surveys completed by directors • Observation of foods and drinks served • Analysis of menus with Food Processor SQL software	• Nutrient content of meals compared to MyPyramid and DRIs • Assess nutrition practices and food preparation environment	• All centers provided appropriate drinks during meals • Less than half of the children ate the DRIs for the 5 main food categories • 17% of children ate half of the DRIs for vegetables • 7% of children ate half of the DRIs for vitamin E
Padget et al. (2005)[42]	50 children (ages 3-5) in 9 CCC in Texas	Analysis of meal observations with FoodWorks 2.0 software	Nutrient content of meals compared to Food Guide Pyramid	Children consumed insufficient amounts of grains, vegetables, and dairy but sufficient amounts of fruits and meat/alternative
Trost et al. (2009)[44]	297 home-based child-care providers	Administration and assessment of the Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC) survey	Assess nutrition practices and policies in CCC	• Majority of CCC met serving standards on fruit and vegetables • Majority of centers do not provide fried meats or vegetables or unhealthy snack foods • Areas of improvement are serving low-fat milks, and serving unhealthy foods for celebrations
Whitaker et al. (2009)[45]	1583 Head Start Program Directors in the United States	Administration and assessment of the Study of Healthy Activity and Eating Practices and Environments in Head Start self-administered survey	Assess obesity prevention practices and environments in relation	Majority of the programs served: • Nonfat or 1% milk • Whole fruit • Vegetables other than fried potatoes • Healthy foods with celebrations

Table 1.6: Continued

Reference	Setting and Sample	Study Design/Methods	Study Purpose	Results/Conclusions
Sisson et al. (2012)[43]	314 CCC in Oklahoma	Administration and assessment of the NAP SACC survey	Assess nutrition practices and policies in CCC	Majority of the centers: • Serve daily fruits, and non-fried vegetables • Rarely or never serve sugary drinks • Rarely or never use food as encouragement
Bruening et al. (1999)[47]	40 children (ages 3-5 years) from 2 urban CCC	• Observation of meals for 14 days • Health outcomes measured with weight and height, dental exam, and number of sick days missed calculated	• Nutrient content of meals provided at center compared to meals brought in from children's homes • Health outcomes measured	• CACFP meals provided higher intakes of vitamin A, riboflavin, calcium, milk, vegetables, and fewer serving of fats/ sweets • Students who ate the CACFP meals had fewer missed days due to illness • Height and weight, and dental caries did not differ
Erinosho et al. (2013)[35]	120 children (3 – 5 years old) from 20 CCC in North Carolina	• Observations of meals for 2 days using the Dietary Observation for Child Care System • Analysis of meals with NDS-R	Dietary quality of meal in relation to the Healthy Eating Index-2005	• Mean total of scores (59.12) for all CCC was significantly lower than recommended score (100) • Majority of CCC met maximum scores for milk, fruit, whole fruits, and sodium • Majority of CCC were significantly below maximum scores for total vegetable, dark green/orange vegetables and legumes, total grain, whole grain, oils, and meat/beans

Studies Comparing Lunch Menus with Other Menus or Meals

Three studies, described in Table 1.7, compared lunch menus to other mealtime menus. The study by Zuercher et al. compared an original lunch menu to a revised lunch

Table 1.7: Studies Comparing Lunch Menus with Other Menus or Meals in Child-care Centers in the United States

Reference	Setting and Sample	Study Design	Study Purpose	Results/Conclusions
Zuercher et al. (2011)[41]	1 CCC in Indiana	Analysis of a 4 week long rotation lunch menu with NDS-R	Nutrient content of revised menus compared to original menus in relation to Dietary Reference Intakes (DRI) and MyPyramid	• Revised menus provided less energy, and more whole grains and fiber • Both offered adequate amounts of dairy; inadequate amounts of vitamin D and E, and potassium; and excessive amounts of sodium
Copeland et al. (2013)[49]	258 directors of CCC in two urban counties in Ohio	Directors surveyed via telephone and requested to provide menu from CCC	• Nutrient content of lunch menu compared to snack menu of CCC	• Lunch was significantly different in all food categories compared to snack • Majority of the directors served 2 % milk to child > 3; 31% served whole milk • 100 % juice and sweet and salty foods were served at more centers during snack • Non-starchy vegetables were served more during lunch than at snack
Bruening et al. (1999)[47]	40 children (ages 3 – 5 years old) from 2 urban CCC	• Observation of meals for 14 days • Health outcomes measured with weight and height, dental exam, and number of sick days missed calculated	• Nutrient content of meals provided at center compared to meals brought in from children's homes • Health outcomes measured	• CACFP meals provided higher intakes of vitamin A, riboflavin, calcium, milk, vegetables, and fewer serving of fats/ sweets • Students who ate the CACFP meals had fewer missed days due to illness • Height and weight, and dental caries did not differ

menu.[41] Zuercher et al. concluded the original menu had more energy, fewer whole grains and less fiber than the revised menu.[41] A study by Copeland et al. compared lunch menus to snack menus.[49] After speaking with the director via telephone for clarification and analyzing the lunch and snack menus, Copeland et al. concluded that lunch was significantly different than snacks in all food categories.[49] Snacks menus contained more 100% fruit juice and sweet and salty foods, whereas lunch menus contained more non-starchy vegetables.[49] The third study in Table 1.7 compared CACFP provided meals with meals provided by the parents.[47] Bruening et al. concluded that CACFP meals provided higher amounts of vitamin A, riboflavin, calcium, milk, and vegetables, and fewer servings of fats and sweets.[47]

Studies Analyzing Menu Accuracy

A compilation of studies investigating the accuracy of CCC menus is included in Table 1.8. In a study examining the menu accuracy at a Head Start CCC in Pennsylvania, Fleischhacker et al. reported that the menus did not accurately represent the food items being served to the children.[50] In a more recent study using a larger sample size, Neelon et al. found the accuracy of the CCC menus to be higher. Specifically, Neelon et al. reported an 86.6%[51] menu: food item match rate, while Fleischhacker et al reported a 28%[50] match rate. Thus, the majority of meals observed by Neelon et al. matched those reported on the CCC menu, with an even higher percentage of individual food items matching[51]. Additionally, Neelon et al. also reported that many of the substituted food items were comparable to the original menu (i.e. peaches for pears)[51]. Menu accuracy is important as a means of nutrition communication between the CCC, parents and health

professionals. Without menu accuracy, parents and health professionals cannot evaluate the children's dietary intakes in order to ensure the children meet their dietary reference intakes (DRI) through meals or snacks in other settings.

Table 1.8: Studies Analyzing Menu Accuracy in Child-Care Centers in the United States

Reference	Setting and Sample	Study Design	Study Purpose	Results/Conclusions
Fleischhacker et al. (2005)[50]	1 inner city Head Start CCC	• Observation of 77 days' worth of meals • Collection of menus for days observed	Assess accuracy of the menus in CCC compared to observation of meals	• 4 complete meals observed matched menus • 28% of total food items served matched the menus
Neelon et al. (2010)[51]	84 CCC in North Carolina	• Observation of meals for 1 day at each CCC • Collection of menus for days observed	Assess accuracy of the menus in CCC compared to observation of meals	• 52% of complete meals observed matched menus • 86.6% of total food items served matched the menus

Studies Reporting on Child-care Center Interventions

As reviewed in Table 1.9, two studies have attempted CCC-based interventions for the express purpose of combating childhood obesity.[52,53] The first study was a pilot study examining the impact of an intervention of the nutrition and physical activity environment in CCC.[52] This study reported on two outcomes, including the impact of the intervention, and feasibility and acceptability of the study as a whole. This study design consisted of (1) Self-Assessment 1, (2) Workshop Evaluation, (3) Self-Assessment 2, (4) Evaluation of Intervention by Centers and Consultants, and (5) Site Visit[52]. Researchers mailed the validated Nutrition and Physical Activity self-assessment for Child Care (NAP SACC) survey to participating centers prior to the workshop intervention. The NAP SACC surveys consisted of 29 nutrition and 15 physical activity questions. NAP SACC-trained health care professionals presented three, 30-minute workshops to the CCC staff

and director in their CCC. After the intervention, NAP SACC surveys were mailed to assess the impact of the workshop. The CCC directors and staff and NAP SACC trained health care professional consultants evaluated the study and an in-person site visit was conducted on a sample of the participating centers to validate results on the NAP SACC surveys. For the first outcome assessed, feasibility and acceptability of the workshop, a majority of the health care professionals thought the NAP SACC survey was comprehensive, somewhat easy to understand, and the meeting with the directors was productive. A majority of the directors felt the NAP SACC survey was very easy to use and very helpful. For the second objective, impact of the intervention, CCC reported an increase in serving more healthful foods and beverages. For example, CCCs switched from 2% milk to 1% milk for children over 2, or increased the amount of time children spent outside. Although CCC made improvements to the nutrition and physical activity environment, a significant change was not seen from the scores of the second NAP SACC survey compared to the first.[52]

The second study with an intervention worked with the same NAP SACC design.[53] In addition to the pilot study, trained researchers observed the centers pre- and post- intervention using the Environment and Policy Assessment and Observation (EPAO) tool. The tool was developed for this study to assess CCC nutrition and physical activity environments, policies, and practices. The workshop was conducted by NAP SACC-trained health care professional consultants. Similar to the first study, improvements in the CCC were observed but scores from the pre and post EPAO tool were not significantly different.[53]

Table 1.9: Studies Reporting Child-care Center Interventions in Child Care Centers in the United States				
Reference	**Setting and Sample**	**Study Design**	**Study Purpose**	**Results/Conclusions**
Benjamin et al. (2007)[52]	19 CCC in 8 counties in North Carolina	• Observation of meals for 1 day at each CCC • Administration of NAP SACC survey pre- and post- the intervention • Technical support follow-up with self-set goals	• Evaluate the impact of an intervention by assessing changes in post intervention environmental assessment • Evaluate the project implementation, feasibility, and acceptability	• The intervention was not successful in producing significant results on post environmental assessment • Majority Health care professionals and directors thought the NAP SACC study tool was easy to understand and helpful
Ward et al. (2008)[53]	30 Health Professionals and 84 CCC in North Carolina	Observation of nutrition environment with Environment and Policy Assessment and Observation (EPOA) instrument pre- and post-intervention provided by the health professionals	Evaluate the impact of an intervention by assessing changes in post intervention environmental assessment	The intervention was not successful in producing significant results on post environmental assessment

Studies Addressing Staff Nutrition Knowledge and Nutrition Practices

In a study investigating the knowledge of nutrition and appropriate feeding practices among CCC staff in Harris County, TX, Sharma et al. reported relatively poor performance by staff on a survey of nutrition knowledge, and also demonstrated that staff did not personally follow healthful dietary practices.[55] Specifically, when asked about the previous days' food choices, half of the staff reported eating french fries and drinking sodas, and a fourth of the staff reported that they did not eat a single fruit or vegetable.[55] Nutrition education provided in CCC relies on the knowledge and practices of the teachers. Unfortunately when asked about nutrition knowledge, 4 out of the 181 staff

(3%) surveyed answered 4 out of 5 questions correctly on the self-administered survey.[55] Sharma et al. concluded that due to the importance of staff education and modeling to the children while in child-care, CCC workers need to be further educated on proper nutrition knowledge and practices[55].

Table 1.10: Studies Regarding Staff Knowledge on Nutrition and Nutrition Practices in Child-care Centers in the United States

Reference	Setting and Sample	Study Design	Study Purpose	Results/Conclusions
Sharma et al. (2013)	181 Head Start Teachers in Harris County, Texas	• Administration of the self-administered Teacher Health Behavior Survey as a part of the Head Start on Healthy Living project	Assess nutrition knowledge, attitudes, and dietary behaviors of staff in CCC	• Administration of the self-administered Teacher Health Behavior Survey as a part of the Head Start on Healthy Living project • ¼ of the staff did not consume fruits or vegetables the previous day but consumed fried meats • Half of the staff consume French fries and soda the previous day • 3% of teachers answered 4 out of the 5 nutrition questions correctly

Gaps in the Literature of Nutrition and Nutrition Practices in CCC

As demonstrated in the compilation of studies included in Table 1.6 – 1.10, there are limitations in understanding of nutrition and nutrition practices in CCC in the US. Because of the potential significant role CCCs have on the children in care, the following gaps of knowledge must be addressed.

(1) *Generalized information on nutrition and nutrition practices in CCC*. Previous research has used small sample sizes of CCC with similar demographic and socio-economic characteristics.[38,41,42,50,52] To date, there is not a study that can generalize

nutrition practices for CCCs in the US. Additionally, regional studies should be conducted so that results can be used to inform local interventions.

(2) *Information on snack menus*. Previous studies have focused on CCC lunch menus and less attention has been paid to snack menus. As previously mentioned, snack menus often differ significantly in quality from lunch menus.[49] Snack menus provide an important portion of a child's diet. By focusing analysis and intervention efforts only on lunch menus, poor quality snacks may continue to interfere with healthful nutrition practices.

(3) *Impact of effective interventions in CCC for obesity prevention*. While two studies have conducted CCC interventions,[52,53] neither has attempted to use a one day intervention for all participating CCC. Instead, the intervention workshops were provided to each individual CCC seperately.[52,53] While the post analysis of the centers in both studies provided positive findings of nutrition environmental change, neither of the studies reported a significant change from the pre to post evaluations.[52,53]

(4) *Successful communication on improvement of menus and nutrition knowledge to CCC directors and staff*. The two intervention studies, Benjamin et al. and Ward et al., failed to successfully communicate components of healthful food environments as seen in their lack of significant improvement in post intervention scores.[52,53] Successful communication is needed to create healthful changes in CCCs. Because of the ease of use and visual component of the UDSA's MyPlate, a scoring system based on of MyPlate should be evaluated as a means of communication between health care professionals and CCC directors and staff.

Call for Research

Larson et al. provides a clear call for research efforts in the prevention of obesity risk and promotion of health in child-care settings.[37] These researchers suggest that obesity prevention research should focus on comparing CCC menus to higher standards of nutrition instead of the minimum state requirements.[37] Larson et al. also suggests that more research is needed comparing CCC menus to recommendations of major advisory groups, such as the Academy for Nutrition and Dietetics, the American Academy of Pediatrics, and the .[37] Previous studies have used national standards to evaluate menus, including the Food Guide Pyramid,[42] MyPyramid,[40,41,46] and HEI-2005.[35] These standards are now outdated, and newer standards, such as MyPlate and HEI-2012, should be utilized. By comparing CCC's menu to current recommendations, CCCs can improve their menus to meet more healthful standards.

Another potential area for research is menu evaluation of home CCC.[37] Previous studies that investigated home CCCs' nutrition practices have made only limited observations. In 2012, there were 209,000 home CCC in the US[24]; more research should be conducted on home-based centers to fully evaluate the diets children in these care settings are receiving.

Research also needs to be conducted on an effective multi-component intervention program addressing physical activity, nutrition and policy.[37] The two studies by Benjamin et al. and Ward et al. described earlier provided an intervention to improve the health environment of CCC;[52,53] neither of the interventions report significantly positive changes[52,53]. Because of the complexity of childhood obesity, a multi-component intervention is needed to be effective.

Target Population

By creating a multi-component intervention at the grass roots level in a community, researchers and community advocates can focus on the needs of that specific community. As stated previously, Texas children have a high risk of being overweight or obese. According to the 2011 National Survey of Children's Health, Texas is ranked 5th in the nation for overweight and obesity rates among children, with approximately 36.6% of children ages 10 – 17 years old overweight or obese.[56] Weight status among communities in Texas can be seen in the 2010 Texas Controller of Public Accounts' FITNESSGRAM™.[57] The FITNESSGRAM™ displays overweight and obesity rates taken from children in participating public schools in Texas. Fifty-three percent of 8th grade students in San Marcos Independent School District were overweight or obese in 2010.[57] The need for a multi-component obesity prevention study in San Marcos and surrounding counties is pertinent to the health of the children to help decrease the high overweight and obesity rates.

Specific Aims and Objectives

The **specific aims** of this project were to: (1) develop, implement and evaluate a scoring system based on MyPlate by which CCC menus can be assessed; (2) assess the effectiveness of a workshop intervention in improving the menus and feeding practices of CCCs in an at-risk community; (3) evaluate the accuracy of the CCC menus. These aims were addressed using the following objectives.

Specific Aim 1. Develop, implement and evaluate scoring system based on MyPlate by which CCC menus can be assessed.

Objective 1. Given that MyPlate is the newest federal icon used for public nutrition instruction and a scoring system using MyPlate has not been published, our first objective was to develop a menu scoring guide based on MyPlate that can be applied to CCC menus.

Objective 2. Our third objective was to use the MyPlate scoring guide to assess CCC menus to to pre- and post- menus.

Specific Aim 2. Using a pre-test/post-test design, assess the effectiveness of a workshop intervention in improving the menus and feeding practices of licensed CCC in Hays and Bastrop counties in Texas.

Objective 1. Establish a baseline (pre-test) of: the menus offered in CCCs by using the MyPlate

Objective 2. Conduct a workshop for the directors and staff of area CCCs, including lessons on improving menus (based on MyPlate) and feeding practices.

Objective 3. Post-test (same measures as Obj. 1)

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CHAPTER II

Methods

Project Design

Best Food for Families, Infants and Toddlers (Best Food FITS)

This project is an extension of the Best Food FITS health promotion coalition in the Texas State Nutrition and Foods Program. The purpose of Best Food FITS is to help reduce risk of childhood obesity in the community by making it easier for children to consume more fruits and vegetables, fewer sugar-sweetened beverages, and improve healthful practices in general. The Best Food FITS coalition includes partnership with many stakeholders in the San Marcos community. Prior to the study described herein, Best Food FITS worked with local restaurants to improve their children's menus to include more healthful options. Best Food FITS also offers nutrition education to the community at the Chapultepec Adult Learning Center by providing free cooking classes to improve nutrition education for individuals and families. The project described herein was designed to extend the influence of Best Food FITS to area CCC facilities.

Best Food FITS Child-Care

The overall purpose of the Best Food FITS Child-Care project was to engage area CCC staff in improving the nutrition and health environment of their CCC. This research study included the following components: (1) *Site Visit I*, a pre-assessment of the nutrition and physical activity environment of area CCC facilities; (2) *Workshop Intervention* for CCC staff, which included interactive instruction on increasing physical activity, improving child nutrition, menu planning, and on writing policies regarding the food environment; (3) *Technical Support/Follow-Up Calls* via telephone; and (4) *Site*

Visit II, a post-assessment of the nutrition and physical activity environment (see Figure 3). The Texas State University Institutional Review Board approved this study before any contact was made with potential subjects, and all practices were compliant.

Researchers and Data Management

Working under the direction of three principal investigators (PI), two graduate student researchers managed the project. All research participants completed the Collaborative Institutional Training Initiative (CITI) training prior to participating in the study. The lead graduate students trained assistant researchers, who then participated in all aspects of data collection. All physical data were kept in a locked cabinet in the Community Research Lab in the Texas State Family and Consumer Sciences building. All electronic data were password protected.

Recruitment

Researchers compiled a list of the 98 CCC located in Hays County (78666, 78667, and 78640 zip codes) and Bastrop County (78602 zip code) from the Texas Department of Family and Protective Services website, with the intention of recruiting all eligible centers and their directors and staff. Eligibility criteria included being a licensed center by the state of Texas and providing at least one meal (breakfast, lunch or dinner) or snack. From the Community Research Lab, researchers called each eligible center in the included zip codes and asked to speak to the director. When the director was reached, the researcher followed a script that explained the study goals, eligibility requirements, procedures, and incentives for participation. Incentives included grocery gift cards, continuing education (CE) credits for CCC staff and Best Food FITS tote bags.

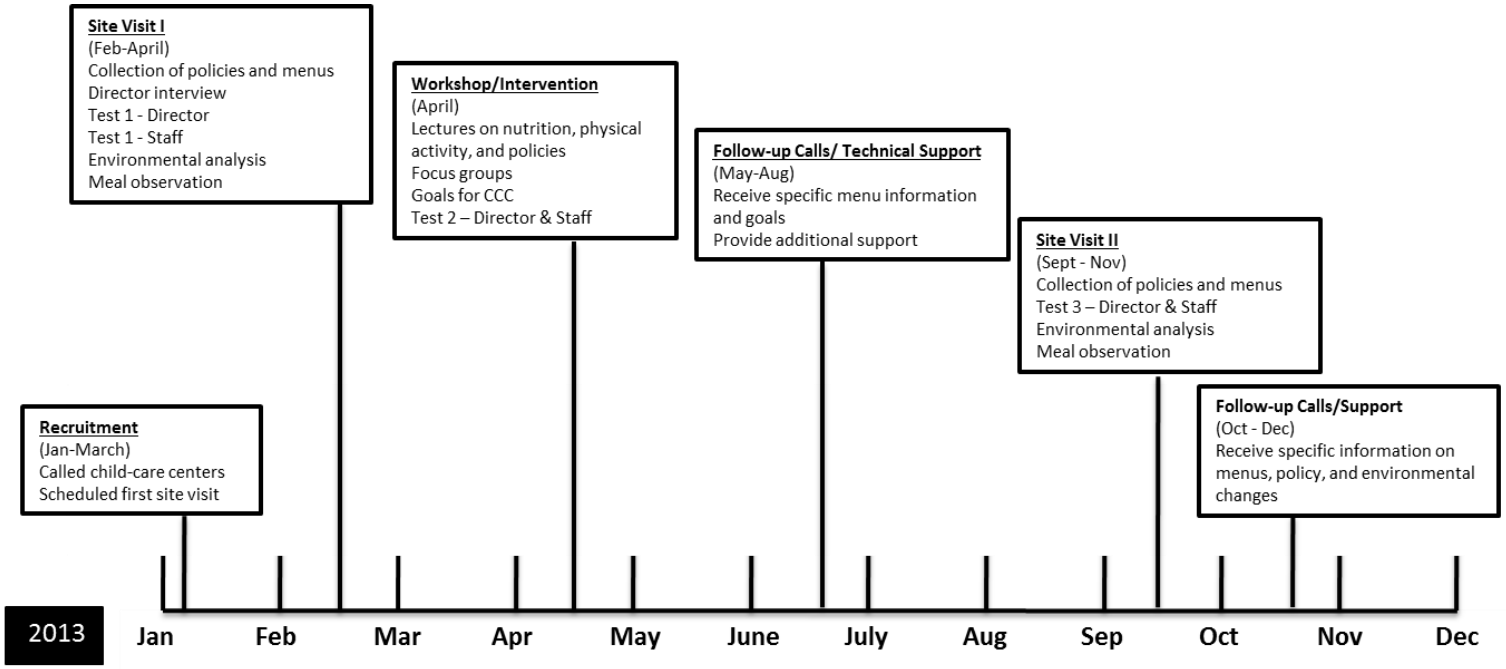

Figure 2.1. Timeline of the Project Design for the Best Food for Families, Infants, and Toddlers Child-care Center Study

The grocery gift cards were allotted incrementally as CCC staff participated in various stages of the research project. Directors and staff who attended the workshop intervention were also awarded 5 continuing education credits.

If a director agreed to participate in the study, the researcher scheduled an appointment for *Site Visit I,* the initial environmental assessment of that CCC. If directors indicated willingness to participate, but were later unable to commit to having staff attend the workshop intervention, the CCC was included in the study as a control. Researchers called the CCC three days prior to the visit to confirm the scheduled time (script in Appendix A), remind the director about specifics of the visit, and arrange for an authorized alternative staff member in the event that the director was absent. At the initial site visit, the researchers explained the study and provided consent forms (Appendix A) to the CCC director and staff.

Site Visit I. Pre-assessment of the Nutrition and Physical Activity Environment

Overview

The first site visit was scheduled to occur during a time that included at least one meal or snack. After consent forms were signed, *Site Visit I* consisted of: (1) *Director Interview,* a structured interview with the director; (2) *Nutrition Knowledge Surveys,* surveys to director and staff; (3) *Nutrition Environment Assessment,* an examination of the physical environment, including the indoor and outdoor play areas, the kitchens, the classrooms, and common areas; (4) *Menu and Policy Collection,* collection of CCC facility policies, usually found in a "Parent Handbook" and one month of menus; and (5) *Meal Observation,* an observation of meals or snacks for specific food items served and staff and student interactions. The typical duration of *Site Visit I* was 2 to 4 hours.

Director Interview

After collecting policies and menus and at the director's convenience, the lead researcher conducted a scripted interview with the director for 20 to 60 minutes (script in Appendix A). The interview asked about menus, physical activity, staff training, breastfeeding practices, and center policies. Questions regarding nutrition included: how often fruits or vegetables were served during the week, the content of a typical snack, and what beverages were typically served with meals or snacks. With the director's permission, this interview was recorded for later transcription and analysis. After the interview, the director was asked to provide the most convenient time to contact the center for follow-up calls.

Nutrition Knowledge Surveys

The assistant researcher administered the staff survey (Test 1-Staff, Appendix A). Test 1-Staff included questions about knowledge (i.e., true or false questions about breastfeeding, ages children should have milk, juice, or water), feeding practices (how meals are served, do staff sit with children during meals, and what types of statements can staff say to children about the meal), policy (does the center have policies about breastfeeding, access to water, and birthday parties), responsibility (who takes responsibility for feeding children or educating children about nutrition), and physical activity (what ways do children participate in physical activity, and how long to children participate in physical activity each day).

The lead researcher administered the director survey (Test 1-Director, Appendix A). In addition to the questions asked in Test 1-Staff, Test 1-Director asked about the

demographics and day-to-day operations of the center (what time the center opens, how long has the center been open, and how many children does the center serve).

Nutrition Environment Assessment

In order to assess the nutrition environment, an observational environmental nutrition assessment tool (Appendix A) was developed. All researchers collaborated to develop the protocol for this assessment tool based on previous environmental research. Areas included in the observational tool were the kitchen, cafeteria, food storage sites, indoor and outdoor play area, breastfeeding area, entryway, and classrooms (infant, toddler, pre-K individually). The environmental assessments were first piloted at the Texas State University Child Development Center. During the pilot study and CCC assessments, the lead and assistant researcher separately conducted observations of the physical environment simultaneously using the assessment tool. The researchers also took pictures of the areas assessed and of any posted menus and policies.

Meal Observation

The research team observed a meal served by the CCC, recorded the specific meal items served on the environmental assessment tool, and compared those meal items with the menu provided pfor that day. The researchers observed the entire process of serving the meal, from beginning to end, for one classroom. Additional observations included meal style, staff interaction with children, and actual food items being served.

Workshop Intervention

Overview

The intervention for this project was a 5-hour workshop held at the Texas State FCS building on April 27, 2013. All directors and staff at participating CCC were invited.

The workshop included (1) *Check-in*, (2) *Breakfast*, (3) *Lectures/Activities*, (4) *Lunch*, (5) *Focus Groups*, and (6) *Check-out*. To maintain the focus of the attendees, gifts such as Best Food FITS t-shirts, stickers, and tote bags were offered sporadically throughout the lecture portion of the workshop. At the end of the workshop, each CCC received a $25 gift card incentive, and each individual staff or director who attended the workshop received 5 continuing education credits.

Check-in

After being greeted at the door, the CCC staff were asked to "check in" according to their specific CCC. At check in, each CCC received a Best Food FITS tote bag along with a nutrition/food related children's storybook and a packet with handouts that would be referenced in the workshop. In addition, each CCC worker received an individual "green folder" and each CCC collectively received one " orange folder". After receiving their Best Food FITS tote bag, each CCC was assigned a trained liaison to help navigate through the workshop. The liaison had a folder for each site containing analysis reports generated from the initial site visit, and handed out pertinent analyses reports during the workshop. A list and brief description of the materials from the "green folder," "orange folder," and "liaison folder" can be seen in Table 2.1.

Finally, workshop participants were asked to complete a demographics form (Appendix A). If staff members had not completed the consent form or Test 1-Staff /Test 1-Director during *Site Visit I*, they were asked to complete these forms before the lectures began.

Table 2.1 . List and Description of Materials Provided to Child-Care Center Staff during the Workshop Intervention

Material Item	**Description**
"Green folder"	**Per workshop participant**
Pen and blank note pages	Given to encourage note taking
Ice breaker activity "My Favorite Thing"	Introduction game to start friendly conversation on preferences of various items such as coffee or tea; paper or plastic
Healthy recipes for breakfast, lunch, and snacks	Examples of healthy recipes including sandwich kabobs, and fruit parfaits
Nutritional facts label	Guide for understanding the nutrition facts label on food products and how to use this information to choose more healthful items
Workshop feedback form	Form collected at the end of the workshop to ask about usefulness, helpfulness, and acceptability of workshop
"Orange folder"	**Per center**
Paper plates	Used in MyPlate activity during childhood nutrition lecture to demonstrate improvements made to specific meals
MyPlate meal and snack patterns for preschoolers	Sample preschool menu for an entire day of healthy meal and snack options
Flyers with policy matrices	Used with an activity during the policy lecture to explain the different levels of creating a policy

Table 2.1: Continued	
Material Item	**Description**
"Orange" folder	**Per Center**
CACFP modifications	Modifications recommended to improve the requirements to the CACFP guidelines including no juice for breakfast or lunch, good source of vitamin C daily; 3 good sources of vitamin A weekly; one good whole grains daily
Nutrition and physical activity lesson plans	Example lesson plans presented in the physical activity lecture that incorporates physical activity and nutrition including "Eat Like a Bunny" activity
CCC goal setting form	Form to collect information on goals the CCC would set to accomplish during technical support
Liaison folder	**Per center**
CCC MyPlate pie chart	Analyzed 20-day menu composite MyPlate pie chart per meal
"Ideal" MyPlate pie chart	MyPlate pie chart for comparison
Photo Voice Activity	Photos from *Site Visit I* of CCC facilitators and barriers were provided during policy lecture

Breakfast

The Texas State Student Nutrition Association (SNO) provided a breakfast for the workshop attendees that also served as an example of healthful breakfast options. The breakfast included whole grain blueberry muffins, low-fat yogurt, whole fruit, tea, water, and coffee. These food items were available throughout the workshop.

Lecture: Childhood Nutrition

After a welcome to the workshop and an introduction to Best Food FITS, a researcher gave a presentation on childhood nutrition (Appendix A). The presentation (1) began with obesity definition, incidence, consequences and causes; (2) led into the impact that CCCs have on the health outlook of children; (3) covered the development of healthy eating habits, modeling healthy behaviors, and breastfeeding; and (4) addressed dietary recommendations for children ages 0-5, MyPlate for children, and CACFP modifications for healthier eating. Each segment included an activity or other form of interaction to keep the participants engaged. In addition, a "word cloud" created from the combined total of food items listed on the CCC menus received during *Site Visit I* was displayed. After viewing the "word cloud," participants were invited to visualize the variety or lack of variety of foods being served in the local CCC community.

CCC staff members were asked to participate in three activities intended to reinforce USDA MyPlate recommendations. First, the liaison provided participants with the MyPlate pie chart specific to their CCC, along with an "ideal" MyPlate pie chart based on the USDA MyPlate (described in Table 2.1). CCC workers were asked to visually compare their menu pie chart with the "ideal" MyPlate pie chart. Second, using 2 paper plates provided in the orange folders, the CCC participants were asked to draw two meals from their menu that best represented, and least represented the ideal MyPlate meal. Last, the presenter suggested a series of healthier options for breakfast, lunch and snack before asking the CCC staff to modify their MyPlate illustrated menus to better represent the MyPlate standards. After the presentation, the CCC attendees had time to ask questions of the presenters about the lecture, their analyzed menu, and the activities.

Lecture: Physical Activity

In the lecture on physical activity, researchers addressed the importance of daily physical activity for children. Examples of nutrition and physical activity lessons were offered, including, a Hawaiian themed lesson, which incorporated activities for children, such as trying novel foods (i.e. fresh coconut and pineapples), and engaging in new physical activities (e.g. pretending to surf or dancing the hula). Another themed activity, *Eat like a Bunny*, was also demonstrated. This activity was intended to teach children to enjoy vegetables while "eating like a bunny". It was suggested that the CCC staff could incorporate physical activity by making children hop around like a bunny before or after eating.

Lecture: Environment and Policy

The overriding message of the *Environment and Policy* lecture was that CCC could improve the health outlook of children by creating a "healthy" in lieu of an "obesogenic" environment. The lecture illustrated the potential impact of the physical environment on health using pictures from the Texas State campus as examples. Photos included facilitators (multiple sets of stairs across campus, the large recreational facility) and barriers (fast food vendors on campus, and bake sales from different student organizations) to healthful practices. For an activity, the CCC workers were then provided with pictures from their own centers that were taken during *Site Visit I*. The workers from each CCC were asked to view the pictures and collaborate to identify facilitators and barriers to healthful practices they saw in the pictures. Once this information was collected from the CCC, researchers provided each CCC with a form highlighting the researchers' perspectives about how policy changes in each CCC could

facilitate healthful practices. During the policy portion of the presentation, researchers addressed the importance of writing policies to augment health and provided examples on how to write policies. CCC staff were then asked to consider their own CCC and complete a policy matrix identifying appropriate policies.

Lunch

Healthy box lunches, provided by Student Nutrition Organization, were served to all CCC participants. The box lunches included either a white bean chipotle wrap or turkey pesto wrap, fruit, hummus, carrots, and a bottle of water.

Focus Groups

The attendees were asked to separate from their colleagues and attend 9 pre-assigned focus groups in separate classrooms. Each focus group consisted of 6-10 members, including a moderator and assistant moderator. The CCC workers were first asked to complete a demographics form (Appendix A) and then sign in before the discussion commenced. The moderator led the group in a discussion following an outline (Appendix A) of topics including facilitators and barriers seen in the CCC to healthful menus, policy creation, and physical activity incorporation, while the assistant moderator recorded the conversation and took notes. Immediately following the focus group, the moderator and assistant moderator discussed the highlights of the focus group. The assistant moderator transcribed the focus group from the recording immediately following the workshop.

Check-out

After the focus groups, attendees gathered in the main classroom for closing statements. Participants was asked to complete three documents before receiving their incentives, including: (1) a workshop evaluation, (3) CCC goals, and (3) Test 2 – Director & Staff (Appendix A). A digital copy of the CCC goals was emailed to the CCC to facilitate change.

Technical Support/Follow-Up Calls

Technical support via telephone and e-mail was offered to CCCs who attended the workshop. Research assistants used a script (Appendix A) to offer assistance to directors in implementing goals set at the workshop. Because many CCC closed in the summer, technical support and follow-up calls were not be completed for every center immediately after the workshop. Supplementary handouts providing specific environmental and policy guidelines intended to facilitate improvement were emailed to each CCC. Additional assistance was provided upon the CCC director's request. During the last round of follow-up calls in August, *Site Visit II* was scheduled (script in Appendix A). Sites identified as controls (due to lack of attendance at the workshop) were not included in the follow-up call regimen.

Two sets of follow-up calls took place – after the workshop and again after *Site Visit II*. The first set collected more specific information about the CCC menus (script, Appendix A). During these calls, researchers asked about serving sizes and particular ingredients used in mixed meal items. The second set of calls made after *Site Visit II* were used to gather specifics about the menus collected after the workshop.

The last set of follow-up calls occurred after *Site Visit II*. Using a script (Appendix A), researchers inquired about specific changes seen between the pre to post environmental assessment tool. Researchers asked the director if she was aware of the changes, why the changes transpired, and if a policy had been implemented to maintain the change.

Site Visit II: Post-assessment of the Nutrition and Physical Activity Environment

The second site visits were conducted using the same protocol as *Site Visit I*. Because we previously received consent for the entire study, a second consent form was not needed unless there had been a staff replacement. The second visits were shorter, and included administration of nutrition knowledge surveys, completion of the nutrition environment assessment, collection of menus and policies, and observation of meals. The nutrition environment assessment, menu and policy collection, and meal observation procedures were the same as in *Site Visit I*. The meal observed in *Site Visit II* was the same meal observed for the previous visit i.e. if breakfast was observed for the first visit, breakfast was observed for the second visit. The meal observed only deviated from the initial meal observed if the CCC no longer prepared and served the same meal. The nutrition knowledge surveys (Test 3-Director & Staff, in Appendix A) were the same for both director and staff. In addition to questions asked in the previous tests, Test 3-Director & Staff included questions about implementation of center changes and helpfulness of tools used in the workshop.

Menu Analysis with MyPlate and SuperTracker

After the first site visit, a quick analysis of the menus occurred before the workshop intervention in order to provide educational feedback to the sites. In an Excel

spreadsheet, menus were organized by their site number, and separated by meal type (breakfast, lunch, dinner, or snack). Food items were classified to MyPlate main and subcategories using the food group resources offered on MyPlate.gov.[1] For the initial menu analysis, meal items were deconstructed so each food item was only classified into one main category of MyPlate. For example, a ham and cheese sandwich would be separated into ham, sandwich bread, and cheese. Monthly totals for number of food items in each food group and subgroup were calculated by site number and meal type.

Individual menus per site number were converted to a pie chart using the calculated totals. The pie charts were created in Microsoft Word and Excel to resemble the MyPlate icon. Two pie charts were prepared for each meal a CCC served. The first pie chart only displayed the four main categories on the MyPlate icon: fruits, vegetables, grain, and protein. The second pie chart displayed subcategories of the main categories to show a better representation of the food items served at the CCC. Each pie chart was colored similarly to the MyPlate icon to be easy to understand. In the detailed pie chart, each section was a shade of the main category color. For example, protein is purple on the MyPlate icon; therefore, chicken is a darker shade of purple and ground meat is a lighter shade of purple on the pie chart. This menu feedback from the initial site visit was given to each individual centers in addition to an ideal MyPlate during the intervention workshop.

After the workshop, a more detailed type of menu analysis was conducted. Researchers created a SuperTracker profile on MyPlate.gov[1] for each CCC. Using the specific serving sizes recorded on the Excel spreadsheet from clarification during the follow-up calls, researchers entered the specific food items into SuperTracker and

recorded the exact MyPlate main and subcategories provided on the CCC's SuperTracker profile. New totals for the month were calculated for each CCC per mealtime, and were used to create a MyPlate pie chart using Microsoft Word and Excel. This menu analysis process of recording menu items onto Excel, and entering menus into SuperTracker was repeated after the second round of site visits.

In order to perform the more in-depth statistical analysis (described below), the monthly calculations were stratified into daily calculations for pre and post menu assessments. On average, there were 20 days of menus for each CCC. However, fewer menus were obtained from select CCC if data collection spanned over breaks such as Spring Break or Thanksgiving.

Menu Scores

Menus were given two scores: (1) MyPlate score, (2) Child-care Center score. The MyPlate score was developed based on the consumer messages by MyPlate. The consumer messages include: make half of your plate fruits and vegetables; make half of your grains whole grains; vary your vegetables, chose whole fruit, chose lean protein, chose low fat/no fat dairy. Each CCC average meal values previously calculated from the SuperTracker outputs were used to calculate the MyPlate score. Each mealtime for the month was given a score individually, then averaged together to provide one overall MyPlate Score. The Child-care Center score was developed using the CACFP modifications. The modifications include: 1 good source of vitamin C a day, 3 good sources of vitamin A per week, 1 whole grain a day, 2 fruits and vegetables per lunch, no juice at lunch, limit two cracker per week for snack, and limit 2 sugary cereals a week for breakfast. Using the totaled MyPlate categories and subcategories form the SuperTracker

output, each CCC was given an overall Child-care Center score. The two scoring guides and average scores for intervention and control groups can be seen in the Appendix A.

Statistical Analysis

Hierarchical linear modeling (HLM), a univariate approach to mixed methods analysis, was used to determine the associations between the independent (mealtime, pre-, post-) and dependent variables (food categories). Relatively new to the nutrition field, HLM provides a greater depth of insight into nutrition research.[2] HLM was appropriate for analysis of the CCC menus in this study because this method calls for "nesting" of the various levels of data. The data levels were individual meal, mealtime (breakfast, morning snack, lunch, afternoon snack), and individual CCCs. The nesting of the data in HLM solves for the multiples sources of random variation in collected data. This allows the data to be independent of the levels. The HLM provides three different types of data outputs: fixed effects, random effects, and emmeans tables. The fixed effects provide the mean effects a dependent variable has on specific independent variables across all levels. (For example, the difference in fruit juice served in breakfast compared to the average regardless of day of the month, or specific CCC). The random effects demonstrate the homogeneity among the nested groups. (For example, the effect the day of the month has on the amount of refined grains being served). The emmeans tables provide the specific means for each group for each data collection point.

To determine the effectiveness of the intervention on CCC menus, HLM was used for specific categories of MyPlate including vegetables: all, vegetables: beans/peas, vegetables: dark green, vegetables: red/oranges, vegetables: starchy, vegetables: other, fruits: all, fruits: whole, fruits: juice, grains: whole, grains: refined, oils (dependent

variables). Differences in menus outcomes were analyzed by introducing an interaction term between meal time (breakfast, morning snack, lunch, and afternoon snack) and time (pre or post) in the model. By introducing this interaction term, the results will show the effect, if any, meal time and time have on the food items being served. From this analysis, the changes in food items served can be seen in relation to mealtimes and time (pre-post) with the fixed effects. For example, the number of whole grain food items served is compared to the overall estimation across the nested groups. The estimation of whole grain food items served can be seen for each mealtime, pre- post-, and each mealtime pre- post-. The homogeneity of the food categories across the different levels are seen with the random effects. When allowed to vary randomly over time, co variances are examined to see their effect on food items being served. This study looked at the effect of the day of the month the meal was offered on the food categories. For example, does the 15^{th} day on the menu effect how many red orange vegetables are being served on the menu. Specific pre- and post- means are displayed in the emmeans tables for this data. The mean amounts of dark green vegetables served by a CCC on any given day for pre- and post- are displayed for each mealtime. This table provides an overall picture of the amount of food items CCC are serving among the specific food categories. Syntax used is included in Appendix A. The linear mixed method and frequencies of demographic characteristics of the CCC were calculated using SPSS (version 20.0 for Windows). The *P* values were adjusted for Bonferoni Corrections to eliminate Type I error. A *P* value was viewed as significant when $P < .0025$. Cohen's d was determined to show effect size on the significant data.

References

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CHAPTER III

Manuscript

Background

Dietary intake is an important aspect of a child's life. The rate of obesity in the US is high, with children ages 2-19, the prevalence of obesity is 16.9%.[1] Obese children are at increased risk for psychological and physiological comorbidities including conditions such as depression, bone malformations, asthma, high blood pressure, type 2 diabetes mellitus.[2] Due to the fact that overweight children aged 5 years old are four times more likely to become obese individuals than healthy weight children,[3] obesity prevention in young children is critical. Prevention of childhood obesity begins by considering children's dietary intake.

The 2008 Feeding Infants and Toddlers Study examined daily consumption of foods for preschool aged children in the US.[4] Preschool aged children were consuming vegetables (70%), fruit (87%), grains (98%), and sweet or salty foods (86%).[4] More specifically, few children were consuming dark green or yellow vegetables (less than 15%), and twice the number of children are consuming white potatoes (31%).[4] Instead of whole fruits, 59% of children consuming fruit in the form of fruit juice.[4] Less than half of the grains being served were whole grains. Sixteen percent more children are consuming sweet and salty snacks compared to vegetables daily.[4]

Receiving a balanced diet at an early age is important not only for obesity prevention but also for developing taste preferences and food acceptability.[5] With guidance from caregivers and exposure to more healthful foods, young children learn to prefer more nutritious foods.[5] In particular, with healthful foods on the menu, there is the

potential to influence a child's development of food acceptability and taste preferences.[6] Due to the increasing numbers of children spending time outside of the home, community settings serving meals to children should be assessed for appropriate dietary menus.[7]

With approximately 11 million US children under the age of five in CCC daily, CCC meals are an important source of dietary exposures for children.[6] However, previous research suggests some shortfalls in CCC menus when compared against standards.[8-15] While various regional studies suggest CCC serve adequate amounts of dairy[11] and meat/meat alternatives, [16] they also suggest that CCC serve inadequate amounts of grains.[10,13,16] Conflicting results have been reported on fruits and vegetables. Studies report both adequate[14,17,18] and inadequate[10,16] servings of fruits and vegetables provided to child in CCC. To help improve local CCC menus, two interventions have been implemented in North Carolina.[19,20] Menus were collected pre and post an intervention workshop consisting of three, thirty-minute workshops at individual CCC.[19,20] While improvements were seen in the CCC menus, no significant were observed pre- to post workshop.[19,20]

Results of a study analyzing CCC menus in the central Texas area indicated that menus lacked adequate servings grains, vegetables and dairy.[16] This is of concern given that Texas has a high rate of childhood overweight and obesity, ranking fifth in the nation.[21] More specifically, the south central Texas area has an exceptionally high risk of childhood obesity.[22] Currently, no regional studies have been published on improving menus in CCC in the south central Texas area where there is a need for obesity prevention.

Previous studies have shown the poor dietary quality of CCC menus and the lack of effectiveness of interventions to improve CCC menus. New innovative workshop interventions incorporating a variety of learning tools should be employed to further educate directors and staff on creating healthful menus. The aim of this study is to evaluate the effectiveness of a multifaceted workshop intervention to improve meals (breakfast, morning snack, lunch and afternoon snack) served in CCC by increasing the amount of vegetables, whole fruit, and whole grains served, and decreasing the amount of fruit juice, refined grains, and oils served.

Methods

Study Design

This project was conducted under the umbrella of Best Food for Families, Infants, and Toddlers (Best Food FITS), a community coalition in south central Texas dedicated to reducing the risk of childhood obesity. Best Food FITS aims to combat obesity by making it easier for children to consume more fruits and vegetables, fewer sugar-sweetened beverages, and improve healthful practices in general. Specifically, the overall purpose of the Best Food FITS Child-Care project was to engage area CCC staff in improving the nutrition and health environment of their CCC.

This project included the following: (1) *Site Visit I*, a pre-assessment of the nutrition and physical activity environment of area CCC facilities; (2) *Workshop Intervention* for CCC staff, which included instruction on increasing physical activity, improving child nutrition, menu planning and on writing policies to improve CCC practices; (3) *Technical Support/Follow-Up* via telephone; and (4) *Site Visit II*, a post-assessment of the nutrition and physical activity environment (see Figure 3). This was a

multifaceted research project that examined many aspects of CCC's nutrition environment including menus, policy, environment, staff knowledge. This specific study analyzed the menus served in the eligible CCC. One month of menus were collected for each center during each *Site Visit 1* and *Site Visit II.* The university Institutional Review Board approved this study and all research practices were compliant.

Participants and Recruitment

Researchers compiled a list of the 98 CCCs located in Hays County, Texas (78666, 78667, and 78640 zip codes) and Bastrop County, Texas (78602 zip code), identified from licensing information on the Texas Department of Family and Protective Services website. The intention of recruitment was to obtain a sample of eligible centers which represented the CCCs within the counties and would allow their directors and staff to participate. Eligibility criteria included being a licensed center for the state of Texas and providing at least one meal (breakfast, lunch or dinner) or snack.

Centers were invited to participate in the study via recruitment call in February 2013. During the recruitment call, the director was informed of all components of the study including the incentives. If director was interested in his/her CCC participating, an initial visit was scheduled. Incentives for participation included grocery gift cards, continuing education (CE) credits for CCC staff, and a Best Food FITS tote bag. The grocery gift cards were to be allotted incrementally as CCC staff participated in various stages of the research project. Recruitment was completed during the initial site visit during which the researchers provided the consent forms to the CCC director and staff.

Workshop/Intervention

The child-care intervention for this project was a 5-hour workshop held at the Texas State Family and Consumer Sciences building on April 27, 2013. All directors and staff at participating CCC were invited. The workshop included (1) *Check-in*, (2) *Breakfast*, (3) *Lectures/Activities*, (4) *Lunch*, (5) *Focus Groups*, and (6) *Check-out*. To maintain the focus of the attendees, gifts such as Best Food FITS t-shirts, stickers, and tote bags were offered sporadically throughout the lecture portion of the workshop. At the end of the workshop, each CCC received the $25 gift card incentive, and each individual staff or director who attended the workshop received 5 (CE) credits.

The lecture topics consisted of childhood nutrition, physical activity, and policies. During the child nutrition lecture, the directors and staff were provided with specific information pertaining to obesity rates, healthful eating habits, good modeling behaviors, and menu improvements. The USDA's MyPlate tool was the main educational tool used to teach about healthful menus as recommended by the USDA and Academy of Nutrition and Dietetics. Interactive activities included a visual description of the participating CCC menus in word cloud form, and a "choose this and not that" breakfast, lunch, and snack activity. This portion of the workshop also included pre menu analysis for each meal served by individual CCC. CCC menus A quick analysis of CCC menus collected during the initial site visit was presented in a pie chart resembling MyPlate. In addition to their individual menus, an ideal MyPlate pie chart was given to each center, providing a visual picture of how their menu compared to the USDA recommendations. The researchers were available to answer any questions about the comparison during the workshop.

Menu analysis

A quick analysis of the menus occurred before the workshop intervention in order to give feedback to the sites. Menus were entered into an Excel spreadsheet and sorted by individual CCC. Each food item served was listed for each day for a month. Trained nutrition students quickly sorted each food item into ~~a~~ different MyPlate categories and sub-categories. The data was or were? converted into a pie chart format to resemble MyPlate and given to each CCC as feedback at the educational workshop.

After the workshop, a more detailed menu analysis occurred. Follow-up calls were made requesting clarification on specific menu items including ingredients and serving sizes. Menus were separated into different Excel spreadsheets depending on category of meal i.e., all morning snacks in one file. Each Excel file provided information on meal time, date served, and serving size. Using the USDA's SuperTracker, profiles were created for each CCC. Each menu was entered into SuperTracker for the corresponding meal times and days. If a specific type of food item was not specified on a menu, the most generic form of that item was chosen. For example, if a menu served muffins for morning snack, "muffin, plain" was entered into SuperTracker. After the menus were entered, food categories and calorie~~s~~ reports for each center were printed from the SuperTracker website. The food items served were classified into MyPlate categories and sub-categories as specified by the SuperTracker report and entered into an Excel spreadsheet. Then, the totals of categories/subcategories were calculated for each day and each month. This process was repeated after the follow-up site assessment. Lastly, data were checked randomly for quality assurance.

Data analysis

A univarate approach to mixed methods analysis was used to determine the associations between the independent and dependent variables. Syntax used can be seen in Appendix A. While other disciplines have used this method in their related fields, nutrition health and behavior research has been hesitant to utilize this multilevel approach (Warne 2012). This method has the ability to provide a greater depth of insight into nutrition-related behaviors (Warne 2012). To determine the effectiveness of the intervention on CCC menus, a hierarchical linear model (HLM) was used for every category of MyPlate previously described above. This model is appropriate to use because of multiple sources of random variation in this data. Differences in menu outcomes were analyzed by introducing an interaction term between meal time (breakfast, morning snack, lunch, and afternoon snack) and time (pre or post) in the model. The linear mixed method and frequencies of demographic characteristics of the CCC were calculated using SPSS (version 20.0 for Windows). The *P* values were adjusted for Bonferoni Corrections to eliminate Type I error. A *P* value was viewed as significant when $P < .0025$. Cohen's d was determined to show effect size on the significant data.

Results

Of the 98 CCC contacted, 34 CCC were scheduled for the initial site visit. From those 34 centers, 24 centers completed the study with useable menus. Nineteen centers attended the workshop and were classified as the intervention group. The remaining five centers were the control group. The descriptive characteristics for the control and intervention groups are presented in Table 12.

The overall pre- and post- mean amounts of food items served for breakfast, morning snack, lunch, and afternoon snack are described in Table 13 and Table 14 for the intervention and control groups, respectively. Food categories emphasized during the workshop are bolded. While improvements were seen in breakfast, morning snack, and afternoon snack CCC intervention group menus, the mean amount of food items served per category were not significantly different from pre- to post-. For lunch menus, the intervention CCC group had significantly more *total* vegetables, *red orange* vegetables and *other* vegetables, with mean increases of 0.198, 0.238, and 0.138, respectively ($P < 0.0025$). Figure 4 highlights the differences in means of lunch menu items classified into MyPlate categories. These food categories were emphasized at the workshop intervention. Cohen's d reveals medium to large effect sizes. No significant change was seen in any of the control group CCC menus from pre- to post-. Significance was adjusted using Bonferroni correction.

The fixed effects for each food category can be seen in Table 14. This table shows significant differences for food categories depending on when the items were served. A significant random effect was observed for the residual variance attributed to the CCCs included in the sample. The HLM analysis can identify the variation between CCCs, which would not be observed with a regular (non-hierarchical) regression approach. Results of the random effects for the intervention and control CCC can be seen in Table 15.

Table 3.1: Descriptive Characteristics of Participating Child-care Centers				
Characteristics of Child-Care Centers	**Intervention (n=19)**		**Control (n=5)**	
Facility	**(Mean±**	**SD)**	**(Mean±**	**SD)**
Length CCC open (years)	10.00±	10.11	8.00±	7.89
Maximum capacity of children	72.43±	73.09	49.80±	28.19
Children currently served	50.47±	53.36	43.60±	19.53
Meals and Menus				
Meals served:	**Total**	**(%)**	**Total**	**(%)**
Breakfast	10	(53)	5	(100)
Morning snack	8	(42)	0	(0)
Lunch	12	(63)	3	(60)
Afternoon snack	17	(89)	5	(100)
CACFP* (USDA) funding:				
Yes	10	(53)	5	(100)
No	9	(47)	0	(0)
Food prepared by:				
Director	3	(17)	0	(0)
Cook	5	(28)	2	(40)
Teachers	3	(17)	2	(40)
Off-site	2	(11)	1	(20)
Director + teacher	4	(22)	0	(0)
Director + cook	1	(6)	0	(0)
Menu approved by:				
Director	14	(78)	3	(60)
Kitchen manager/nutritionist	3	(17)	2	(40)
Company providing food	1	(5)	0	(0)
Menu help from:				
Registered dietitian	2	(13)	2	(40)
Previous menus	9	(56)	1	(20)
Other menu examples	2	(13)	1	(20)
Internet	3	(19)	1	(20)

Discussion

The Best Food FITS Child-Care Center project was designed to improve the menus and food environments of CCC. More specifically, this study aimed at improving the CCC menus. This study found that an interactive workshop intervention and technical support were effective tools to significantly improve CCC lunch menus. While interventions for CCC menu improvement exist, none have resulted in significant improvement to CCC menus. The difference between this study and similar workshop/intervention studies is the multifaceted workshop. Previous studies have utilized a 30-minute seminar workshop intervention to create change. This study used a

variety of interactive methods to significantly improve the menus including lectures, activities, and focus groups.

The fixed effects from HLM model (seen in Table 15) describes the differences the meal time had on the food categories served. The amounts of food items served at lunch were often significantly different than those served during snack. This could be explained by the different state and national food program requirements.

Although no significant improvements were seen in other meal times besides lunch, this study provides a more accurate depiction of the complete day of food items children are actually receiving. This is a novel approach to evaluate the complete menu served by the CCC. To our knowledge, no study has examined each meal time individually rather only examined separate meals such as snacks or lunches. This sentence doesn't make sense to me.

Other studies have used national USDA standards (MyPyramid, Food Guide Pyramid, and HEI-2005) as points of reference for their CCC menu analysis. While these standards are accurate, they are out of date compared to the new USDA MyPlate. This is the first study comparing CCC menus to the recommended MyPlate. The results of this study demonstrate that The MyPlate tool was an effective resource to improve CCC menus.

The relatively small sample size of CCC may seem like a limitation compared to other CCC studies, but our study generated a large amount of information Instead of evaluating many CCC menus for one day or one month, this study included a sample of CCC for 40 days (20 days before the workshop and 20 days after the workshop). The

volume of menus sampled provides a more accurate depiction of what CCC are actually serving compared to a single snapshot.

An additional limitation to our study is the possible inaccuracies of CCC menu. Previous studies have reported deviations of food items served compared to the CCC menus. Nonetheless, most of the changes were for foods within the same categories. Due to our categorical approach during the menu analysis, this limitation has little effect on our overall results. For example, a CCC substituting an apple to pear would not have a large impact on our results because they are substituting a whole fruit for a whole fruit. Another potential inaccuracy of the menu is the serving size. (Didn't we compare actual food served to what was on menu on the observation days? Might be worth mentioning.) Since we analyzed our data based on food categories/subcategories, actual serving sizes would not change our results.

Implications for Research and Practice

More multifaceted workshops should be used to help mediate change in CCC due to the increasing importance these facilities have on a child's growth and development. Due to the lack in significant changes found in the breakfast, morning snack, and afternoon snack additional focus and resources should be given to help improve in these areas.

Best Food FITS continues to evaluate the CCC overall environment. In depth analysis of CCC food environment including policies, and physical environmental assessment are being analyzed. In addition, Best Food FITS moves forward to look at the effect of the home food environment on a child's food preferences.

Table 3.2: Food Items Served by Food Category for Meal Pre and Post for the Intervention Group															
	Breakfast					**Lunch**					**Afternoon Snack**				
Food Category	Pre (Mean	±SD)	Post (Mean	±SD)	*P* Value	Pre (Mean	±SD)	Post (Mean	±SD)	*P* Value	Pre (Mean	±SD)	Post (Mean	±SD)	*P* Value
Grains: All	0.997	0.144	0.959	0.156	0.538	1.199	0.156	1.155	0.166	0.425	0.902	0.174	0.811	0.187	0.062
Grains: Whole†	0.397	0.117	0.368	0.129	0.568	0.035	0.128	0.087	0.135	0.250	0.091	0.140	0.031	0.148	0.131
Grains: Refined†	0.610	0.156	0.607	0.171	0.960	1.173	0.166	1.084	0.180	0.147	0.824	0.182	0.796	0.195	0.604
Vegetables: All†	0.048	0.126	0.072	0.141	0.673	1.522	0.132	1.720	0.142	0.000*	0.061	0.140	0.148	0.148	0.042
Vegetables: Dark Green†	-0.001	0.042	-0.004	0.048	0.897	0.090	0.045	0.115	0.048	0.160	0.020	0.047	0.013	0.051	0.604
Vegetables: Red/Orange†	0.002	0.084	0.004	0.093	0.947	0.550	0.083	0.788	0.090	0.000*	0.038	0.085	0.053	0.093	0.628
Vegetables: Beans/Peas†	0.003	0.051	0.006	0.057	0.909	0.156	0.052	0.173	0.055	0.415	0.004	0.051	0.015	0.055	0.538
Vegetables: Starchy†	0.038	0.075	0.035	0.084	0.934	0.475	0.076	0.418	0.083	0.066	0.020	0.076	0.023	0.085	0.902
Vegetables: Other†	-0.011	0.063	-0.006	0.105	0.895	0.537	0.097	0.675	0.104	0.000*	0.037	0.102	0.084	0.110	0.143
Fruits: All†	0.929	0.159	0.995	0.174	0.343	0.962	0.170	0.922	0.180	0.526	0.604	0.187	0.510	0.199	0.082
Fruits: Whole†	0.637	0.159	0.767	0.174	0.058	0.914	0.170	0.894	0.184	0.737	0.307	0.191	0.315	0.204	0.870
Fruits: Juice†	0.295	0.123	0.221	0.132	0.163	0.051	0.132	0.032	0.139	0.678	0.296	0.144	0.193	0.153	0.013
Dairy: All	0.824	0.210	0.761	0.225	0.467	1.108	0.232	1.055	0.246	0.501	0.265	0.267	0.319	0.280	0.447
Dairy: Milk/Yogurt	0.725	0.183	0.738	0.195	0.861	0.719	0.204	0.731	0.218	0.860	0.140	0.242	0.126	0.255	0.820
Dairy: Cheese	0.093	0.099	0.036	0.111	0.214	0.377	0.100	0.334	0.111	0.287	0.114	0.106	0.180	0.115	0.048
Protein: All	0.190	0.108	0.200	0.120	0.839	0.929	0.111	0.898	0.121	0.472	0.160	0.119	0.147	0.127	0.728
Protein: Seafood	0.000	0.027	0.001	0.030	0.938	0.063	0.028	0.049	0.031	0.233	0.000	0.030	0.000	0.030	0.973
Protein: Meat/ Poultry/Eggs	0.178	0.087	0.170	0.096	0.826	0.790	0.090	0.777	0.097	0.707	0.016	0.093	0.029	0.102	0.655

Table 3.2: Continued															
	Breakfast					**Lunch**					**Afternoon Snack**				
	Pre (Mean	±SD)	Post (Mean	± SD)	*P* value	Pre (Mean	±SD)	Post (Mean	±SD)	P value	Pre (Mean	±SD)	Post (Mean	±SD)	P value
Protein: Nuts/Seeds/Soy	0.009	0.081	0.014	0.090	0.885	0.104	0.087	0.177	0.090	0.030	0.145	0.089	0.118	0.098	0.344
Oils[+]	0.194	0.138	0.215	0.153	0.753	0.639	0.142	0.647	0.152	0.878	0.238	0.148	0.299	0.161	0.188

* $P < 0.0025$, Significance adjusted using Bonferroni correction; + Designated food categories emphasized during the intervention

Table 3.3: Food Items Served by Food Category for Meal Pre and Post for the Control Group															
	Breakfast					**Lunch**					**Afternoon Snack**				
Food Category	Pre (Mean	±SD)	Post (Mean	±SD)	*P* value	Pre (Mean	±SD)	Post (Mean	±SD)	*P* value	Pre (Mean	±SD)	Post (Mean	±SD)	*P* value
Grains: All	1.000	0.072	0.987	0.085	0.802	1.387	0.076	1.227	0.090	0.018	0.919	0.074	0.897	0.087	0.672
Grains: Whole[+]	0.354	0.092	0.394	0.107	0.501	0.016	0.092	0.006	0.109	0.901	0.086	0.092	0.056	0.107	0.609
Grains: Refined[+]	0.646	0.110	0.619	0.130	0.705	1.373	0.111	1.219	0.132	0.111	0.832	0.112	0.867	0.130	0.635
Vegetables: All[+]	0.074	0.132	0.050	0.154	0.778	1.990	0.132	1.853	0.156	0.223	0.093	0.134	0.037	0.157	0.509
Vegetables: Dark Green[+]	0.000	0.027	0.000	0.034	1.000	0.081	0.029	0.023	0.035	0.027	0.009	0.029	0.026	0.034	0.396
Vegetables: Red/Orange[+]	0.009	0.072	0.000	0.087	0.864	0.726	0.076	0.682	0.092	0.522	0.027	0.074	0.013	0.087	0.783
Vegetables: Beans/Peas[+]	0.035	0.056	0.038	0.069	0.946	0.290	0.061	0.227	0.071	0.242	0.036	0.058	0.013	0.069	0.565
Vegetables: Starchy[+]	0.031	0.101	0.013	0.116	0.768	0.745	0.095	0.680	0.113	0.414	0.003	0.101	-0.014	0.116	0.771
Vegetables: Other[+]	0.000	0.058	0.025	0.069	0.537	0.693	0.061	0.703	0.073	0.849	0.018	0.058	0.025	0.069	0.863
Fruits: All[+]	0.880	0.248	0.840	0.275	0.765	0.447	0.208	0.384	0.236	0.681	0.604	0.248	0.620	0.275	0.902

Table 3.3: Continued

	Breakfast					Lunch					Afternoon Snack				
	Pre (Mean	±SD)	Post (Mean	±SD)	*P* value	Pre (Mean	±SD)	Post (Mean	±SD)	*P* value	Pre (Mean	±SD)	Post (Mean	±SD)	*P* value
Fruits: Whole+	0.692	0.174	0.694	0.197	0.987	0.478	0.156	0.402	0.180	0.532	0.335	0.174	0.291	0.197	0.654
Fruits: Juice+	0.186	0.127	0.120	0.143	0.377	-0.023	0.116	-0.012	0.133	0.909	0.266	0.127	0.355	0.145	0.233
Dairy: All	1.134	0.148	1.069	0.168	0.452	1.289	0.133	1.096	0.156	0.076	0.440	0.150	0.445	0.168	0.956
Dairy: Milk/Yogurt	1.038	0.110	0.970	0.125	0.289	0.950	0.100	0.875	0.116	0.346	0.257	0.112	0.279	0.125	0.738
Dairy: Cheese	0.092	0.096	0.061	0.112	0.598	0.338	0.094	0.214	0.111	0.119	0.179	0.098	0.143	0.114	0.547
Protein: All	0.243	0.123	0.160	0.141	0.267	0.923	0.116	0.890	0.135	0.731	0.156	0.123	0.231	0.141	0.314
Protein: Seafood	0.000	0.025	0.000	0.029	1.000	0.065	0.026	0.068	0.031	0.873	0.000	0.025	0.000	0.029	1.000
Protein: Meat/ Poultry/Eggs	0.221	0.130	0.154	0.145	0.360	0.828	0.113	0.811	0.130	0.843	0.027	0.130	0.046	0.145	0.788
Protein: Nuts/Seeds/Soy	0.025	0.076	0.007	0.089	0.724	0.114	0.076	0.039	0.090	0.249	0.133	0.076	0.225	0.089	0.067
Oils+	0.216	0.123	0.207	0.145	0.910	0.839	0.126	0.634	0.151	0.062	0.322	0.125	0.389	0.145	0.354

* $P < 0.0025$, Significance adjusted using Bonferroni correction; + Designated food categories emphasized during the intervention

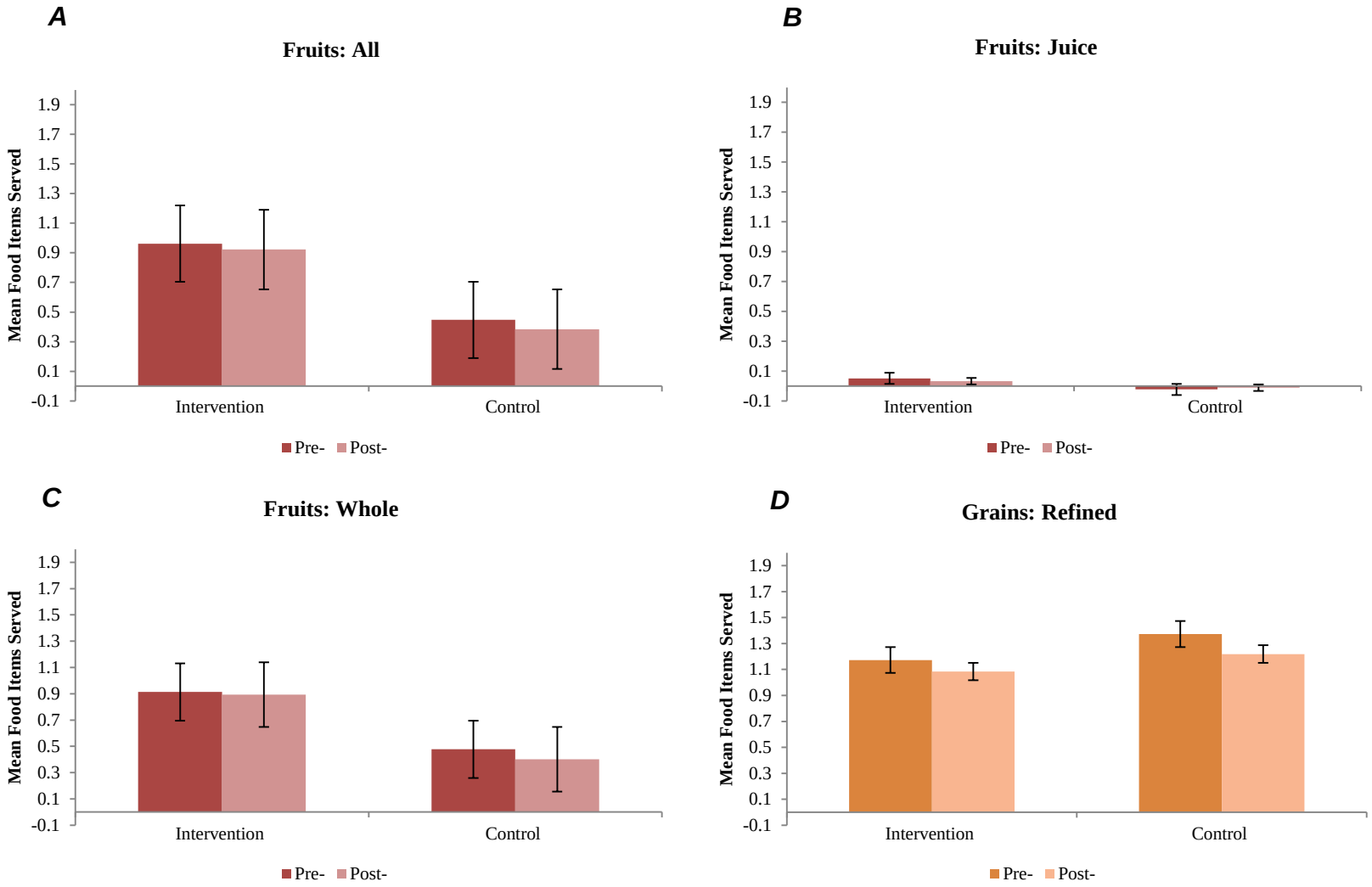

Figure 3.1: Mean Differences for Food Categories Emphasized During the Workshop Intervention from the Lunch Menus for Intervention and Control Groups. Graphs represent the 12 categories highlighted for change at the workshop intervention. The intervention group (n = 19) attended the workshop. The control group (n = 5) did not. * Significant difference between pre- and post- ($p<0.0025$) Significance was adjusted using Bonferroni correction.

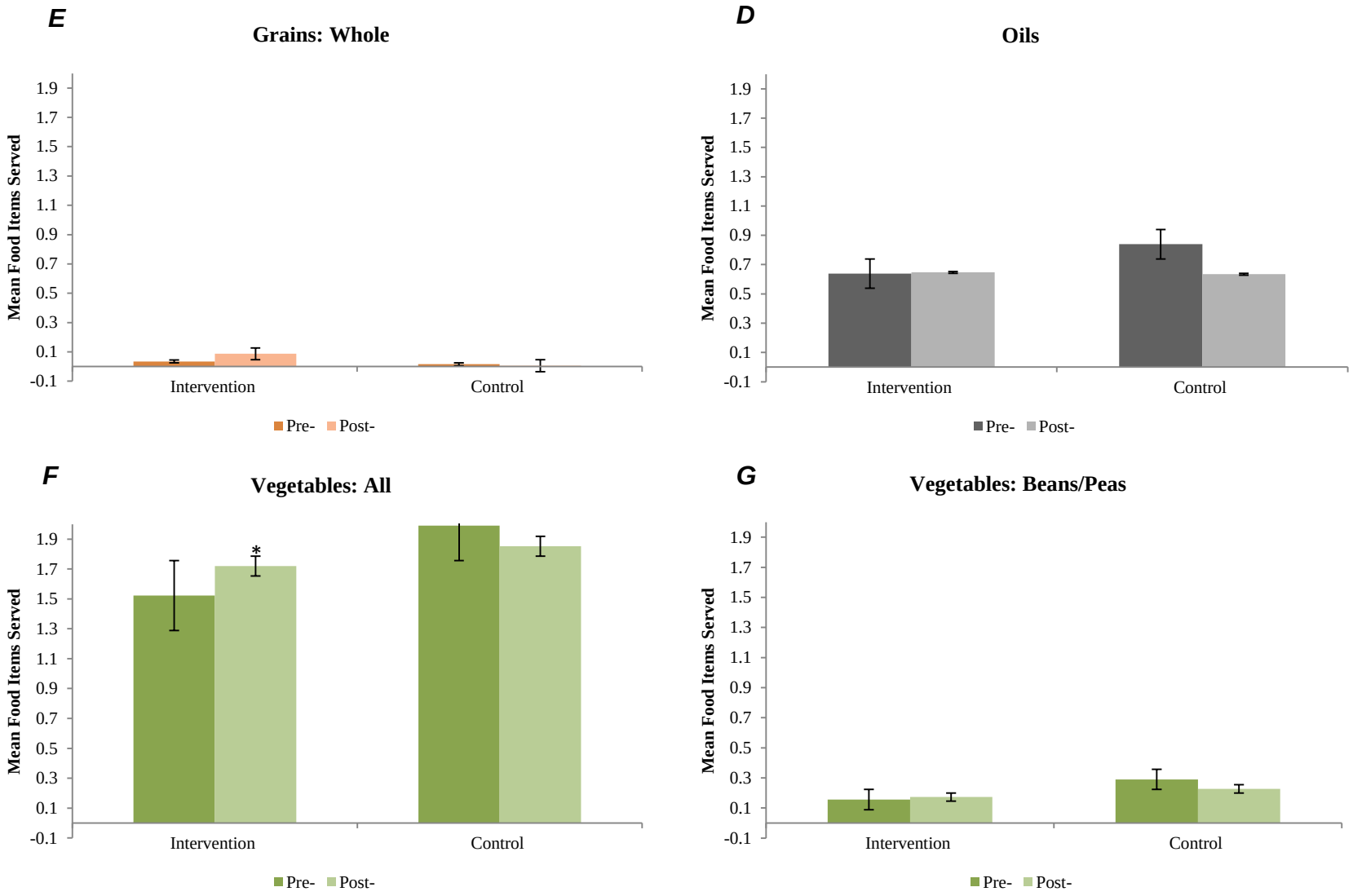

Figure 3.1: Continued

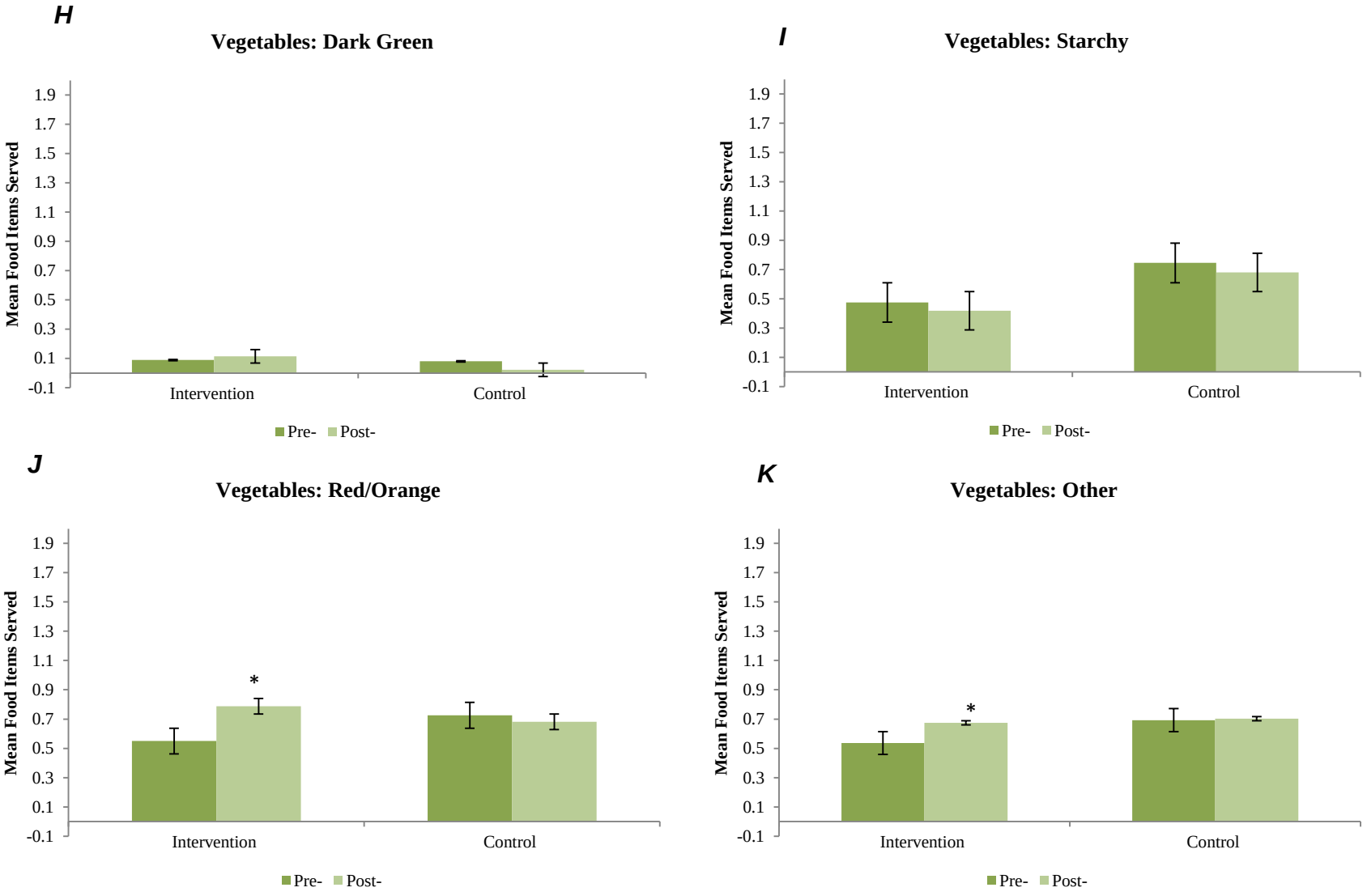

Figure 3.1: Continued

Table 3.4: Fixed Effects for the Food Categories for Intervention and Control Groups								
	Intervention				**Control**			
Independent Variable	Fixed Effects	SE	*P*	95% CI	Fixed Effects	SE	*P*	95% CI
Fruits: All								
Intercept	0.510	0.047	0.000	0.415, 0.604	0.620	.0123	0.001*	0.342, 0.898
Breakfast	0.485	0.513	0.000*	0.385, 0.587	0.220	0.072	0.002*	0.078, 0.361
Lunch	0.413	0.045	0.000*	0.325, 0.501	-0.236	0.091	0.010	-414, -0.057
Afternoon Snack	0.510	0.047	0.000	0.415, 0.604	0.620	.0123	0.001	0.342, 0.898
Pre-	0.943	0.053	0.082	-0.012, 0.201	-0.016	0.130	0.902	-0.302, 0.269
Post-	0.510	0.047	0.000	0.415, 0.604	0.620	.0123	0.001	0.342, 0.898
Pre- Breakfast	-0.161	0.068	0.019	-0.294, -0.027	0.056	0.094	0.550	-00128, 0.241
Post- Breakfast	0.510	0.047	0.000	0.415, 0.604	0.620	.0123	0.001	0.342, 0.898
Pre- Lunch	-0.055	0.061	0.364	-0.173, 0.064	0.079	0.118	0.506	-0.154, 0.311
Post- Lunch	0.510	0.047	0.000	0.415, 0.604	0.620	.0123	0.001	0.342, 0.898
Pre- Afternoon Snack	0.510	0.047	0.000	0.415, 0.604	0.620	.0123	0.001	0.342, 0.898
Post- Afternoon Snack	0.510	0.047	0.000	0.415, 0.604	0.620	.0123	0.001	0.342, 0.898
Fruits: Juice								
Intercept	0.193	0.036	0.000	0.121, 0.265	0.291	0.088	0.006	0.100, 0.482
Breakfast	0.028	0.038	0.465	-0.047, 0.102	0.403	0.072	0.000*	0.261, 0.544
Lunch	-0.161	0.033	0.000*	-0.023, -0.097	0.110	0.090	0.221	-0.067, 0.288
Afternoon Snack	0.193	0.036	0.000	0.121, 0.265	0.291	0.088	0.006	0.100, 0.482
Pre-	0.103	0.041	0.013	0.021, 0.184	0.044	0.098	0.654	-0.160, 0.249
Post-	0.193	0.036	0.000	0.121, 0.265	0.291	0.088	0.006	0.100, 0.482
Pre- Breakfast	-0.029	0.050	0.562	-.0128, 0.069	-0.045	0.094	0.625	-0.231, 0.139
Post- Breakfast	0.193	0.036	0.000	0.121, 0.265	0.291	0.088	0.006	0.100, 0.482
Pre- Lunch	-0.084	0.045	0.062	-0.171, 0.004	0.032	0.117	0.788	-0.199, 0.262
Post- Lunch	0.193	0.036	0.000	0.121, 0.265	0.291	0.088	0.006	0.100, 0.482
Pre- Afternoon Snack	0.193	0.036	0.000	0.121, 0.265	0.291	0.088	0.006	0.100, 0.482
Post- Afternoon Snack	0.193	0.036	0.000	0.121, 0.265	0.291	0.088	0.006	0.100, 0.482
Fruits: Whole								
Intercept	0.315	0.048	0.000	0.219, 0.412	0.355	0.064	0.000	0.216, 0.495
Breakfast	0.452	0.047	0.000*	0.360, 0.544	-0.235	0.057	0.000*	-0.346, -0.124
Lunch	0.578	0.041	0.000.*	0.498, 0.660	-0.368	0.070	0.000*	-0.506, -0.229
Afternoon Snack	0.315	0.048	0.000	0.219, 0.412	0.355	0.064	0.000	0.216, 0.495
Pre-	-0.009	0.053	0.870	-0.15, 0.098	-0.089	0.073	0.233	-0.241, 0.062

Table 3.4: Continued								
	Intervention				**Control**			
Independent Variable	Fixed Effects	SE	*P*	95% CI	Fixed Effects	SE	*P*	95% CI
Fruits: Whole								
Post-	0.315	0.048	0.000	0.219, 0.412	0.355	0.064	0.000	0.216, 0.495
Pre- Breakfast	-0.121	0.063	0.055	-0.244, 0.002	0.155	0.074	0.036	0.010, 0.299
Post- Breakfast	0.315	0.048	0.000	0.219, 0.412	0.355	0.064	0.000	0.216, 0.495
Pre- Lunch	0.030	0.056	0.599	-.080, 0.139	0.079	0.092	0.389	-0.101, 0.259
Post- Lunch	0.315	0.048	0.000	0.219, 0.412	0.355	0.064	0.000	0.216, 0.495
Pre- Afternoon Snack	0.315	0.048	0.000	0.219, 0.412	0.355	0.064	0.000	0.216, 0.495
Post- Afternoon Snack	0.315	0.048	0.000	0.219, 0.412	0.355	0.064	0.000	0.216, 0.495
Grains: Refined								
Intercept	0.797	0.046	0.000	0.703, 0.889	0.867	0058	0.000	0.748, 0.986
Breakfast	-0.190	0.050	0.000*	-0.288, -0.091	-0.248	0.071	0.001*	-0.387, -0.109
Lunch	0.288	0.044	0.000*	0.203, 0.373	0.352	0.086	0.000*	0.183, 0.521
Afternoon Snack	0.797	0.046	0.000	0.703, 0.889	0.867	0058	0.000	0.748, 0.986
Pre-	0.027	0.052	0.604	-0.077, 0.132	-0.034	0.072	0.635	-0.178, 0.109
Post-	0.797	0.046	0.000	0.703, 0.889	0.867	0058	0.000	0.748, 0.986
Pre- Breakfast	-0.024	0.066	0.719	-0.154, 0.106	0.061	0.092	0.507	-0.120, 0.242
Post- Breakfast	0.797	0.046	0.000	0.703, 0.889	0.867	0058	0.000	0.748, 0.986
Pre- Lunch	0.061	0.559	0.300	-0.054, 0.177	0.188	0.112	0.093	-0.032, 0.408
Post- Lunch	0.797	0.046	0.000	0.703, 0.889	0.867	0058	0.000	0.748, 0.986
Pre- Afternoon Snack	0.797	0.046	0.000	0.703, 0.889	0.867	0058	0.000	0.748, 0.986
Post- Afternoon Snack	0.797	0.046	0.000	0.703, 0.889	0.867	0058	0.000	0.748, 0.986
Grains: Whole								
Intercept	0.030	0.035	0.387	-0.040, 0.102	0.056	0.048	0.254	-0.043, 0.155
Breakfast	0.337	0.036	0.000*	0.266, 0.408	0.337	0.057	0.000	0.225, 0.450
Lunch	0.056	0.314	0.0747	-0.005, 0.118	-0.050	0.070	0.471	-0.187, 0.087
Afternoon Snack	0.030	0.035	0.387	-0.040, 0.102	0.056	0.048	0.254	-0.043, 0.155
Pre-	0.060	0.040	0.131	-0.018, 0.139	0.030	0.0590	0.609	-0.088, 0.148

Table 3.4: Continued								
	Intervention				**Control**			
Independent Variable	Fixed Effects	SE	*P*	95% CI	Fixed Effects	SE	*P*	95% CI
Grains: Whole								
Post-	0.030	0.035	0.387	-0.040, 0.102	0.056	0.048	0.254	-0.043, 0.155
Pre- Breakfast	-0.031	0.048	0.513	-0.126, 0.063	-0.070	0.074	0.349	-0.216, 0.077
Post- Breakfast	0.030	0.035	0.387	-0.040, 0.102	0.056	0.048	0.254	-0.043, 0.155
Pre- Lunch	-0.113	0.043	0.008	-0.196, -0.029	-0.021	0.090	0.821	-0.198, 0.158
Post- Lunch	0.030	0.035	0.387	-0.040, 0.102	0.056	0.048	0.254	-0.043, 0.155
Pre- Afternoon Snack	0.030	0.035	0.387	-0.040, 0.102	0.056	0.048	0.254	-0.043, 0.155
Post- Afternoon Snack	0.030	0.035	0.387	-0.040, 0.102	0.056	0.048	0.254	-0.043, 0.155
Oils								
Intercept	0.299	0.038	0.000	0.224, 0.375	0.380	0.066	0.000	0.266, 0.530
Breakfast	-0.085	0.053	0.112	-0.189, 0.020	-0.191	0.082	0.019	-.0352, -0.031
Lunch	0.348	0.047	0.000*	0.256, 0.440	0.0236	0.099	0.018	0.041, 0.431
Afternoon Snack	0.299	0.038	0.000	0.224, 0.375	0.380	0.066	0.000	0.266, 0.530
Pre-	-0.062	0.046	0.188	-0.153, 0.030	-0.076	0.082	0.354	-0.238, 0.086
Post-	0.299	0.038	0.000	0.224, 0.375	0.380	0.066	0.000	0.266, 0.530
Pre- Breakfast	0.041	0.070	0.558	-0.097, 0.180	0.085	0.106	0.424	-0.124, 0.294
Post- Breakfast	0.299	0.038	0.000	0.224, 0.375	0.380	0.066	0.000	0.266, 0.530
Pre- Lunch	0.053	0.063	0.403	-0.071, 0.177	0.281	0.129	0.029	0.028, 0.534
Post- Lunch	0.299	0.038	0.000	0.224, 0.375	0.380	0.066	0.000	0.266, 0.530
Pre- Afternoon Snack	0.299	0.038	0.000	0.224, 0.375	0.380	0.066	0.000	0.266, 0.530
Post- Afternoon Snack	0.299	0.038	0.000	0.224, 0.375	0.380	0.066	0.000	0.266, 0.530
Vegetables: All								
Intercept	0.148	0.035	0.000	0.078, 0.219	0.037	0.070	0.603	-0.106, 0.180
Breakfast	-0.076	0.047	0.105	-0.168, 0.016	0.014	0.080	0.867	-0.145, 0.172
Lunch	1.571	0.041	0.000*	1.491, 1.652	1.817	0.099	0.000*	1.623, 2.010
Afternoon Snack	0.148	0.035	0.000	0.078, 0.219	0.037	0.070	0.603	-0.106, 0.180
Pre-	-0.087	0.042	0.042	-0.171, -0.003	0.056	0.085	0.509	-0.113, 0.226
Post-	0.148	0.035	0.000	0.078, 0.219	0.037	0.070	0.603	-0.106, 0.180
Pre- Breakfast	0.063	0.0622	0.313	-0.059, 0.185	-0.033	0.15	0.757	-0.239, 0.174
Post- Breakfast	0.148	0.035	0.000	0.078, 0.219	0.037	0.070	0.603	-0.106, 0.180
Pre- Lunch	-0.112	0.056	0.045	-0.221, -0.002	0.081	0.128	0.528	-0.171, 0.332
Post- Lunch	0.148	0.035	0.000	0.078, 0.219	0.037	0.070	0.603	-0.106, 0.180

Table 3.4: Continued								
	Intervention				**Control**			
Independent Variable	Fixed Effects	SE	*P*	95% CI	Fixed Effects	SE	*P*	95% CI
Vegetables: All								
Pre- Afternoon Snack	0.148	0.035	0.000	0.078, 0.219	0.037	0.070	0.603	-0.106, 0.180
Post- Afternoon Snack	0.148	0.035	0.000	0.078, 0.219	0.037	0.070	0.603	-0.106, 0.180
Vegetables: Bean/Peas								
Intercept	0.015	0.013	0.277	-0.012, 0.041	0.013	0.031	0.679	-0.048, 0.074
Breakfast	-0.009	0.022	0.681	-0.051, 0.034	0.025	0.043	0.570	-0.061, 0.110
Lunch	0.159	0.019	0.000*	0.121, 0.196	0.214	0.051	0.000*	0.113-0.316
Afternoon Snack	0.015	0.013	0.277	-0.012, 0.041	0.013	0.031	0.679	-0.048, 0.074
Pre-	-0.011	0.018	0.538	-0.045, 0.024	0.023	0.040	0.565	-0.056, 0.102
Post-	0.015	0.013	0.277	-0.012, 0.041	0.013	0.031	0.679	-0.048, 0.074
Pre- Breakfast	0.008	0.029	0.780	-0.048, 0.065	-0.026	0.057	0.647	-0.137, 0.0855
Post- Breakfast	0.015	0.013	0.277	-0.012, 0.041	0.013	0.031	0.679	-0.048, 0.074
Pre- Lunch	-0.006	0.026	0.808	-0.057, 0.045	0.040	0.067	0.554	-0.092, 0.172
Post- Lunch	0.015	0.013	0.277	-0.012, 0.041	0.013	0.031	0.679	-0.048, 0.074
Pre- Afternoon Snack	0.015	0.013	0.277	-0.012, 0.041	0.013	0.031	0.679	-0.048, 0.074
Post- Afternoon Snack	0.015	0.013	0.277	-0.012, 0.041	0.013	0.031	0.679	-0.048, 0.074
Vegetables: Dark Green								
Intercept	0.013	0.012	0.276	-0.10, 0.035	0.026	0.015	0.088	-0.004, 0.055
Breakfast	-0.017	0.018	0.358	-0.053, 0.019	-0.026	0.021	0.225	-0.067, 0.016
Lunch	0.102	0.016	0.000*	0.071, 0.134	-0.003	0.025	0.907	-0.052, 0.046
Afternoon Snack	0.013	0.012	0.276	-0.10, 0.035	0.026	0.015	0.088	-0.004, 0.055
Pre-	0.008	0.015	0.604	-0.022, 0.038	-0.017	0.020	0.396	-0.055, 0.022
Post-	0.013	0.012	0.276	-0.10, 0.035	0.026	0.015	0.088	-0.004, 0.055
Pre- Breakfast	-0.005	0.024	0.835	-0.053, 0.042	0.017	0.028	0.546	-0.038, 0.071
Post- Breakfast	0.013	0.012	0.276	-0.10, 0.035	0.026	0.015	0.088	-0.004, 0.055
Pre- Lunch	-0.033	0.022	0.133	-0.076, 0.010	0.075	0.033	0.023	0.010, 0.139
Post- Lunch	0.013	0.012	0.276	-0.10, 0.035	0.026	0.015	0.088	-0.004, 0.055
Pre- Afternoon Snack	0.013	0.012	0.276	-0.10, 0.035	0.026	0.015	0.088	-0.004, 0.055
Post- Afternoon Snack	0.013	0.012	0.276	-0.10, 0.035	0.026	0.015	0.088	-0.004, 0.055
Vegetables: Red/Orange								
Intercept	0.053	0.022	0.018	0.009, 0.096	0.013	0.039	0.745	-0.065, 0.090
Breakfast	-0.048	0.036	0.190	-0.121, 0.024	-0.013	0.055	0.817	-0.122, 0.096

Table 3.4: Continued								
	Intervention				**Control**			
Independent Variable	Fixed Effects	SE	*P*	95% CI	Fixed Effects	SE	*P*	95% CI
Vegetables: Red/Orange								
Lunch	0.734	0.033	0.000*	0.670, 0.800	0.669	0.066	0.000*	0.540, 0.798
Afternoon Snack	0.053	0.022	0.018	0.009, 0.096	0.013	0.039	0.745	-0.065, 0.090
Pre-	-0.014	0.029	0.628	-0.072, 0.043	0.014	0.051	0.783	-0.087, 0.115
Post-	0.053	0.022	0.018	0.009, 0.096	0.013	0.039	0.745	-0.065, 0.090
Pre- Breakfast	0.012	0.049	0.816	-0.085, 0.109	-0.006	0.072	0.939	-0.148, 0.137
Post- Breakfast	0.053	0.022	0.018	0.009, 0.096	0.013	0.039	0.745	-0.065, 0.090
Pre- Lunch	-0.224	0.045	0.000*	-0.21, -0.136	0.030	0.086	0.729	-0.139, 0.198
Post- Lunch	0.053	0.022	0.018	0.009, 0.096	0.013	0.039	0.745	-0.065, 0.090
Pre- Afternoon Snack	0.053	0.022	0.018	0.009, 0.096	0.013	0.039	0.745	-0.065, 0.090
Post- Afternoon Snack	0.053	0.022	0.018	0.009, 0.096	0.013	0.039	0.745	-0.065, 0.090
Vegetables: Other								
Intercept	0.084	0.026	0.002	0.032, 0.135	0.025	0.031	0.423	-0.037, 0.087
Breakfast	-0.090	0.036	0.012	-0.160, -0.019	-0.000	0.043	0.994	-0.085, 0.084
Lunch	0.591	0.031	0.000*	0.530, 0.653	0.678	0.051	0.000*	0.577, 0.780
Afternoon Snack	0.084	0.026	0.002	0.032, 0.135	0.025	0.031	0.423	-0.037, 0.087
Pre-	-0.047	0.032	0.143	-0.109, 0.016	-0.007	0.040	0.863	-0.087, 0.073
Post-	0.084	0.026	0.002	0.032, 0.135	0.025	0.031	0.423	-0.037, 0.087
Pre- Breakfast	0.041	0.047	0.389	-0.052, 0.133	-0.018	0.057	0.755	-0.129, 0.093
Post- Breakfast	0.084	0.026	0.002	0.032, 0.135	0.025	0.031	0.423	-0.037, 0.087
Pre- Lunch	-0.092	0.042	0.031	-0.175, -0.008	-0.003	0.067	0.961	-0.136, 0.129
Post- Lunch	0.084	0.026	0.002	0.032, 0.135	0.025	0.031	0.423	-0.037, 0.087
Pre- Afternoon Snack	0.084	0.026	0.002	0.032, 0.135	0.025	0.031	0.423	-0.037, 0.087
Post- Afternoon Snack	0.084	0.026	0.002	0.032, 0.135	0.025	0.031	0.423	-0.037, 0.087
Vegetables: Starchy								
Intercept	0.023	0.020	0.239	-0.016, 0.062	-0.014	0.052	0.785	-0.123, 0.094
Breakfast	0.012	0.033	0.711	-0.052, 0.076	0.027	0.053	0.607	-0.077, 0.132
Lunch	0.395	0.029	0.000*	0.338, 0.452	0.695	0.066	0.000*	0.565, 0.824
Afternoon Snack	0.023	0.020	0.239	-0.016, 0.062	-0.014	0.052	0.785	-0.123, 0.094
Pre-	-0.003	0.026	0.902	-0.054, 0.048	0.018	0.061	0.771	-0.105, 0.141
Post-	0.023	0.020	0.239	-0.016, 0.062	-0.014	0.052	0.785	-0.123, 0.094
Pre- Breakfast	0.006	0.044	0.886	-0.079, 0.092	0.000	0.069	0.999	-0.137, 0.137

Table 3.4: Continued								
	Intervention				**Control**			
Independent Variable	Fixed Effects	SE	*P*	95% CI	Fixed Effects	SE	*P*	95% CI
Vegetables: Starchy								
Post- Breakfast	0.023	0.020	0.239	-0.016, 0.062	-0.014	0.052	0.785	-0.123, 0.094
Pre- Lunch	0.061	0.039	0.124	-0.016, 0.138	0.047	0.086	0.584	-0.121, 0.215
Post- Lunch	0.023	0.020	0.239	-0.016, 0.062	-0.014	0.052	0.785	-0.123, 0.094
Pre- Afternoon Snack	0.023	0.020	0.239	-0.016, 0.062	-0.014	0.052	0.785	-0.123, 0.094
Post- Afternoon Snack	0.023	0.020	0.239	-0.016, 0.062	-0.014	0.052	0.785	-0.123, 0.094

* P < 0.0025, Significance adjusted using Bonferroni correction

Table 3.5: Random Effects for the Food Categories for Intervention and Control Groups								
	Intervention				Control			
Parameter	Estimates	SE	*P*	95% CI	Estimates	SE	*P*	95% CI
Fruit: All								
Intercept Residual Variance	0.219	0.008	0.000	0.205, 0.235	0.205	0.103	0.000	0.181, 0.233
Agency Level Variance	0.012	.004	0.001	0.006, 0.022	0.026	0.015	0.079	0.009, 0.080
Fruit: Juice								
Intercept Residual Variance	0.119	0.004	0.000	0.111, 0.128	0.126	0.008	0.000	0.111, 0.143
Agency Level Variance	0.008	0.002	0.001	0.004, 0.013	0.005	0.003	0.122	0.002, 0.019
Fruit: Whole								
Intercept Residual Variance	0.184	0.006	0.000	0.172, 0.197	0.206	0.013	0.000	0.182, 0.234
Agency Level Variance	0.014	0.004	0.001	0.008, 0.025	0.011	0.007	0.103	0.003, 0.35
Grains: Refined								
Intercept Residual Variance	0.207	0.007	0.000	0.193, 0.222	0.198	0.013	0.000	0.174, 0.224
Agency Level Variance	0.011	0.004	0.002	0.006, 0.022	0.002	0.002	0.345	0.000, 0.014
Grains: Whole								
Intercept Residual Variance	0.108	0.004	0.000	0.101, 0.115	0.129	0.008	0.000	0.113, 0.146
Agency Level Variance	0.007	0.002	0.001	0.004, 0.014	0.001	0.001	0.318	0.000, 0.010
Oils								
Intercept Residual Variance	0.250	0.009	0.000	0.2334, 0.267	0.264	0.017	0.000	0.232, 0.300
Agency Level Variance	0.005	0.0019	0.013	0.002, 0.010	0.002	0.002	0.327	0.000, 0.014
Vegetables: All								
Intercept Residual Variance	0.190	0.007	0.000	0.178, 0.204	0.256	0.017	0.000	0.226, 0.291

Table 3.5: Random Effects for the Food Categories for Intervention and Control Groups								
	Intervention				Control			
Parameter	Estimates	SE	*P*	95% CI	Estimates	SE	*P*	95% CI
Vegetables: All								
Agency Level Variance	0.005	0.002	0.015	0.002, 0.011	0.003	0.003	0.215	0.001, 0.016
Vegetables: Bean/Peas								
Intercept Residual Variance	0.043	0.001	0.000	0.040, 0.046	0.075	0.005	0.000	0.066, 0.085
Agency Level Variance	0.000	0.000	0.072	0.000, 0.001	0.000	0.000		
Vegetables: Dark Green								
Intercept Residual Variance	0.030	0.001	0.000	0.028, 0.032	0.018	0.001	0.000	0.016, 0.020
Agency Level Variance	0.000	0.000	0.058	0.000, 0.001	0.000	0.000		
Vegetables: Red/Orange								
Intercept Residual Variance	0.130	0.004	0.000	0.122, 0.139	0.121	0.008	0.000	0.107, 0.138
Agency Level Variance	0.000	0.000	.0553	0.000, .008	0.000	0.000		
Vegetables: Other								
Intercept Residual Variance	0.111	0.004	0.000	0.104, 0.119	0.075	0.005	0.000	0.066, 0.085
Agency Level Variance	0.002	0.001	0.011	0.001, 0.005	0.000	0.000	0.923	0.000, 0.001
Vegetables: Starchy								
Intercept Residual Variance	0.100	0.003	0.000	0.093, 0.107	0.113	0.007	0.000	0.100, 0.128
Agency Level Variance	0.000	0.000	0.195	0.000, 0.001	0.003	0.002	0.146	0.001, 0.010
* $P < 0.0025$, Significance adjusted using Bonferroni correction								

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APPENDIX SECTION

1. Initial Call Script for Recruitment
2. Consent Forms
3. Confirmation Call Script
4. Director Interview Script
5. Test 1 - Staff
6. Test 1 - Director
7. Environmental Assessment Tool
8. Demographic Forms for Workshop
9. Childhood Nutrition Lecture
10. Demographic Form for Focus Groups
11. Focus Group Topics Outline
12. Workshop Tool Evaluation
13. Goal Sheet
14. Test 2 - Director & Staff
15. First Follow-Up Call Script
16. Second Follow-Up Call Script
17. Control Call Script to Schedule Final Visit
18. Test 3 - Director & Staff
19. Menu Scoring Guides
20. Pre and Post Average Menu Scores for Intervention and Control Groups
21. Syntax

1. Initial Call Script for Recruitment

Center Name:
Director/AD Name:
Phone number:

Hi my name is _____ and I am calling from Texas State University Nutrition and Foods program. Is the director available for me to speak with?

If they say "that's me": Great! May I ask who I am speaking with? Hi _____ I'm calling on behalf of Dr. Lesli Biediger-Friedman to invite you to participate in a community study on child-care centers about nutrition and we would like to offer you the chance to participate. We would really appreciate your involvement in our study. *(at this point continue with the director conversation from below)(They may have a response at this point as well)*

If someone other than the director answers: Hi my name is _____ and I am calling from Texas State University Nutrition and Foods program. Is the director available for me to speak with?

If the director is not available: When would be a good time for me to call back?

DAY (ask for the best day to call back) _____
TIME _____
Name of director_____
Name of person who you spoke with _____

If you are sent to the director: Hi _____ (ask for their name if they do not give it to you when they answer) my name is _____ and I'm calling on behalf of Dr. Lesli Biediger-Friedman to invite you to participate in a community study on child-care centers about nutrition and we would like to offer you the chance to participate. We would really appreciate your involvement in our study. *(at this point continue with the director conversation from below)(They may have a response at this point as well)*

Continue here:

May I tell you a little bit more about it?

When you participate in this project you will be given free CE credits, H-E-B gift cards, and some additional long term support.

On your fist site visit, 1 or 2 members of our team would come to your center and meet you and your staff. We would like you and each of your staff members to complete a short survey, we would also like to interview you, as well as observe a typical day in your child-care center. After we meet with you, we will be visiting 2 more times in the next 9 months with 1 or 2 people for a total of 3 on site visits. There will be a workshop provided for free CE credits for you and your staff.

In order to participate we need you to be available on the specific dates of the site visits, and attend the workshop.

Do you have any question (their name)_____

Are you interested in participating?

Questions they may ask:

Could you give me more information about the project? The focus of our work is nutrition and physical activity of children who attend child-care. We will use the information that we collect from this study to develop a program that will encourage physical activity and provide optimal nutrition for their development.

How long will you be here? How much time will you take? How much of my time will you need? (During this answer use what you need out of the following information) On the first visit we will need to meet with you for 30-45 minutes. We will also need every employee to fill out a survey which will take about 20 minutes. We are happy to be there before you open in order to not take away time from the children. We will need to stay most of the day for the first visit, but we will not be in your way, we will simply be observing.

What about the other visits? The second visit we won't need anything from you at all. We will just need to come and observe for the day again. The third visit we will need everyone to fill out another survey which will take about 20 minutes.

What is the workshop? The workshop will be held on Saturday, April the 27th. It will be

covering childhood nutrition. We will be providing classes on childhood nutrition, menu and policy writing.

If they ask more about the workshop: It will be several hours long with snacks served at the beginning and lunch at noon. We will also need everyone to fill out a very short survey at the beginning of the day and a little bit longer survey at the end of the day which will take about 20 minutes. After everyone has finished the survey we would like to hear from you, so there will be a short discussion group session held to wrap up the day.

What is this gift card? There will be $100 worth of gift cards to HEB given to you for the child-care center throughout the project. After the first visit we will give you $25. After the workshop, another $25, $25 for your 2nd site visit, and $25 for your 3rd site visit.

What is the support you are talking about? This is so if you want any help with menu or policy writing after the workshop, it will be easily available to you. Also if you need any help with implementation.

Do I need to get permission from parents? We will not be interacting with the children and therefore we will not need parental permission, but feel free to tell the parents about the project if you would like.

How will my data be kept confidential? There will not be any identifiable information shared, your information is private. Data will be locked in a file cabinet, in a locked room, and we will only use your information for research purposes.

Would you like to set up a time for us to come to your facility for the initial visit?

What day of the week is best for you? (We cannot do Wednesdays, if Monday it must be 8am or earlier)

What time works best for you; we can come as early as you need _____

This is the phone number that I have for you (repeat phone number) _____, is this best number to reach you?

Do you prefer that we contact you via phone or email? ☐Phone _____

If they say email, get an email address ☐Email _____

Could I please verify your physical address (state their physical address)(if this is not correct, ask for the correct address)? _____

If you would like to give me your email address I can send you a more detailed description of the project _____

We will let you know if for some reason we need to change your appointment.

Thank you for your time, if you have any questions you can contact our lead researcher Kristin Bates at 512-619-3404 or email her at KB47880@txstate.edu. Or you can contact anyone on our team at 512-245-6848 please leave a message if you are not able to reach us and we will return your call as soon as we can.

We look forward to seeing you (their name) _____ (repeat the date) _____ at (repeat the time)_____

*******FILL OUT THE NEXT PAGE WITH NOTES IMMEDIATELY AFTER YOU HANG UP THE PHONE*******

Notes about the call:

Who did you speak with? (name, male/female, etc)

Were they excited? Interested? Uninterested? If uninterested, why?

Were they talkative? Nice? Friendly? Mean? Harsh? Etc?

Anything else you noticed?

2. Consent Form to Participate in a Research Study

Title: Comprehensive Approach to Combat Obesity in Child-Care Centers

The project, 2013Q9495, was approved by the Texas State IRB on February 23, 2013. Pertinent questions or concerns about the research, research participants' rights, and/or research-related injuries to participants should be directed to the IRB chair, Dr. Jon Lasser (512-245-3413 - lasser@txstate.edu) and to Becky Northcut, Director, Research Integrity & Compliance (512-245-2314 - bnorthcut@txstate.edu).

Principal Investigator and Contact Information:

Texas State University – School of Family & Consumer Sciences

- Dr. Lesli Biediger-Friedman, RD, MPH, Assistant Professor
  Phone: 512.245.2621 Email: lb47@txstate.edu
- Dr. Sylvia Crixell, RD, Professor
  Phone: 512.789.6695 Email: scrixell@txstate.edu
- Dr. BJ Friedman, RD, Professor
  Phone: 512.245.8342 Email: bf04@txstate.edu
- Kristin Bates, BS, Graduate Student
  Phone: 512.619-3404 Email: kb47880@txstate.edu

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Directions
This form gives you information about this research study. Please read this form and ask questions about anything you do not understand. Please ask questions before deciding if you would like to help in this research study. You will get a copy of this form.

Why are we doing this research study?
The reason for this study is to learn about child-care centers in the community, including food, activities, practices, and policies that affect children. We also wish to learn about knowledge, thoughts, and ideas of workers. We will use this information to develop and offer a free workshop to offer continuing education (CE) training.

Why are we asking you to volunteer in this study?
We are asking you to help in a research study because:

- You are an owner, director, or worker of a child-care center in the community.
- Your experience and thoughts are important.

What will happen if you help us in this research study?

1. Initial Contact (Early Spring 2013). We will contact you first by phone, email, or by visiting your center. We will explain the study and give you a copy of the consent form.

2. First Child-Care Center Visit (Early Spring 2013). We will schedule a 2-4 hour visit to your center, during which we will:
   - Give a 20-minute survey (62 questions) to the owner/director. The survey will ask about the center (size, number and ages of children, hours, policies, personnel) and about knowledge, thoughts, and ideas about child-care.

- Give 20-minutes surveys (40 questions) to all workers. The survey will ask about knowledge, thoughts, and ideas about childcare.
- Observe the rooms in the center, including the kitchen, play areas, etc., and fill out research forms. We will also take pictures of where children eat and play.
- Ask for child-care menus from the previous month.
- Ask for written child-care policy/handbook.

3. Workshop (April 27, 2013). We will invite you to a workshop that is scheduled on a Saturday. This workshop will include training and provide free DFPS-approved* continuing education (CE) hours. Free snacks and lunch will be provided! For this workshop, we will ask you to bring menus from the previous month and policies from your child-care. During this workshop, we will:
    - Ask you to complete 20-minute surveys (51 questions) about knowledge, thoughts, and ideas about child-care center.
    - Give you feedback information about what we learned about your child-care center during the first visit.
    - Provide training about nutrition and physical activity for children.
    - Provide training about how to write and use policies about nutrition and physical activity in child-care centers.
    - Work together to write menus and policies for your child-care center.

4. Assistance (Spring-Summer 2013). After the workshop, we will offer help in writing and using menus and policies.

5. Second Child-Care Center Visit (Summer 2013). We will schedule a 2-3 hour meeting during which we will observe your child-care center as we did during the initial visit. We will also ask for child-care menus from the previous month.

6. Last Child-Care Center Visit (Summer-Fall 2013). We will schedule one last meeting during which we will give 20-minute surveys (48 questions) to all participants.

   *DFPS = Department of Family and Protective Services

What are the possible risks?

- There are no known risks in this study.
- It is important to know that we are researchers from Texas State University, and are not affiliated with any child-care licensing agency.

What are the possible benefits to you or to other people?

- This study may help you improve menus, physical activity practices, and policies in your child-care center.
- Child-Care centers with healthful menus and policies may be designated as "Best Food for Families, Infants, and Toddlers (Best Food FITS)" Child-Care Centers, and provided with Best Food FITS logo stickers and listed on the Best Food FITS web site (http://bestfoodfits.fcs.txstate.edu/).
- Results of this study may be used by other researchers to improve child-care center practices and policies.

Will you receive compensation for your participation in this study?

- After the first visit, your center will receive a $25 HEB grocery store gift card.
- At the workshop, you will receive free food and free DFPS-approved* CE hours. Your center will receive a $25 HEB grocery store gift card.
- After the last visit, your center will receive a $25 HEB grocery store gift card

How will we protect your privacy and your records?

- Information you provide on surveys will be private. The researchers will replace your name with a number on all electronic files.
- Information about individual child-care centers will be private. Any publications about this research study will not mention centers by name.
- All the records and information you provide will be kept in a locked file cabinet, in a locked room in the Family and Consumer Sciences (FCS) Building at Texas State University.
- All electronic information will be protected by a password known only to researchers.
- Only researchers from Texas State University and the Institutional Review Board have the legal right to look at your records. These people must protect those records by law. Your records will not be released unless you give consent, and unless required by law or a court order.
- If the results of this research study are published or presented at a scientific meeting, we will not identify any person who gave us information.
- By January 2024, after the data from this study are analyzed for research purposes, they will be discarded.

Will the researchers get anything from your help in this study*?*
The researchers will not benefit from the study except to publish or present the results.

If you have any questions about this study or your rights

- Contact Dr. Jon Lasser, Institutional Review Board chair at 512.245.3413 or lasser@txstate.edu or Ms. Becky Northcutt, Compliance Specialist at 512.245.2102.

What if you don't want to continue in the study?

- If you decide to help in this study, it is on a volunteer basis.
- You have the right to refuse to be in this study.
- You can stop at any time, even after giving your consent.
- The study investigators may stop you from taking part in this study at any time if they decide it is in your best interest, or if you do not follow study instructions.

We will give you a copy of this consent form to keep.

If you're willing to volunteer for this research, please sign below.

Statement of Consent:
I have read the above information and clearly understand my role as a participant in the study. I have asked questions and have received answers. I, _____, consent to participate in the study.

Signature: _____ Date: _____

Signature of Investigator: _____ Date: _____

Center Name: _____
Phone number:
Director Name: _____
Email: _____
director (call back):

3. Confirmation Call Script

Hello, my name is _____ and I am calling from Texas State University Nutrition and Foods program, may I speak to the director please?

If director not available: If you could please let the director know that Texas State University Nutrition and Foods program will be sending an email requesting some additional information about our visit to your facility on (date)_____.

Is this the correct email address? _____

Excellent, it may be easier for the director to speak to us on the phone. If you could have them call us back the number at the community lab is 512.245.6848 or 512-619-3404.

If director: Hello (Director's name), my name is _____ and I am calling from Texas State University Nutrition and Foods program to confirm our appointment the upcoming visit to your facility, give you some further details of our visit and see if you have any requests of us.

First of all, I have you scheduled for _____. Is this date/time still okay? yes

If not, Why? _____

Reschedule:_____

Will you (director) be there when we arrive? -

If yes, we will need your consent upon arrival

If no, is there someone else (assistant director, or staff member) to give us consent when we arrive or would you prefer us to reschedule for later that day?

Great (Director's name), now I just wanted to remind you of what we will be doing at our visit. Again, we will be meeting with you for about a 30-40 minute interview, observing lunch along with different features of your facility, as well as taking some measurements in your kitchen. In addition, we will be giving a survey to you and your staff members. I do have a few questions to ask you so that we can be as efficient as possible during our visit. Is that okay? (yes) Okay, great! If no, when would be a good time for me to call you back?

When is lunch served (snack or breakfast if applicable)? _____

Would it be better to do the interview with you before or after lunch? _____

How many staff will you have (DATE/TIME)?_____

Do you have any Spanish-only-speaking staff? _____

Do you have any staff that may prefer a Spanish-written survey?_____

If so, how many? _____

Okay wonderful, now I want to remind you that we will also be collecting copies of any written policies you have and also a month's worth of menus. It would be very helpful if you could provide these items upon our arrival. If you cannot provide us copies we are more than happy to make digital copies at your location.

Okay, is there anything you need from us? Nametags? ___ Driver's License? __ Other? _____

Okay (Director's name), we have everything we need from you, do you have any other questions for us? Have a great day and we will see you (DATE AND TIME)!

4. Director Interview Script

Turn recording on and read the statement below.

Hello _____ my name is _____ and I am going to be interviewing you for Best Food FITS with Child-Care Centers. Please state your name. Do you consent to being recorded? No one outside of our research team will hear this recording. After audio is transcribed we will take out all identifying information names, dates etc and delete original recording. Please answer each question to the best of your ability; there are not right or wrong answers. Please feel free to stop me at any time.

Interview questions with prompts for the director (trying to collect on menus, policies and procedures)

Menus

1. Who creates your menus
    a. Do parents have input on what is on the menu?
    b. Can staff provide input for the menus?

2. Do you have a separate menu for children according to their age range?
    a. How long is the menu cycle?
        i. 1 wk., 2 wks., 3 wks., 4 wks., other

3. Are meal times the same every day?
    a. Do children eat all together or in age groups?

4. What jobs are the staff preforming during meal times?

5. Who prepares food provided for meals and snacks?
    a. Are any foods prepared from scratch?
    b. Do you have a providing any of the food for meals or snacks?
    c. Are the children ever involved in the preparations for meals or snacks?
    d. Do the children have lessons involved in food preparation?

6. What type of seasonings to do you use?
    a. Pepper?
    b. Salt?
    c. Seasoning packets?
    d. Herbs?

7. How often are fruits provided during the week?
    a. How often are they fresh?
    b. If they are canned, are they packed in syrup or their own juices?
    c. Do you serve fruit juice?
    d. Do you consider fruit juice to be a serving of fruit?

8. How often are vegetables provided during the week?
    a. Are they raw?
    b. How are the vegetables cooked?
        i. In oil?
        ii. In butter?

9. How often during the week are French fries offered?
    a. Are they served with ketchup?
10. How often are chicken nuggets or other fried meats such as fish sticks offered during a week?
    a. Are they served with ketchup or other sauces?

11. What types of whole grains do you provide?
    a. Bread?
    b. Rice?
    c. Pasta?
    d. Crackers?

12. What beverages are served with meals? With snacks?
    a. Juice
    b. Do you serve any of the following: Sunny Delight; Punch; Kool-Aid; Gatorade; Capri Sun
    c. Water
    d. Milk, what type?
        i. Who decides which child gets particular milk?

13. Is water readily available for the children?
    a. Can they access it whenever they want or need to?

14. What is typically offered as a snack?
    a. What types of crackers are offered?
    b. How much are they given?

15. How do you decide what to serve as snacks?
    a. What is the biggest barrier you have to serve a variety of snacks?

16. If a child does not want to eat the food that is provided by the daycare do you let parents bring in their own food?
    a. What foods are allowed to be brought in?
    b. What foods are not allowed to be brought in?
    c. What information do you require before a parent can bring in food?

17. What happens when a child does not finish all of their food?
    a. Do staff encourage them to finish the rest?
    b. Is there a consequence for not finishing their food?
    c. Do staff ask children if they are full before removing the food?

18. Other than positive encouragement do you do anything else to encourage children to eat healthy foods?
    a. If yes, how?
    b. Is encouragement provided about why they should eat healthy foods?

19. Do you have any children that are on a special diet?

a. What are the diets?
b. How do you accommodate their special needs?

20. How are infants fed? Breast milk or formula?
    a. Are babies fed on demand or according to a schedule?
21. Are breastfeeding mothers encouraged to bring breast milk?
    a. Do you provide a place for storage?
    b. Do you record the amount of milk consumed?
    c. Is there a place for mothers to breastfeed on the premises?
    d. Do you think there are barriers to breast milk being brought in or to a mom coming here and feeding their baby?
    e. Do you think these barriers come from staff or parents?

22. Other than formula or breast milk, do you offer cow's milk to children under the age of 1? If so, what kind?
    a. Is there a restriction to how much is offered?

Physical Activity/Education

23. Do children participate in physical activity daily?
    a. How long each day?
    b. Is there an area to play inside?

24. Do you target physical activity or help facilitate movement for the following ages?
    a. How are infants encouraged to move?
    b. Toddlers?
    c. Pre-k?

25. In the event of bad weather such as rain or cold, how is physical activity obtained?
    a. Do kids play outdoors if at all possible?
    b. Do the kids play indoors?
    c. Do you have specific indoor activities?
    d. Do you skip physical activity that day?

26. Does staff ever lead games or activities that require physical activity?
    a. Do the children play "tag" or duck-duck goose?
    b. Do staff engage children in physical education?

27. Are there training opportunities provided for staff to learn how to teach physical education?

28. Physical activity education (motor-skill development) is provided for children through a standardized curriculum:
    a. Rarely or never
    b. 1 time per month
    c. 2-3 times per month

d. 1 time per week or more

29. How often is physical activity education offered to parents (workshops, activities and take home materials):
    a. Rarely or never
    b. Less than 1 time per year
    c. 1 time per year
    d. 2 times per year
30. Rate the average activity level of the children on a scale of 1-5

Infants

Infants

1	2	3	4 5
Sedentary	Slightly	Active	Moderately Intensively

Toddlers

1	2	3	4 5
Sedentary	Slightly	Active	Moderately Intensively

Pre-K

1	2	3	4 5
Sedentary	Slightly	Active	Moderately Intensively

Staff Training

31. Do you provide your staff with training opportunities other than what they receive to obtain their continuing education credits?
    a. Watching videos
    b. Workshops
    c. Stimulated scenarios
    d. Tests
    e. All of the above
    f. Other_____

32. How many times in a year are staff required to participate training other than continuing education classes?
    a. Once
    b. Twice
    c. More than twice

33. How long are these training sessions?
    a. Less than an hour
    b. 1-2 hours
    c. 2-3 hours

d. 3-4 hours
e. More than 4 hours

34. How often are workshops provided for staff?
    a. Once a year
    b. Twice a year
    c. More than twice a year

35. Training opportunities are provided for staff in physical activity (not including playground safety):
    a. Rarely or never
    b. Less than 1 time per year
    c. 1 time per year
    d. 2 times per year or more

36. Is there any specific nutrition topic that you would like to have discussed in the workshop?
    a. What about physical activity?
    b. Would you like for your staff to have more nutrition training?

Policies

1. Is there a written policy on physical activity that covers curriculum, education, and structured staff-led activities? Does it:
    a. not exist
    b. Exists informally, but is not written or followed?
    c. Is written, but not always followed
    d. Is written, available and followed

2. Do you have a specific written policy regarding parties (i.e. holidays or birthdays)?
    a. What is your policy regarding what food is allowed to be brought in?
    b. Do you have a hard time enforcing these policies?
    c. If yes, how do you enforce them?

3. Is there a written policy that is designed to address breast-feeding practices?

4. Do you feel that there are any difficulties with implementing any of your policies?
    a. How could these be overcome?

5. Is there any specific nutrition topic that you would like to have discussed in the workshop?
    a. What about physical activity?
        i. Would you like for your staff to have more nutrition training?

Is there anything that we haven't covered that you would like to talk about? Thank you very much for your time.

5. Test 1 - Staff

When completing the survey, please remember:

- ***Please do not leave any questions unanswered***
- We cannot use the surveys with unanswered questions and you will not be able to participate in the workshop for free continuing education credits.
    - There are no right or wrong answers
    - Follow each question's specific instructions
    - Answers and name will not appear published anywhere
    - Any identifiable information will be removed from the survey

Thank you for your participation!

This survey should take between 15-20 minutes; there are no right or wrong answers. Your part in participating in our Best Food FITS with Child-Care Center is very important. We thank you for taking the time to take this survey. Your answers will not be shared, they are private.

Your name_____

Your title_____

Length of time in this position _____

Date_____

Child-care facility name_____

How long has your child-care center been open? _____

Feeding Practices:

1. When caring for children, to help them become happy and healthy eaters:
   (please check yes or no for the following question about your personal opinions and thoughts)
    - I let the children eat wherever they want. _____yes _____no
    - We eat meals together. _____yes _____no
    - I serve all children the same food . _____yes _____no
    - I make the children eat foods I think are good for them. _____yes _____no
    - I let the children decide whether they want a second helping. _____yes _____no
    - I (we) only cook food the children will like. _____yes _____no
    - I insist on the children finishing their food before they leave the table. _____yes _____no
    - I let the children eat whenever they want. _____yes _____no
    - I leave food out on the table so the children can finish later on. _____yes _____no

- I let the children decide how much they should eat. _____yes _____no
- I encourage the children to eat what I think they should. _____yes _____no
- I make the children finish all of their meal before they can have dessert. _____yes _____no
- I let the children choose foods that they want from what is served at a meal. _____yes _____no
- I let the children eat snacks whenever they want. _____yes _____no
- I serve meals at about the same time every day. _____yes _____no
- I turn the TV off during mealtime. _____yes _____no

2. When feeding children in your care: **(please check yes or no for the following question about your personal opinions and thoughts)**
   - It's okay to cook different foods for a child if he or she doesn't like the meal. _____yes _____no
   - Children are able to decide how much they need to eat at a meal. _____yes _____no
   - It's a good idea to let a child decide what foods you should buy, because then he or she will eat them. _____yes _____no
   - Children should not be allowed to eat whenever they want. _____yes _____no
   - Child-care givers should make a children eat vegetables even if they don't like them. _____yes _____no
   - It's important for young children to eat meals with the family. _____yes _____no
   - A child may need to try a food many times before he or she likes it. _____yes _____no
   - To encourage the child to eat, it's all right to let him or her eat anywhere he or she wants. _____yes _____no
   - It's okay to offer a reward (such as dessert) to get a child to eat. _____yes _____no
   - Child-care givers should make sure the child doesn't eat too much. _____yes _____no

- Meals and snacks should usually be served at about the same time every day. _____yes _____no
- Child-care givers should make sure a child eats even if he/she doesn't want to. _____yes _____no
- Child-care givers should make sure the child finishes everything on his or her plate. _____yes _____no

3. What is the most important factor that affects what is on the menu? (age 1 & older) **(please circle one)**
   - Health
   - CACFP/USDA
   - Filling food
   - Pleasing the parents
   - Not applicable/I don't know

4. Are there rules regarding children having seconds? **(please check all that apply)**
   - ☐ Anything at anytime
   - ☐ Only if they finish some items
   - ☐ Only if they finish everything on their plate
   - ☐ Not applicable/I don't know

5. Check which of the following children are allowed to have seconds of: **(please check yes or no for the following)**:
   - Vegetables _____yes _____no
   - Crackers _____yes _____no
   - Fruit _____yes _____no
   - Juice _____yes _____no
   - Milk _____yes - _____no
   - Potatoes _____yes _____no
   - Meat _____yes _____no
   - Dessert or sweets other than fruit _____yes _____no

6. Do you serve food family style? (age 1 & older) **(please circle one)**
   - No
   - Yes
     - If yes, can children help themselves? **(please circle one)**

        - Yes
        - No
    - Not applicable/I don't know

7. Regarding sampling/taste-testing of unfamiliar foods and strategies to introduce new foods: (age 1 & older) **(please check all that apply)**:
    - ☐ Small serving of new food, taste-test samples
    - ☐ Children help to make the new foods
    - ☐ Routinely put new food that children haven't been served on the menu
    - ☐ None of the above, we prefer to stick to what we know children will like and eat
    - ☐ Not applicable/I don't know

8. Children are encouraged by staff to try a new or less favorite food: **(please circle one)**
    - Rarely or never
    - Some of the time
    - Most of the time
    - All of the time
    - Not applicable/I don't know

9. Staff join children at the table for meals: **(please circle one)**
    - Rarely or never
    - Some of the time
    - Most of the time
    - All of the time
    - Not applicable/I don't know

10. Staff consume the same food and drinks as the children: **(please circle one)**
    - Rarely or never
    - Some of the time
    - Most of the time
    - All of the time
    - Not applicable/I don't know

11. Staff eat or drink sweets, soda, and fast food in front of the children: **(please circle one)**
    - Rarely or never
    - Some of the time
    - Most of the time
    - All of the time
    - Not applicable/I don't know

12. Staff talk informally with children about trying and enjoying healthy foods: **(please circle one)**
    - Rarely or never

- Some of the time
- Most of the time
- All of the time
- Not applicable/I don't know

Policies

1. A written policy about food: **(please circle one)**
   - Does not exist
   - Exists informally, but is not written or followed
   - Is written, but not always followed
   - Is written, available, and followed
   - Not applicable/I don't know

2. A written policy about children's birthday parties and holidays: **(please circle one)**
   - Does not exist
   - Exists informally, but is not written or followed
   - Is written, but not always followed
   - Is written, available, and followed
   - Not applicable/I don't know

3. A written policy about access to water: **(please circle one)**
   - Does not exist
   - Exists informally, but is not written or followed
   - Is written, but not always followed
   - Is written, available, and followed
   - Not applicable/I don't know

4. A written policy on physical activity: **(please circle one)**
   - Does not exist
   - Exists informally, but is not written or followed
   - Is written, but not always followed
   - Is written, available, and followed
   - Not applicable/I don't know

5. A written policy about breastfeeding: **(please circle one)**
   - Does not exist
   - Exists informally, but is not written or followed
   - Is written, but not always followed
   - Is written, available, and followed
   - Not applicable/I don't know

Policies: Environment

1. Is there a written policy about any signs, posters, books that are displayed in the building? **(please circle one)**
   - Does not exist
   - Exists informally, but is not written or followed

- Is written, but not always followed
- Is written, available and followed
- Not applicable/I don't know

2. Do you regulate the foods that employees can eat or drink in front of the children? **(please circle one)**
   - Yes
   - No
   - Not applicable/I don't know

3. Do you regulate statements that employees can make to children about food? **(please circle one)**
   - Yes
   - No
   - Not applicable/I don't know

6. Are parents involved in developing policies? **(please circle one)**
   - No
   - Yes, please explain

     _____

     _____

     _____
   - Not applicable/I don't know

7. Meals are served family style (children serve themselves with limited help): **(please circle one)**
   - Rarely or never
   - Some of the time
   - Most of the time
   - All of the time
   - Not applicable/I don't know

8. Do you provide a designated space for mothers to nurse?
   - If yes, please describe this space

     _____

     _____

     _____
   - If no, please explain

     _____

     _____

     _____
   - Not applicable/I don't know

9. Children who misbehave are not allowed to play as a punishment: **(please circle one)**
   - Often
   - Sometimes

- Never
- Never and we provide more active play for good behavior
- Not applicable/I don't know

10. Television and video use consists of the: **(please circle one)**
    - TV/videos turned on for 5 or more hours per week
    - TV/videos turned on for 3-4 hours per week
    - TV/videos turned on 2 hours per week or less
    - TV/videos used rarely or never
    - Not applicable/I don't know

Responsibility Questions

1. What responsibility do you think the child-care center has for feeding children? **(please check yes or no for the following)**
    - Feed them so they are not hungry _____yes _____no
    - Provide a balance of nutrients _____yes _____no
    - Feed them as much as possible because they may not get enough food at home _____yes _____no
    - Not primary food provider. Children receive most nutrients outside of child-care. _____yes _____no

2. What is the child-care center's responsibility for breastfeeding? **(please check yes or no for the following)**
    - Encourage moms to come breastfeed during the day _____yes _____no
    - Allow moms to come breastfeed during the day _____yes _____no
    - Provide a room for moms to breastfeed _____yes _____no
    - Make it easy for mom to send breast milk _____yes _____no

3. What is the child-care center's responsibility for children getting physical activity? **(please circle one)**
    - Provide an environment for the children to play
    - Have staff guided play time
    - Encourage children to stay active during play time
    - Let the children enjoy play time in the way they like
    - Not applicable/I don't know

Infant Feeding

1. How is infant feeding handled at your child-care facility? **(please check all that apply)**
   - ☐ Mothers have a private area to breastfeed at the center.
   - ☐ Parents may provide prepared infant formula.
   - ☐ Parents may provide infant formula to be prepared by staff.
   - ☐ Mothers may provide breast milk in a bottle.
   - ☐ There is a refrigerator for mothers to store breast milk or prepared formula.
   - ☐ Parents may bring infant foods for the staff to feed to the child.
   - ☐ The center provides baby food for infants before they are 6 months old.
   - ☐ The center provides baby food for infants when they are 6-12 months old.
   - ☐ Not applicable/I don't know

2. Which is true about any educational information about infant feeding provided to staff, parents, or both? **(please check all that apply)**
   - ☐ None is provided
   - ☐ Information about breastfeeding is provided
   - ☐ Information about when and how to introduce first foods and beverages is provided **(please provide copies or write in information)**

     _____
     _____
     _____
   - ☐ Information about adding cereal to the bottle is provided
   - ☐ Not applicable/I don't know.

3. Which of the following is true about breastfeeding and infant formula? **(please check ONLY ONE column per statement)**
   - May raise IQ level
     ____breastfeeding ____formula ____neither
   - May lower risk of diabetes
     ____breastfeeding ____formula ____neither
   - May raise risk of obesity
     ____breastfeeding ____formula ____neither
   - May lower risk of ear infections
     ____breastfeeding ____formula ____neither
   - May lower the spread of germs
     ____breastfeeding ____formula ____neither
   - May lower risk of allergies, eczema, asthma
     ____breastfeeding ____formula ____neither

4. True or False? **(please check true or false for the following)**
   - Breastfed babies need extra water. ____T ____F
   - Breastfeeding is inconvenient for child-care staff. ____T ____F
   - Formula provides the same benefits as breastfeeding. ____T ____F

5. Infants 0 – 6 months should have: **(please check yes or no for the following)**

- Juice _____yes _____no
- Cereal _____yes _____no
- Formula _____yes _____no
- Breast milk _____yes _____no
- Baby food
    - Stage 1 _____yes _____no
    - Stage 2 _____yes _____no

Physical Activity

1. What is the usual total amount of time per day spent in play time? (when all children are moving) **(please circle one)**
    - 45 or less minutes
    - 46-90 minutes
    - 91-120 minutes
    - 121 minutes or greater
    - Not applicable/I don't know

2. During active play time, staff: **(please circle one)**
    - Supervise play only (mostly sit or stand)
    - Sometimes encourage children to be active
    - Sometimes encourage children to be active and join children in active play
    - Often encourage children to be active and join children in active play
    - Not applicable/I don't know

3. What ways do the children get physical activity? **(please check all that apply)**
    - ☐ Playing with toys
    - ☐ Walks
    - ☐ Running
    - ☐ Jumping
    - ☐ Playing with balls
    - ☐ Time in the sandbox
    - ☐ Riding a tricycle/bicycle
    - ☐ Time in swings or climbers
    - ☐ Structured physical activity lead by instructor
    - ☐ Jump rope

4. In the event of a weather change such as rain, how is physical activity obtained?
    - Please explain

      _____

      _____

_____

- Not applicable/I don't know

5. Teacher-led physical activity is provided to all children: **(please circle one)**
   - 1 time per week or less
   - 2-4 times per week
   - 1 time per day
   - 2 or more times per day
   - Not applicable/I don't know

6. Test 1 - Director

When completing the survey, please remember:

- ***Please do not leave any questions unanswered***
- We cannot use the surveys with unanswered questions and you will not be able to participate in the workshop for free continuing education credits.
  - There are no right or wrong answers
  - Follow each question's specific instructions
  - Answers and name will not appear published anywhere
  - Any identifiable information will be removed from the survey

Thank you for your participation!

This survey should take between 15-20 minutes; there are no right or wrong answers. Your part in participating in our Best Food FITS with Child-Care Center is very important. We thank you for taking the time to take this survey. Your answers will not be shared, they are private.

Your name_____

Your title_____

Length of time in this position _____

Date_____

Child-care facility name_____

How long has your child-care center been open? _____

About Your Child-Care Center:

1. What time does your facility open? **(please circle one)**
   - Please write in the time _____

2. What time does your facility close? **(please circle one)**
   - Please write in the time_____

3. How many months are you open in a year? _____

4. How many days in a week do the children attend? **(please circle one)**
   - 1 day a week
   - 2 days a week
   - 3 days a week
   - 4 days a week
   - 5 days a week
   - 6 days a week
   - 7 days a week

5. What ages do you admit into your facility? **(please check all that apply)**
   - ☐ 0 - 3 months
   - ☐ 4 – 7 months
   - ☐ 8 – 11 months
   - ☐ 1 – 2 years
   - ☐ 3 – 5 years
   - ☐ Afterschool program

6. What is the youngest age your facility accepts? _____

7. What is the oldest age your facility accepts? _____

8. How many children does your facility currently serve? _____
9. What is the maximum capacity of your facility? _____

10. How many classrooms do you have? _____

11. How many infants per classroom_____, toddlers per classroom _____, pre-K children per classroom _____

12. What is the total number of hired staff (including directors and their assistants, teachers, cooks, housekeeping, administrative staff)? _____

13. What is the total number of volunteer staff (including nursing and early childhood development students)? _____

14. Please describe who prepares food for your facility (for example; you, classroom teachers, cook, or all of these)? _____

15. What is the total number of teachers in your facility? _____

16. How many teachers have an associate's degree? ____

17. How many teachers have a bachelor's degree? _____

18. Who approves your menus **(please circle one)**
    - Director
    - Kitchen manager/ nutritionist
    - The company that supplies your food
    - A Registered Dietitian
    - Other: _____

19. How often do you create your menus? **(please circle one)**
    - Once a month
    - Once a week
    - Seasonally
    - 6-8 week cycle

20. What type of help do you get in writing your menu? **(please circle one)**
    - Registered Dietitian
    - Use previous menus
    - Use menu examples provided by others
    - Internet

21. Does your facility receive CACFP (USDA) funding for food? _____

22. Does your facility have a policy and procedure manual (other than a CACFP/USDA/licensing manual)? _____

Feeding Practices:

13. When caring for children, to help them become happy and healthy eaters: **(please check yes or no for the following question about your personal opinions and thoughts)**
    - I let the children eat wherever they want. _____yes _____no
    - We eat meals together. _____yes _____no
    - I serve all children the same food . _____yes _____no
    - I make the children eat foods I think are good for them. _____yes _____no
    - I let the children decide whether they want a second helping. _____yes _____no
    - I (we) only cook food the children will like. _____yes _____no
    - I insist on the children finishing their food before they leave the table. _____yes _____no
    - I let the children eat whenever they want. _____yes _____no
    - I leave food out on the table so the children can finish later on. _____yes _____no
    - I let the children decide how much they should eat. _____yes _____no
    - I encourage the children to eat what I think they should. _____yes _____no
    - I make the children finish all of their meal before they can have dessert. _____yes _____no
    - I let the children choose foods that they want from what is served at a meal. _____yes _____no
    - I let the children eat snacks whenever they want. _____yes _____no
    - I serve meals at about the same time every day. _____yes _____no
    - I turn the TV off during mealtime. _____yes _____no

14. When feeding children in your care: **(please check yes or no for the following question about your personal opinions and thoughts)**

- It's okay to cook different foods for a child if he or she doesn't like the meal. _____yes _____no
- Children are able to decide how much they need to eat at a meal. _____yes _____no
- It's a good idea to let a child decide what foods you should buy, because then he or she will eat them. _____yes _____no
- Children should not be allowed to eat whenever they want. _____yes _____no
- Child-care givers should make a children eat vegetables even if they don't like them. _____yes _____no
- It's important for young children to eat meals with the family. _____yes _____no
- A child may need to try a food many times before he or she likes it. _____yes _____no
- To encourage the child to eat, it's all right to let him or her eat anywhere he or she wants. _____yes _____no

- It's okay to offer a reward (such as dessert) to get a child to eat. _____yes _____no
- Child-care givers should make sure the child doesn't eat too much. _____yes _____no
- Meals and snacks should usually be served at about the same time every day. _____yes _____no
- Child-care givers should make sure a child eats even if he/she doesn't want to. _____yes _____no
- Child-care givers should make sure the child finishes everything on his or her plate. _____yes _____no

15. What is the most important factor that affects what is on the menu? (age 1 & older) **(please circle one)**
    - Health
    - CACFP/USDA
    - Filling food
    - Pleasing the parents
    - Not applicable/I don't know

16. Are there rules regarding children having seconds? **(please check all that apply)**
    - ☐ Anything at anytime
    - ☐ Only if they finish some items
    - ☐ Only if they finish everything on their plate
    - ☐ Not applicable/I don't know

17. Check which of the following children are allowed to have seconds of: **(please check yes or no for the following)**:
    - Vegetables _____yes _____no
    - Crackers _____yes _____no
    - Fruit _____yes _____no
    - Juice _____yes _____no
    - Milk _____yes - _____no
    - Potatoes _____yes _____no
    - Meat _____yes _____no
    - Dessert or sweets other than fruit _____yes _____no

18. Do you serve food family style? (age 1 & older) **(please circle one)**
    - No
    - Yes
        - If yes, can children help themselves? **(please circle one)**
            - Yes
            - No
    - Not applicable/I don't know

19. Regarding sampling/taste-testing of unfamiliar foods and strategies to introduce new foods: (age 1 & older) **(please check all that apply)**:
    - ☐ Small serving of new food, taste-test samples
    - ☐ Children help to make the new foods
    - ☐ Routinely put new food that children haven't been served on the menu
    - ☐ None of the above, we prefer to stick to what we know children will like and eat
    - ☐ Not applicable/I don't know

20. Children are encouraged by staff to try a new or less favorite food: **(please circle one)**
    - Rarely or never

- Some of the time
- Most of the time
- All of the time
- Not applicable/I don't know

21. Staff join children at the table for meals: **(please circle one)**
    - Rarely or never
    - Some of the time
    - Most of the time
    - All of the time
    - Not applicable/I don't know

22. Staff consume the same food and drinks as the children: **(please circle one)**
    - Rarely or never
    - Some of the time
    - Most of the time
    - All of the time
    - Not applicable/I don't know

23. Staff eat or drink sweets, soda, and fast food in front of the children: **(please circle one)**
    - Rarely or never
    - Some of the time
    - Most of the time
    - All of the time
    - Not applicable/I don't know

24. Staff talk informally with children about trying and enjoying healthy foods: **(please circle one)**
    - Rarely or never
    - Some of the time
    - Most of the time
    - All of the time
    - Not applicable/I don't know

Policies

11. A written policy about food: **(please circle one)**
    - Does not exist
    - Exists informally, but is not written or followed
    - Is written, but not always followed
    - Is written, available, and followed
    - Not applicable/I don't know

12. A written policy about children's birthday parties and holidays: **(please circle one)**
    - Does not exist

- Exists informally, but is not written or followed
- Is written, but not always followed
- Is written, available, and followed
- Not applicable/I don't know

13. A written policy about access to water: **(please circle one)**
- Does not exist
- Exists informally, but is not written or followed
- Is written, but not always followed
- Is written, available, and followed
- Not applicable/I don't know

14. A written policy on physical activity: **(please circle one)**
- Does not exist
- Exists informally, but is not written or followed
- Is written, but not always followed
- Is written, available, and followed
- Not applicable/I don't know

15. A written policy about breastfeeding: **(please circle one)**
- Does not exist
- Exists informally, but is not written or followed
- Is written, but not always followed
- Is written, available, and followed
- Not applicable/I don't know

Policies: Environment

4. Is there a written policy about any signs, posters, books that are displayed in the building? **(please circle one)**
- Does not exist
- Exists informally, but is not written or followed
- Is written, but not always followed
- Is written, available and followed
- Not applicable/I don't know

5. Do you regulate the foods that employees can eat or drink in front of the children? **(please circle one)**
- Yes
- No
- Not applicable/I don't know

6. Do you regulate statements that employees can make to children about food? **(please circle one)**
- Yes
- No
- Not applicable/I don't know

16. Are parents involved in developing policies? **(please circle one)**
    - No
    - Yes, please explain

      _____
      _____
      _____
    - Not applicable/I don't know

17. Meals are served family style (children serve themselves with limited help): **(please circle one)**
    - Rarely or never
    - Some of the time
    - Most of the time
    - All of the time
    - Not applicable/I don't know

18. Do you provide a designated space for mothers to nurse?
    - If yes, please describe this space

      _____
      _____
      _____
    - If no, please explain

      _____
      _____
      _____
    - Not applicable/I don't know

19. Children who misbehave are not allowed to play as a punishment: **(please circle one)**
    - Often
    - Sometimes
    - Never
    - Never and we provide more active play for good behavior
    - Not applicable/I don't know

20. Television and video use consists of the: **(please circle one)**
    - TV/videos turned on for 5 or more hours per week
    - TV/videos turned on for 3-4 hours per week
    - TV/videos turned on 2 hours per week or less
    - TV/videos used rarely or never
    - Not applicable/I don't know

Responsibility Questions

4. What responsibility do you think the child-care center has for feeding children? **(please check yes or no for the following)**
    - Feed them so they are not hungry _____yes
      _____no

- Provide a balance of nutrients _____yes _____no
- Feed them as much as possible because they may not get enough food at home _____yes _____no
- Not primary food provider. Children receive most nutrients outside of child-care. _____yes _____no

5. What is the child-care center's responsibility for breastfeeding? **(please check yes or no for the following)**
   - Encourage moms to come breastfeed during the day _____yes _____no
   - Allow moms to come breastfeed during the day _____yes _____no
   - Provide a room for moms to breastfeed _____yes _____no
   - Make it easy for mom to send breast milk _____yes _____no

6. What is the child-care center's responsibility for children getting physical activity? **(please circle one)**
   - Provide an environment for the children to play
   - Have staff guided play time
   - Encourage children to stay active during play time
   - Let the children enjoy play time in the way they like
   - Not applicable/I don't know

Infant Feeding

6. How is infant feeding handled at your child-care facility? **(please check all that apply)**
   - ☐ Mothers have a private area to breastfeed at the center.
   - ☐ Parents may provide prepared infant formula.
   - ☐ Parents may provide infant formula to be prepared by staff.
   - ☐ Mothers may provide breast milk in a bottle.
   - ☐ There is a refrigerator for mothers to store breast milk or prepared formula.
   - ☐ Parents may bring infant foods for the staff to feed to the child.
   - ☐ The center provides baby food for infants before they are 6 months old.
   - ☐ The center provides baby food for infants when they are 6-12 months old.
   - ☐ Not applicable/I don't know

7. Which is true about any educational information about infant feeding provided to staff, parents, or both? **(please check all that apply)**
   - ☐ None is provided
   - ☐ Information about breastfeeding is provided
   - ☐ Information about when and how to introduce first foods and beverages is provided **(please provide copies or write in information)**

_____
_____
_____

- ☐ Information about adding cereal to the bottle is provided
- ☐ Not applicable/I don't know.

8. Which of the following is true about breastfeeding and infant formula? **(please check ONLY ONE column per statement)**
   - May raise IQ level
     ____breastfeeding ____formula ____neither
   - May lower risk of diabetes
     ____breastfeeding ____formula ____neither
   - May raise risk of obesity
     ____breastfeeding ____formula ____neither
   - May lower risk of ear infections
     ____breastfeeding ____formula ____neither
   - May lower the spread of germs
     ____breastfeeding ____formula ____neither
   - May lower risk of allergies, eczema, asthma
     ____breastfeeding ____formula ____neither

9. True or False? **(please check true or false for the following)**
   - Breastfed babies need extra water. ____T ____F
   - Breastfeeding is inconvenient for child-care staff. ____T ____F
   - Formula provides the same benefits as breastfeeding. ____T ____F

10. Infants 0 – 6 months should have: **(please check yes or no for the following)**
    - Juice _____yes
      _____no
    - Cereal _____yes
      _____no
    - Formula _____yes
      _____no
    - Breast milk _____yes
      _____no
    - Baby food
      - Stage 1 _____yes
        _____no
      - Stage 2 _____yes
        _____no

Physical Activity

6. What is the usual total amount of time per day spent in play time? (when all children are moving) **(please circle one)**
   - 45 or less minutes

- 46-90 minutes
- 91-120 minutes
- 121 minutes or greater
- Not applicable/I don't know

7. During active play time, staff: **(please circle one)**
   - Supervise play only (mostly sit or stand)
   - Sometimes encourage children to be active
   - Sometimes encourage children to be active and join children in active play
   - Often encourage children to be active and join children in active play
   - Not applicable/I don't know

8. What ways do the children get physical activity? **(please check all that apply)**
   - ☐ Playing with toys
   - ☐ Walks
   - ☐ Running
   - ☐ Jumping
   - ☐ Playing with balls
   - ☐ Time in the sandbox
   - ☐ Riding a tricycle/bicycle
   - ☐ Time in swings or climbers
   - ☐ Structured physical activity lead by instructor
   - ☐ Jump rope

9. In the event of a weather change such as rain, how is physical activity obtained?
   - Please explain
     _____
     _____
     _____
   - Not applicable/I don't know

10. Teacher-led physical activity is provided to all children: **(please circle one)**
    - 1 time per week or less
    - 2-4 times per week
    - 1 time per day
    - 2 or more times per day
    - Not applicable/I don't know

7. Environmental Assessment Tool

Kitchen Area

Please answer every question as thoroughly as possible. DO NOT SKIP ANY QUESTIONS.

Terms: Infant: 6 wks-15 months. Toddler: 16 months – 24 months. Pre-K: 25 months – 5 yrs

- ☐ ***Not Applicable***

REFIGERATOR

- ☐ There is no refrigerator

1. How large is the refrigerator?
   - ☐ Please measure the refrigerator with the measuring tape and write down the measurements.

	Length	Width	Height
Total Area			
Fruit storage			
Vegetable storage			
Sweetened beverages			
Milk			
Whole			
Low-fat			
Skim			

2. Do you see fresh ***FRUIT***?
   - ☐ No
   - ☐ Yes
     - What kind of ***FRESH FRUIT*** do you see? (please check all that apply)
       - ☐ Apples
       - ☐ Oranges
       - ☐ Bananas
       - ☐ Grapes
       - ☐ Melon
       - ☐ Peaches
       - ☐ Berries
       - ☐ Pineapple
       - ☐ Other:_____
   - ☐ _____Total number of types of fresh fruit

3. Do you see ***FRESH VEGETABLES***?

- ☐ No
- ☐ Yes
  - What kind of fresh vegetables do you see? (please check all that apply)
    - ☐ Carrots
    - ☐ Squash
    - ☐ Celery
    - ☐ Leafy Greens
    - ☐ Lettuce (iceberg)
    - ☐ Cauliflower
    - ☐ Cucumber
    - ☐ Broccoli
    - ☐ Peppers

□ Other:_ ___
_____

□ _____Total number of types of fresh vegetables

Refrigerator/Freezer Combo

□ There is no refrigerator/freezer combo

4. How large is the refrigerator/freezer combo

	Length	Width	Height
Total Area			
Refrigerator fruit storage			
Freezer fruit storage			
Vegetable storage Refrigerator			
Vegetable storage Refrigerator			
Sweetened beverages Freezer sweetened beverages			
Milk			
Whole			
Low-fat			
Skim			

5. Do you see fresh **FRUIT**?
   - □ No
   - □ Yes
     - What kind of **FRESH FRUIT** do you see? (please check all that apply)

□ Apples □ Grapes □ Pineapple
□ Oranges □ Melon □ Other:_____
□ Bananas □ Peaches
□ Berries

□ _____Total number of types of fresh fruit

6. Do you see **FRESH VEGETABLES**?
   - □ No
   - □ Yes
     - What kind of fresh vegetables do you see? (please check all that apply)

- ☐ Carrots
- ☐ Squash
- ☐ Celery
- ☐ Leafy Greens
- ☐ Lettuce (iceberg)
- ☐ Cauliflower
- ☐ Cucumber
- ☐ Broccoli
- ☐ Peppers
- ☐ Other:_____

☐ _____Total number of types of fresh vegetables

7. Do you see **FROZEN FRUIT** in the freezer?
   - ☐ No
   - ☐ Yes
     - What kind of frozen fruit do you see? (please check all that apply)
       - ☐ Berries
       - ☐ Peaches
       - ☐ Cherries
       - ☐ Mixed Fruit
       - ☐ Fruit Juice
       - ☐ Other:_____

       _____Total number of types of frozen fruit

8. Do you see **FROZEN VEGETABLES** in the freezer?
   - ☐ No
   - ☐ Yes
     - What kind of frozen vegetables do you see? (please check all that apply)
       - ☐ Corn
       - ☐ Green Beans
       - ☐ Carrots
       - ☐ Potatoes
       - ☐ Broccoli
       - ☐ Other:_____

       _____Total number of types of frozen vegetables

Box FREEZER

☐ There is no box freezer

9. How large is the freezer

	Length	Width
Total Area		
Fruit storage		
Vegetable storage		
Sweetened beverages		

10. Do you see **FROZEN FRUIT** in the freezer?
    - ☐ No
    - ☐ Yes
      - What kind of frozen fruit do you see? (please check all that apply)
        - ☐ Berries
        - ☐ Peaches
        - ☐ Cherries

- ☐ Mixed Fruit
- ☐ Fruit Juice
- ☐ Other:_____

_____Total number of types of frozen fruit

11. Do you see **FROZEN VEGETABLES** in the freezer?

- ☐ No
- ☐ Yes
  - What kind of frozen vegetables do you see? (please check all that apply)
    - ☐ Corn
    - ☐ Green Beans
    - ☐ Carrots
    - ☐ Potatoes
    - ☐ Broccoli
    - ☐ Other:_____

_____Total number of types of frozen vegetables

DRY STORAGE

- ☐ There is no dry storage

12. How large is the dry storage space. (please check all that apply)

	Length	Width
Fruit storage		
Vegetable storage		
Sweetened beverages		

13. Do you see **CANNED VEGETABLES** anywhere?

- ☐ No
- ☐ Yes

What kind of canned vegetables do you see? (please check all that apply)

- ☐ Corn
- ☐ Carrots
- ☐ Green Beans
- ☐ Beans
- ☐ Peas
- ☐ Tomatoes
- ☐ Mixed Veggies
- ☐ Other:_____

_____Total number of types of canned vegetables

14. Do you see **CANNED FRUIT** anywhere?

- ☐ No
- ☐ Yes
  - What kind of canned fruit do you see? (please check all that apply)
    - ☐ Peaches
    - ☐ Cherries
    - ☐ Oranges
    - ☐ Apples
    - ☐ Juice
    - ☐ Apple Sauce
    - ☐ Mixed Fruit
    - ☐ Other:_____

_____Total number of types of canned fruit

_____Total number of types of canned juice

15. Do you see dried or **DEHYDRATED FRUIT**?

- No
- Yes
  - What kind of dried fruit do you see? (please check all that apply)
    - Apricots
    - Pineapple
    - Raisins
    - Cranberries
    - Apples
    - Bananas
    - Other: _____

16. Are there unhealthy snacks or sodas stored in the kitchen for the **staff**?

please ask the director/ kitchen manager

- No
- Yes
  - What kind of snack or sodas?
    - Soda
    - Chips
    - Candy
    - Cookies
    - Crackers (cheez-itz, goldfish, etc)
    - Other: _____

17. Are there unhealthy snacks or sodas stored in the kitchen for the **children**?

- No
- Yes
  - What kind of snack or sodas?
    - Soda
    - Chips
    - Candy
    - Pop-tarts
    - Cookies
    - Crackers
    - Snack Bars
    - Other: _____

GENERAL SPACE

18. Is there a stove?

- Yes
- No

19. Is there an oven?

- Yes
- No

20. Is there a fryer?

- Yes
- No

21. Is there a microwave oven?

- Yes
- No

22. Describe the overall cooking space.

- Not enough space to do scratch cooking
- Large enough to do scratch cooking for the entire day care

23. Is there a recipe book?
    - ☐ Yes ☐ No

24. Is there a menu posted in the kitchen?
    - ☐ Yes ☐ No

25. Are there any nutritional information posters or food safety documents posted (hand washing, food temperatures, etc.)?
    - ☐ No
    - ☐ Yes
        - Please describe them

          _____
          _____
          _____
          _____

Please take 2-4 pictures of the kitchen at least **one of the refrigerator and one of the dry storage** and describe each picture that you take.
DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!

1._____
_____
_____
_____
_____
_____

2._____
_____
_____
_____
_____
_____

3._____
_____
_____
_____
_____
_____

4._____
_____

_____
_____
_____
_____

Cafeteria/Eating Area (lunch)
Please answer every question as thoroughly as possible. DO NOT SKIP ANY QUESTIONS.
Terms: Infant: 6 wks-15 months. Toddler: 16 months – 24 months. Pre-K: 25 months – 5 yrs

☐ **Not Applicable**

1. How was lunch served? (please check all that apply)

	Infant	Toddler	Pre-K	
Family Style?				☐ Other:
Did children serve themselves?				_____
Delivered in bulk/portioned by staff				_____

1. Did staff push children to eat more than they want to? (watch a group from start to finish of meal)
   ☐ Yes
   Comments:
   _____
   _____
   _____
   _____
   _____
   _____
   ☐ No

2. Did you observe seconds being consumed?
   ☐ Yes
   - How did the children get the seconds?
     ☐ Themselves ☐ Staff

   ☐ No

3. Did staff serve children second helpings without being asked for more by the child? (see an empty plate and add food without request by child)
   ☐ Yes

- What did they give? (please check all that apply)
  - ☐ Everything being served that day
  - ☐ More vegetables
  - ☐ More meat
  - ☐ More fruit
  - ☐ Other:_____
- ☐ No

4. Did staff encourage children to try new or less favorite foods?
   - ☐ Yes
   - ☐ No

   Comments:
   _____
   _____
   _____
   _____
   _____
   _____

   - ☐ Child resisted eating but was not encouraged

5. Are children told to or encouraged to finish their plate?
   - ☐ Yes
   - ☐ No

   Comments:
   _____
   _____
   _____
   _____
   _____
   _____

6. Was food used to control behavior?
   - ☐ Yes
     - What type of behavior? (please check all that apply)
       - ☐ Yelling
       - ☐ Crying
       - ☐ Screaming
       - ☐ Children fighting
       - ☐ Other:_____
   - ☐ No

7. Did staff sit with children during lunch?
   - ☐ No
   - ☐ Yes
     - Did staff consume the same food as children?
       - ☐ Yes
       - ☐ No
     - Did they eat something other than what was served to the children?
       - ☐ Yes
       - ☐ No
8. Did staff eat and/or drink less healthy foods in front of children?
   - ☐ No
   - ☐ Yes
     - What did they eat and/or drink? (please check all that apply)
       - ☐ Chips
       - ☐ Sugar Sweetened Beverages
       - ☐ Crackers
       - ☐ Fast Food
       - ☐ Cookies
       - ☐ Other:_____
9. Did staff talk with children about healthy foods?
   - ☐ Yes
   - ☐ No

   Comments:
   _____
   _____
   _____
   _____
   _____
   _____
10. Are the chairs the appropriate height for the children?
    - ☐ Yes
    - ☐ No
      - ☐ Too tall? (children could barely reach to eat)
      - ☐ Too short? (children were hunched over to eat)
11. How many tables are in the eating area?
    - ☐ Please write a number

      _____
      - ☐ How many chairs are in the cafeteria?

        _____
      - ☐ What is the adult to child ratio?

        _____
      - ☐ Did they have enough space between each child to be able to comfortably move?
        - ☐ Yes

- ☐ No (please check all that apply)
  - ☐ They couldn't move their arms much
  - ☐ One child was partially on another child's chair
  - ☐ Other:_____

12. Where any environmental meal-time barriers present?
    - ☐ No
    - ☐ Yes
      - ☐ Television/ Visual distractions
      - ☐ Auditory distractions (distant tv/ loud music)
      - ☐ Inadequate lighting
      - ☐ Hostility/h urriedness of staff
      - ☐ High activity near eating area (play room visible to children or similar)
      - ☐ Other:_____

13. How did the children behave during meal time?
    - ☐ Good, the eating environment was calm and the children engaged with eating.
    - ☐ Children engaged with eating, however, the eating environment had many disruptions, noise volume was high, or there were a few behavior issues.
    - ☐ Children did not engage well with eating, but the eating environment was calm
    - ☐ Little eating took place and frequent unruly behavior observed of children

14. Was food served same as the scheduled menu?
    - ☐ Yes ☐ No

15. What was served for lunch? (please write it out)

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	

16. Was there a vegetable (other than potatoes) offered?
    - ☐ No
    - ☐ Yes (please check all that apply)
      - ☐ Corn
      - ☐ Peas
      - ☐ Green Beans
      - ☐ Carrots

- Mixed Veggies
- Broccoli
- Squash
- Other:_____

17. Was fried food offered?(please check all that apply)
    - No
    - Fried Chicken (chicken nuggets, strips, dinosaurs, etc)
    - French Fries
    - Fried Fish (fish sticks)
    - Other:_____

18. Was fruit offered?
    - No
    - Yes (please check all that apply)
        - Apples
        - Oranges
        - Bananas
        - Peaches
        - Berries
        - Other:_____

19. What beverage was offered?
    - Please check all that apply
        - Milk
        - Sugar Sweetened Beverages
        - 100% Juice
        - Water
        - Other:_____

20. Is juice offered? (is it 100% juice)
    - No
    - Yes, it is offered
        - Yes, it is 100% fruit juice?
            - What kind of 100% fruit juice is offered? (please check all that apply)
                - Cranberry
                - Apple
                - Orange
                - Grape
                - Other:_____
        - No, it is not 100% fruit juice
            - What kind of juice that is not 100% fruit juice is offered? (please check all that apply)
                - Fruit punch
                - Sunny delight
                - Other:_____

Please take 2-4 pictures of the cafeteria/eating area and describe each picture that you take.

DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!

1._____
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Snack Time (if applicable)

Please answer every question as thoroughly as possible. DO NOT SKIP ANY QUESTIONS.

Terms: Infant: 6 wks-15 months. Toddler: 16 months – 24 months. Pre-K: 25 months – 5 yrs

☐ **Not Applicable**

1. How was snack served? (please check all that apply)

	Infant	Toddler	Pre-K	
Family Style?				☐ Other:_____
Did children serve themselves?				_____
Delivered in bulk/portioned by staff				_____

2. Did staff push children to eat more than they want to? (watch a group from start to finish of meal)
   - ☐ Yes ☐ No
   - Comments:
     _____
     _____
     _____
     _____
     _____
     _____

3. Did you observe seconds being consumed?
   - ☐ Yes
     - How did the children get the seconds?
       - ☐ Themselves ☐ Staff
   - ☐ No

4. Did staff serve children second helpings without being asked for more by the child? (see an empty plate and add food without request by child)
   - ☐ Yes
     - What did they give? (please check all that apply)
       - ☐ Everything being served that day
       - ☐ More vegetables
       - ☐ More meat
       - ☐ More fruit
       - ☐ Other:_____
   - ☐ No

5. Did staff encourage children to try new or less favorite foods?
   - ☐ Yes ☐ No
   - Comments:
     _____
     _____
     _____
     _____
     _____
     _____
   - ☐ Child resisted eating but was not encouraged

6. Are children told to or encouraged to finish their snack?
   - ☐ Yes ☐ No
   - Comments:

_____
_____
_____
_____
_____
_____

7. Was food used to control behavior?
   - ☐ Yes
     - What type of behavior? (please check all that apply)
       - ☐ Yelling
       - ☐ Crying
       - ☐ Screaming
       - ☐ Children fighting
       - ☐ Other:_____
   - ☐ No

8. Did staff sit with children during snack?
   - ☐ No
   - ☐ Yes
     - Did staff consume the same food as children?
       - ☐ Yes
       - ☐ No
     - Did they eat something other than what was served to the children?
       - ☐ Yes
       - ☐ No

9. Did staff eat and/or drink less healthy foods in front of children?
   - ☐ No
   - ☐ Yes
     - What did they eat and/or drink? (please check all that apply)
       - ☐ Chips
       - ☐ Sugar Sweetened Beverages
       - ☐ Crackers
       - ☐ Fast Food
       - ☐ Cookies
       - ☐ Other:_____

10. Did staff talk with children about healthy foods?
    - ☐ Yes
    - ☐ No

    Comments:

    _____
    _____
    _____

_____
_____
_____

11. Are the chairs the appropriate height for the children?
    - ☐ Yes
    - ☐ No
        - ☐ Too tall? (children could barely reach to eat)
        - ☐ Too short? (children were hunched over to eat)

12. How many tables are in the eating area?
    - ☐ Please write a number
      _____
        - ☐ How many chairs are in the cafeteria?
          _____
        - ☐ What is the adult to child **ratio**?
          _____
        - ☐ Did they have enough space between each child to be able to comfortably move?
            - ☐ Yes
            - ☐ No (please check all that apply)
                - ☐ They couldn't move their arms much
                - ☐ One child was partially on another child's chair
                - ☐ Other:_____

13. Where any environmental meal-time barriers present?
    - ☐ No
    - ☐ Yes
        - ☐ Television/ Visual distractions
        - ☐ Auditory distractions (distant tv/ loud music)
        - ☐ Inadequate lighting
        - ☐ Hostility/h urriedness of staff
        - ☐ High activity near eating area (play room visible to children or similar)
        - ☐ Other:_____

14. How did the children behave during snack time?
    - ☐ Good, the eating environment was calm and the children engaged with eating.
    - ☐ Children engaged with eating, however, the eating environment had many disruptions, noise volume was high, or there were a few behavior issues.
    - ☐ Children did not engage well with eating, but the eating environment was calm
    - ☐ Little eating took place and frequent unruly behavior observed of children

15. Was snack served same as the scheduled menu?
    - ☐ Yes
    - ☐ No

16. What was served for snack? (please write it out)

    _____ _____ _____
    _____ _____ _____
    _____ _____ _____
    _____ _____ _____

17. Was there a vegetable (other than potatoes) offered?
    - ☐ No
    - ☐ Yes (please check all that apply)
        - ☐ Corn
        - ☐ Carrots
        - ☐ Peas
        - ☐ Green Beans
        - ☐ Mixed Veggies
        - ☐ Broccoli
        - ☐ Squash
        - ☐ Other:_____

18. Was fried food offered?(please check all that apply)
    - ☐ No
    - ☐ Fried Chicken (chicken nuggets, strips, dinosaurs, etc)
    - ☐ French Fries
    - ☐ Fried Fish (fish sticks)
    - ☐ Other:_____

19. Was fruit offered?
    - ☐ No
    - ☐ Yes (please check all that apply)
        - ☐ Apples
        - ☐ Oranges
        - ☐ Bananas
        - ☐ Peaches
        - ☐ Berries
        - ☐ Other:_____

20. Are crackers offered?
    - ☐ No
    - ☐ Yes (please check all that apply)
        - ☐ Goldfish
        - ☐ Cheez-Its
        - ☐ Saltines
        - ☐ Other:_____

21. What beverage was offered?
    - ☐ Yes (please check all that apply)
        - ☐ Milk
        - ☐ Sugar Sweetened Beverages
        - ☐ 100% Juice
        - ☐ Water
        - ☐ Other:_____

□ No

22. Is juice offered? (is it 100% juice)
    - □ No
    - □ Yes, it is offered
        - □ Yes, it is 100% fruit juice?
            - What kind of 100% fruit juice is offered? (please check all that apply)
                - □ Cranberry
                - □ Orange
                - □ Other:_____
                - □ Apple
                - □ Grape
        - □ No, it is not 100% fruit juice
            - What kind of juice that is not 100% fruit juice is offered? (please check all that apply)
                - □ Fruit punch
                - □ Sunny delight
                - □ Other:_____

23. Is there a sugar-sweetened beverage offered?
    - □ No
    - □ Yes
        - What kind of sugar-sweetened beverage is offered? (please check all that apply)
            - □ Soda
            - □ Kool-aide
            - □ Other:_____
            - □ Gatorade
            - □ Lemonade

24. Is water offered?
    - □ Yes □ No

25. Is milk offered?
    - □ Yes □ No

Please take 2-4 pictures of the cafeteria/eating area and describe each picture that you take.

DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!

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Entryway/Hallways/General Shared Spaces
Please answer every question as thoroughly as possible. DO NOT SKIP ANY QUESTIONS.
Terms: Infant: 6 wks-15 months. Toddler: 16 months – 24 months. Pre-K: 25 months – 5 yrs

- ☐ **Not Applicable**

1. Was drinking water for children visible in the entryway?
   - ☐ Yes→ How accessible was drinking water to children in the classroom?
     - ☐ Available for self-service (child-level fountain or pitcher/cups on table)
     - ☐ Available by request only
   - ☐ No→if no, is there a water fountain in the nearby hallway?
     - ☐ Yes→ How accessible is this fountain to children?
       - ☐ Available by request only (must ask permission to leave classroom)
       - ☐ During teacher-designated water breaks
     - ☐ No

2. Were soda and other vending machines present?
   - ☐ No
   - ☐ Yes
     - What type of vending machine is present? (please check all that apply)

- ☐ Candy /Junk food
- ☐ Soda
- ☐ Ice Cream
- ☐ Other: _____ _____

▪ Where is the vending machine located? (please check all that apply)

- ☐ In front of the building
- ☐ In the entryway
- ☐ In the employee break room
- ☐ Other: _____

▪ Is the vending machine accessible to children?

- ☐ Yes
- ☐ No

3. Are there menus posted? (Please take a zoomed in picture of the menu(s) that is posted)
   - ☐ No
   - ☐ Yes
     ▪ Is it a current menu?
       - ☐ Yes
       - ☐ No
4. Are there informational pamphlets available?
   - ☐ No
   - ☐ Yes
     ▪ What kinds of pamphlets are present? (please check all that apply)
       - ☐ Nutrition information
       - ☐ feeding information
       - ☐ Breastfeeding information
       - ☐ Physical activity information
       - ☐ Other———————————
5. Is there a schedule of daily activities posted?
   - ☐ No
   - ☐ Yes
     ▪ Is it a current schedule?
       - ☐ Yes
       - ☐ No
6. Is there a message board?
   - ☐ No
   - ☐ Yes
     ▪ What messages are on the board? (please check all that apply)
       - ☐ Business flyers
       - ☐ For sale flyers
       - ☐ Animal postings
       - ☐ Other:____ _____
7. Are there rules posted?
   - ☐ No
   - ☐ Yes
     ▪ What rules are posted? (please check all that apply)

- ☐ Visitor rules
- ☐ Child rules
- ☐ Other:_____

8. Are policies posted? (Please take a zoomed in picture of the menu(s) that is posted)
   - ☐ No
   - ☐ Yes
     - What policies are posted? (please check all that apply)
       - ☐ Physical activity
       - ☐ Breastfeeding
       - ☐ Nutrition
       - ☐ Holiday parties
       - ☐ Other:_____

9. Is there a schedule of when parents are bringing in any food or a sign in sheet to bring in food?
   - ☐ No
   - ☐ Yes
     - What is the schedule is for? (please check all that apply)
       - ☐ Holiday parties
       - ☐ Birthday
       - ☐ Snack sign up
       - ☐ Other:_____

Please take 2-4 pictures of the entryway/hallway/shared space and describe each picture that you take.
DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!

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Classroom/Learning Area (Infants)
Please answer every question as thoroughly as possible. DO NOT SKIP ANY QUESTIONS.
Terms: Infant: 6 wks-15 months. Toddler: 16 months – 24 months. Pre-K: 25 months – 5 yrs

- ☐ **Not Applicable**

1. Was a TV present in the room?
   - ☐ No
   - ☐ Yes
     - Was the TV on?
       - ☐ Yes ☐ No

2. Was TV viewing observed?
   - ☐ Yes ☐ No

3. Was a computer present in the room for use by children?
   - ☐ Yes ☐ No

4. Was video game or computer game playing observed?
   - ☐ Yes ☐ No

5. Were any posters, pictures or books very obviously displayed about physical activity present in the room?
   - ☐ No
   - ☐ Yes - > How many?

- ☐ Pictures _____
- ☐ Books _____
- ☐ Other (Describe) _____
- ☐ Posters _____

6. Were any posters, pictures or books very obviously displayed about <u>nutrition</u> present in the observation room?
   - ☐ No
   - ☐ Yes -> How many?
     - ☐ Pictures _____
     - ☐ Books _____
     - ☐ Other (describe) _____
     - ☐ Posters _____

7. Is there a schedule of daily activities posted?
   - ☐ Yes
   - ☐ No

8. Do children eat in the classroom?
   - ☐ Yes
   - ☐ No

9. Is there food in the classroom?
   - ☐ Yes
   - ☐ No
     - Do the children have free access to the food and what is the food?
       - ☐ Yes
         - ☐ Food_____
       - ☐ No

10. Is there water in the classroom?
    - ☐ Yes
    - ☐ No

11. Are there play opportunities in the classroom?
    - ☐ No
    - ☐ Yes
      - ☐ Large rug to move
      - ☐ Toys that encourage movement

Please take 2-4 pictures of the classroom and describe each picture that you take.
DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!

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Classroom/Learning Area (Toddlers)
Please answer every question as thoroughly as possible. DO NOT SKIP ANY QUESTIONS.
Terms: Infant: 6 wks-15 months. Toddler: 16 months – 24 months. Pre-K: 25 months – 5 yrs

- ☐ **Not Applicable**

1. Was a TV present in the room?
   - ☐ No
   - ☐ Yes
     - Was the TV on?
       - ☐ Yes ☐ No

2. Was TV viewing observed?
   - ☐ Yes ☐ No

3. Was a computer present in the room for use by children?
   - ☐ Yes ☐ No

4. Was video game or computer game playing observed?
   - ☐ Yes ☐ No

5. Were any posters, pictures or books very obviously displayed about physical activity present in the room?
   - ☐ No
   - ☐ Yes - > How many?
     - ☐ Pictures _____
     - ☐ Books _____
     - ☐ Posters _____
     - ☐ Other (Describe) _____

6. Were any posters, pictures or books very obviously displayed about nutrition present in the room?
   - ☐ No
   - ☐ Yes - > How many?
     - ☐ Pictures _____
     - ☐ Books _____
     - ☐ Posters _____
     - ☐ Other (Describe) _____

7. Do children eat in the classroom?
   - ☐ Yes
   - ☐ No

8. Is there a schedule of daily activities posted?
   - ☐ Yes
   - ☐ No

9. Are there play opportunities in the classroom?
   - ☐ No
   - ☐ Yes
     - ☐ Large rug to move
     - ☐ Toys that facilitate movement

10. Is there food in the classroom?
    - ☐ Yes -> Do the children have free access to the food and what is the food?
      - ☐ Yes
        - ☐ Food_____
      - ☐ No
    - ☐ No

11. Is there water in the classroom?
    - ☐ Yes
    - ☐ No

Please take 2-4 pictures of the classroom and describe each picture that you take.
DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!

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Classroom/Learning Area (Pre-K)
Please answer every question as thoroughly as possible. DO NOT SKIP ANY QUESTIONS.
Terms: Infant: 6 wks-15 months. Toddler: 16 months – 24 months. Pre-K: 25 months – 5 yrs

- ☐ **Not Applicable**

1. Was a TV present in the room?
   - ☐ Yes
     - Was the TV on?
       - ☐ Yes ☐ No
   - ☐ No

2. Was TV viewing observed?
   - ☐ Yes ☐ No

3. Was a computer present in the room for use by children?
   - ☐ Yes ☐ No

4. Was video game or computer game playing observed?
   - ☐ Yes ☐ No

12. Were any posters, pictures or books very obviously displayed about <u>physical activity</u> present in the room?
   - ☐ No
   - ☐ Yes - > How many?
     - ☐ Pictures _____
     - ☐ Books _____
     - ☐ Posters _____
     - ☐ Other _____ (Describe)

13. Were any posters, pictures or books very obviously displayed about <u>nutrition</u> present in the room?
   - ☐ No
   - ☐ Yes - > How many?
     - ☐ Pictures _____
     - ☐ Books _____
     - ☐ Posters _____
     - ☐ Other _____ (Describe)

5. Do children eat in the classroom?
   - ☐ Yes ☐ No

6. Is there a schedule of daily activities posted?
   - ☐ Yes ☐ No

7. Are there play opportunities in the classroom?
   - ☐ Yes
     - ☐ Large rug to move
     - ☐ Balls
     - ☐ Hula hoops
   - ☐ No

8. Is there food in the classroom?
   - ☐ Yes
     - Do the children have free access to the food and what is the food?
       - ☐ Yes
         - ☐ Food_____
       - ☐ No
   - ☐ No

9. Is there water in the classroom?
   - ☐ Yes ☐ No

Please take 2-4 pictures of the classroom and describe each picture that you take.
DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!

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Indoor Play Area
Please answer every question as thoroughly as possible. DO NOT SKIP ANY QUESTIONS.
Terms: Infant: 6 wks-15 months. Toddler: 16 months – 24 months. Pre-K: 25 months – 5 yrs

- ☐ **Not Applicable**

1. Is structured physical activity observed?
   - ☐ Yes
     - ☐ If yes, is staff involved in play time?
     - ☐ If yes, how are they involved? (please check all that apply)
       - ☐ Run round with the children.
       - ☐ They do the same activities as the children do
   - ☐ No
2. Do staff direct play time?

- No
- Yes
  - How do they direct play time? (please check all that apply)
    - Specific games
    - Encourage them to be more involved
    - Tell them where to play

3. Indoor play equipment: (Please place a check for every item that you see)

	All ages together	Infants	Toddlers	Preschool
Balancing surfaces (balance beams, boards, etc.)				
Basketball hoop Climbing structures (jungle gyms, ladders, etc.)				
Merry-go-round				
Pool				
Sandbox				
See-saw				
Swinging equipment (swings, rope, etc.)				
Path/sidewalk for riding toys (wagon, scooters, etc.)				
Tunnels				
Climbing structures (ladders, jumble gyms, etc.)				
Floor play equipment (tumbling mats, carpet squares, etc.)				
Jumping play equipment (jump ropes, hula hoops)				
Parachute				
Push/pull toys (wagon, scooters, etc.)				
Riding toys (tricycles, cars, etc.)				
Rocking & twisting toys (rocking horse, sit-n-spin, etc.)				

Sand/water play toys (buckets, scoops, shovels, etc.)				
Slides				
Twirling play equipment (ribbons, scarves, batons, etc.)				
Drinking water available				

Please take 2-4 pictures of the classroom and describe each picture that you take.
DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!

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Outside Play Area
Please answer every question as thoroughly as possible. DO NOT SKIP ANY QUESTIONS.
Terms: Infant: 6 wks-15 months. Toddler: 16 months – 24 months. Pre-K: 25 months – 5 yrs

□ **Not Applicable**

1. Is structured physical activity observed?
   - □ Yes
     - □ If yes, is staff involved in play time?
     - □ If yes, how are they involved? (please check all that apply)
       - □ Run round with the children.
       - □ They do the same activities as the children do
   - □ No

2. Do staff direct play time?
   - □ No
   - □ Yes
     - □ How do they direct play time? (please check all that apply)
       - □ Specific games
       - □ Encourage them to be more involved
       - □ Tell them where to play
   - □ N/A

3. Outdoor play equipment: (Please place a check for every item that you see)

	All ages together	Infants	Toddlers	Preschool
Balancing surfaces (balance beams, boards, etc.)				
Basketball hoop				
Merry-go-round				
Pool				
Sandbox				
See-saw				
Slides				
Swinging equipment (swings, rope, etc.)				
Path/sidewalk for riding toys (wagon, scooters, etc.)				
Tunnels				
Climbing structures (ladders, jumble gyms, etc.)				
Floor play equipment (tumbling mats, carpet squares, etc.)				
Jumping play equipment				

(jump ropes, hula hoops)				
Parachute				
Push/pull toys (wagon, scooters, etc.)				
Riding toys (tricycles, cars, etc.)				
Rocking & twisting toys (rocking horse, sit-n-spin, etc.)				
Sand/water play toys (buckets, scoops, shovels, etc.)				
Twirling play equipment (ribbons, scarves, batons, etc.)				
Drinking water available				

4. Outdoor play space includes:
   - ☐ No open running spaces or path/sidewalk for wheeled toys
   - ☐ Very limited open running space, no path/sidewalk for wheeled toys
   - ☐ Plenty of running space, no path/sidewalk for wheeled toys
   - ☐ Plenty of open running spaces and a path/sidewalk for wheeled toys

Please take 2-4 pictures of the classroom and describe each picture that you take.
DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!

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4._____
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Breastfeeding Area (if applicable)
Please answer every question as thoroughly as possible. DO NOT SKIP ANY QUESTIONS.
Terms: Infant: 6 wks-15 months. Toddler: 16 months – 24 months. Pre-K: 25 months – 5 yrs

- ☐ **Not Applicable**

1. Is there a designated area for breastfeeding?
   - ☐ No
   - ☐ Yes
     - Description of this area (please check all that apply)

There is a chair for moms to sit in

- The area is well lit
- The area is private
- Other:_____

Please take 2-4 pictures of the breastfeeding area and describe each picture that you take. **DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!**

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_____
_____
4._____
_____
_____
_____
_____
_____

8. Demographic Survey for Workshop
    1. What role(s) do you fill in your day care? (Check all that apply)
        - ☐ Cook/prepare meals for children
        - ☐ Caregiver
        - ☐ Director
        - ☐ Feed children
        - ☐ Other: _____

    2. What types of education do you have? (Check all that apply)
        - ☐ High school degree or an equivalent (GED, etc)
        - ☐ Associate's degree
        - ☐ Working on an associate's degree
        - ☐ 4-year college degree
        - ☐ Working on a 4-year degree
        - ☐ Masters
        - ☐ PhD
        - ☐ Other: _____

    3. How many children attend your center?
        - ☐ 1-12
        - ☐ 13-30
        - ☐ 31-50
        - ☐ 51-70
        - ☐ 71-90
        - ☐ 91-110
        - ☐ 110+

    4. How many years have you worked at a day care center?
        - ☐ 1-2
        - ☐ 2-5
        - ☐ 5-10
        - ☐ 10-15
        - ☐ 15-20
        - ☐ 20+

    5. What zip code is you day care center in?
        - ☐ 78666
        - ☐ 78667
        - ☐ 78640
        - ☐ 78602
        - ☐ Other: _____

6. What year were you born? _____

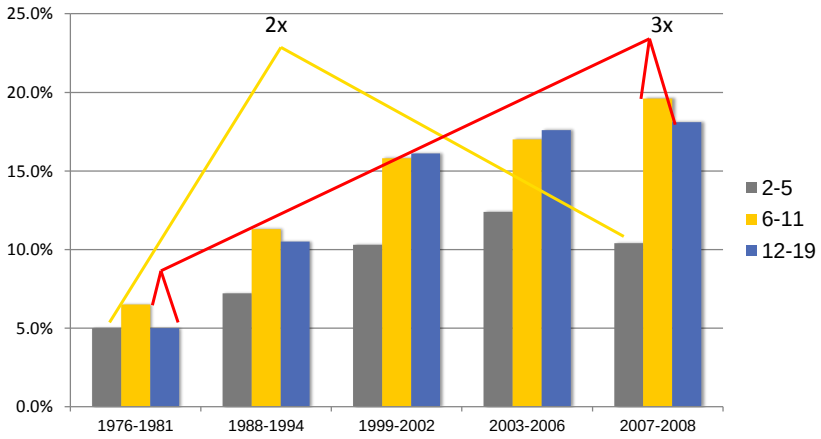
7. What ethnicity do you consider yourself?
   - Hispanic or Latino
   - Black or African American
   - White Caucasian
   - Native American, Pacific Islander, Native Alaskan

   - Asian

NUTRITION

FOR YOUNG CHILDREN

CHILD OBESITY HAS INCREASED IN THE US

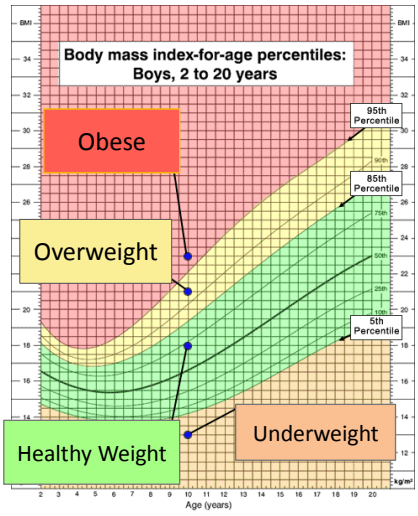


2

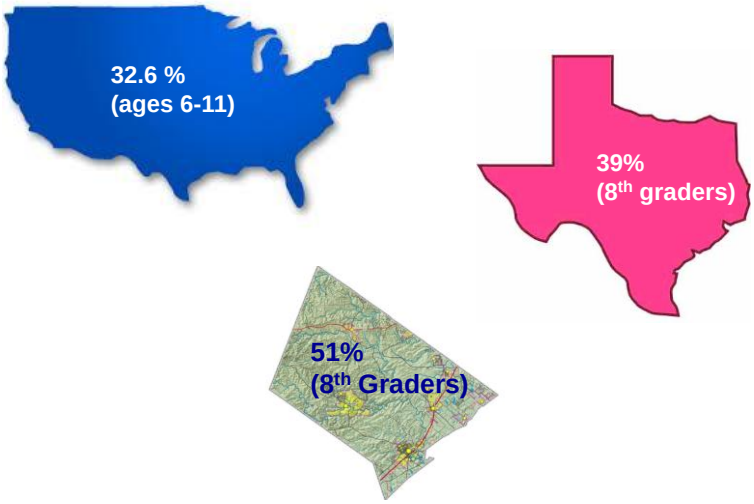
TERMS: OBESE AND OVERWEIGHT

An obese child has a body mass index (BMI) higher than most (95%) healthy children the same age.

An overweight child has a BMI higher than most (85%) healthy children at the same age.



CHILDHOOD OBESITY (& OVERWEIGHT) RATES ARE HIGH

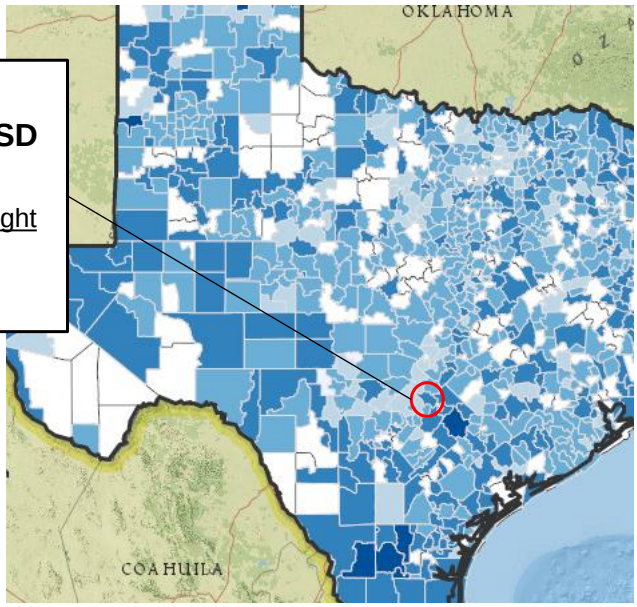


SAN MARCOS KIDS ARE AT HIGH RISK

San Marcos ISD

- 39% obese
- 14% overweight

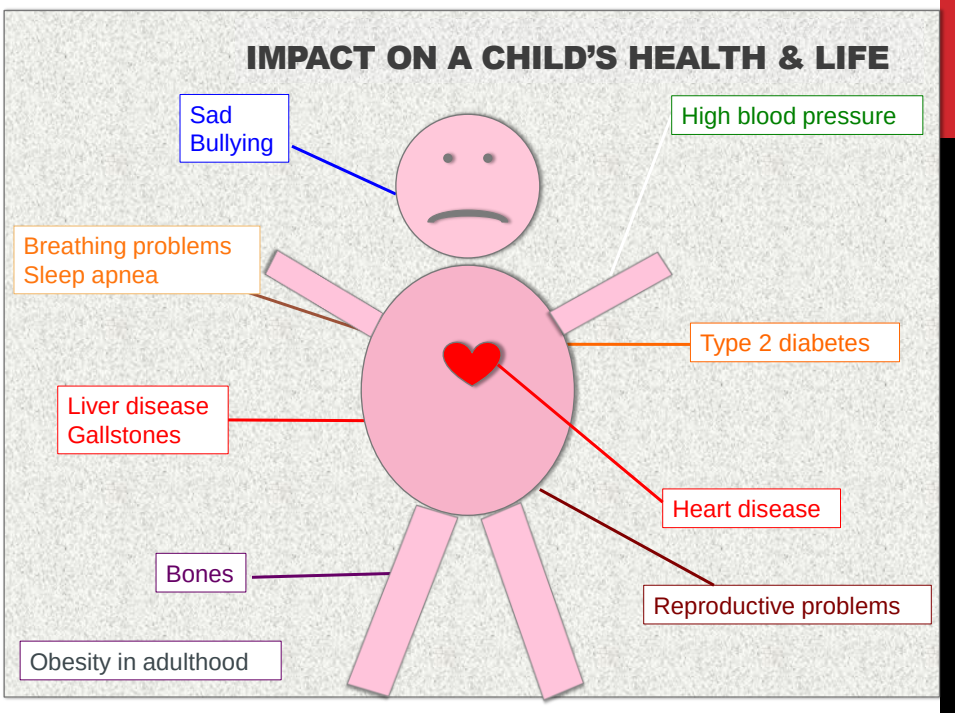
53%

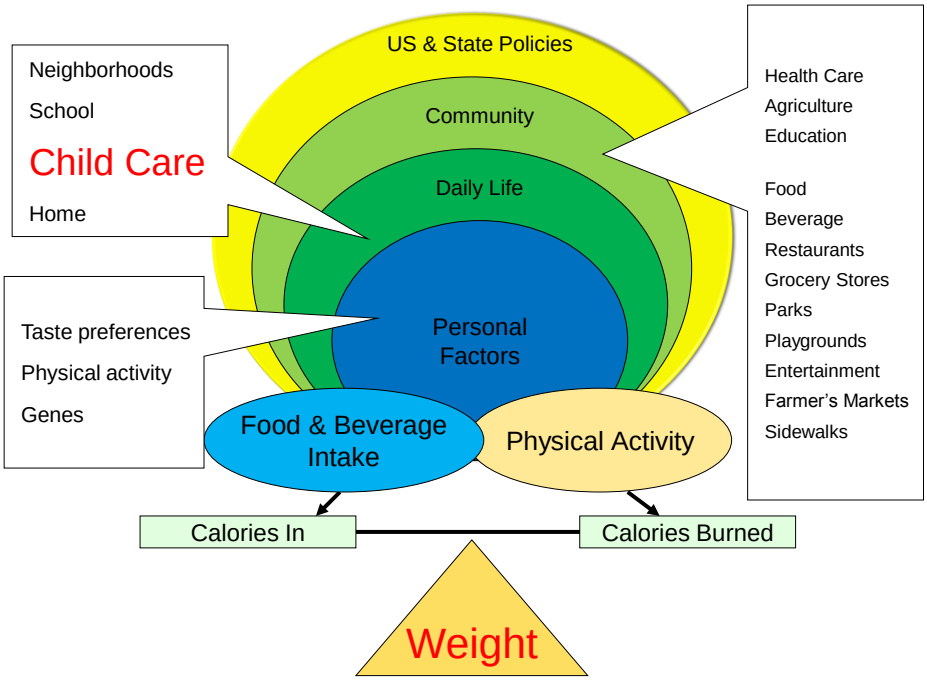


Source: Texas Comptroller of Public Accounts, Fitnessgram[5]

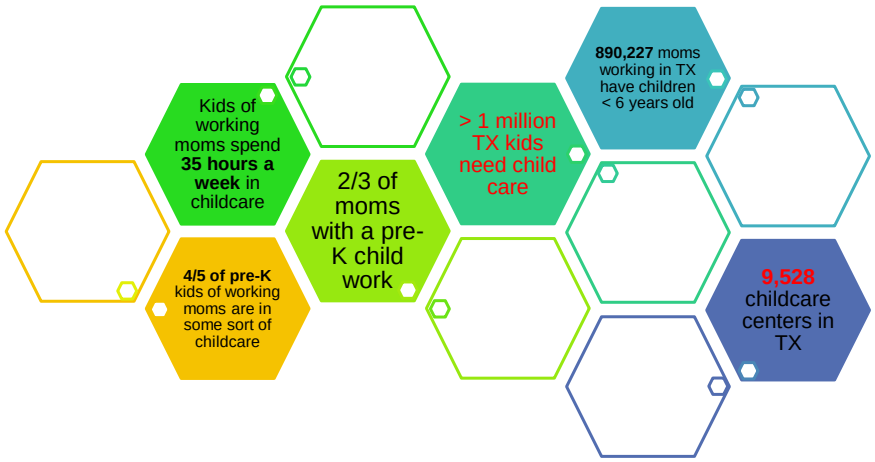
WHAT ARE THE CAUSES?

THERE ARE MANY…





CHILDCARE IS SO IMPORTANT!



Child Care in America: 2012 State Fact Sheets

HOW TO BUILD HEALTHY HABITS

Model good behavior

One new food per meal

Provide a variety of foods

Avoid words that might hinder

Start with small portions

Enjoy healthy food

WHAT DO KIDS SEE US DOING?

DEVELOPING TASTE PREFERENCES

many flavors

one flavor

…goal

BENEFITS OF BREASTFEEDING

Best for Baby

Amazing Health Benefits

Brain Power

Best for Mom

Mother-baby bonding

Protects against breast & ovarian cancer

Best for Communities

Fewer sick children

Less waste

WE CAN TEACH KIDS TO LIKE VEGGIES

- Offer healthy choices
- Offer new foods when child is hungriest
- Offer a new food many, many times
- Encourage children to help prepare snacks
- Cut foods into fun shapes

WHAT SHOULD CHILDREN EAT?

RECOMMENDATIONS FOR CHILDREN UNDER 2

Breastfeed exclusively for 6 months

No juice under 6 months

No juice needed 6-12 m

6 months - Start complementary foods

After 1 year:
NO juice is needed
Offer only 100% fruit juice
Limit to 4-6 ounces a day

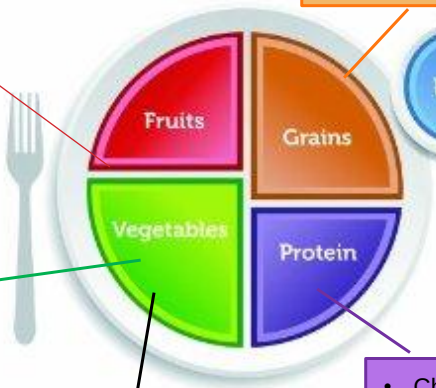
Complementary foods should be low in sugar, salt, or fat (NO SODAS)

Complementary foods should be fruits, vegetables, cereals, and baby food meats

MYPLATE FOR CHILDREN OVER 2

Make at least half of the grains whole grains

Make half of the plate fruits and vegetables



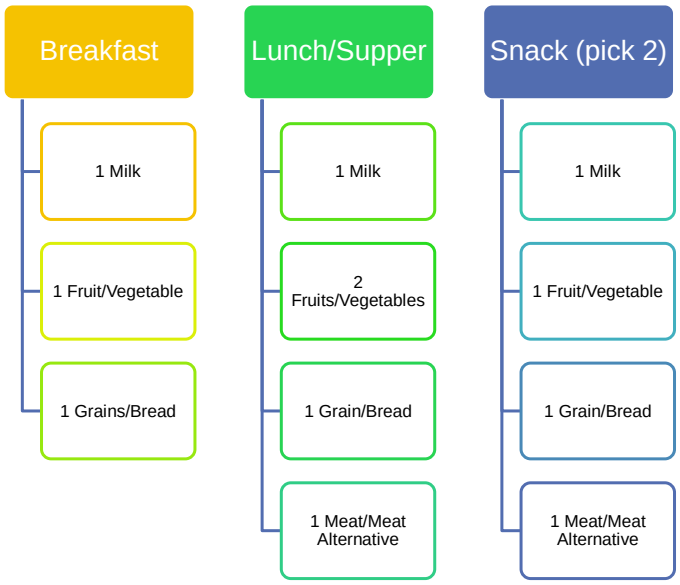
Choose fat-free or low fat milk, yogurt, and cheese

Pick a variety of colors: dark green, red & orange

Don't choose French fries or potatoes as vegetables

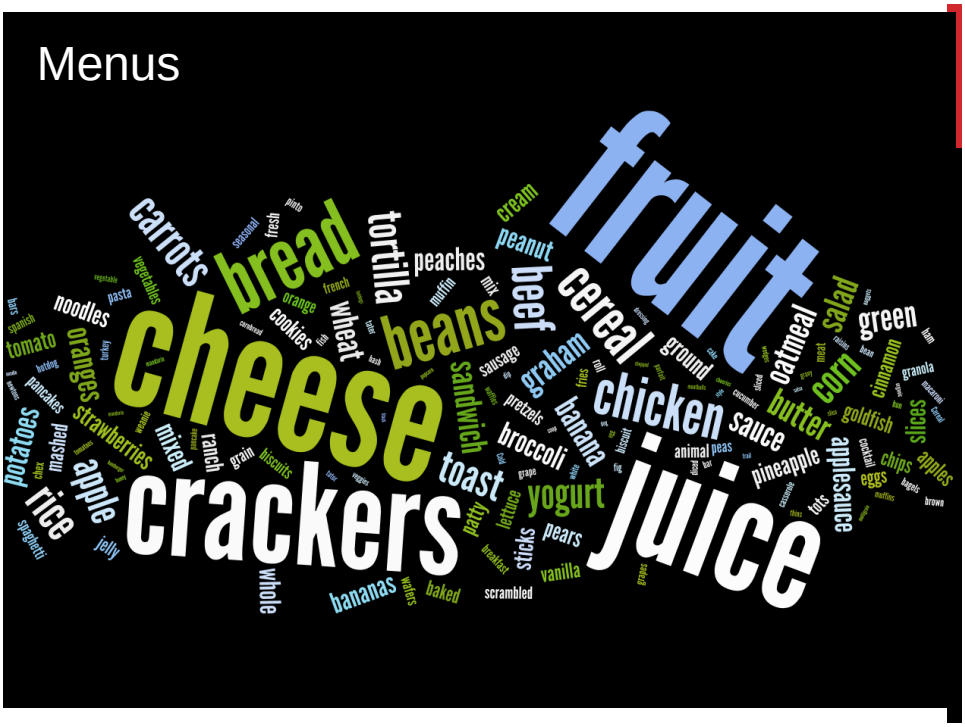
- Choose lean meat & poultry
- Choose fish rich in omega-3
- Choose unsalted nuts and seeds

CACFP



CACFP MODIFICATIONS

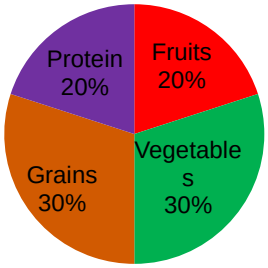
MILK: Nonfat or 1% milk for children 2 years or older	VEGGIES & FRUITS:1 fresh or frozen daily	Vitamin C: 1 good source daily
Vitamin A: 1 good source 3x a week	GRAINS: 1 whole grain daily	CEREAL: < 10g of sugar per serving
VEGGIES & FRUIT: 2 served @ lunch/supper	JUICE: No juice at lunch/supper	CRACKERS: limit to 2x a week for snacks



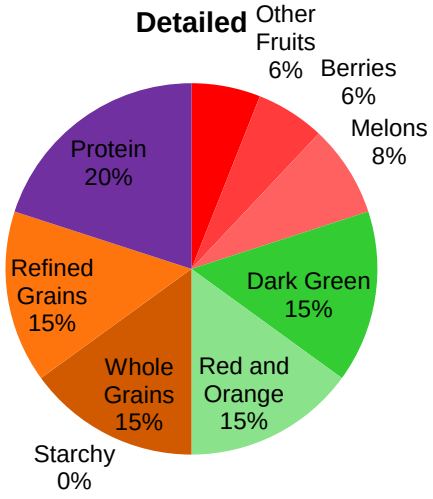
MENUS

Please look at your average menu patterns from your Orange folder.

Typical Meal Pattern on MyPlate

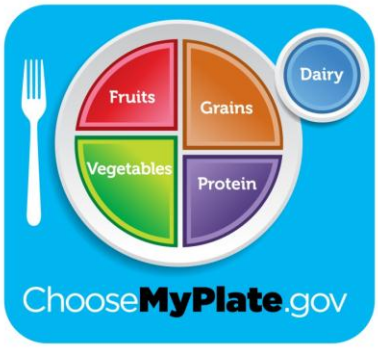


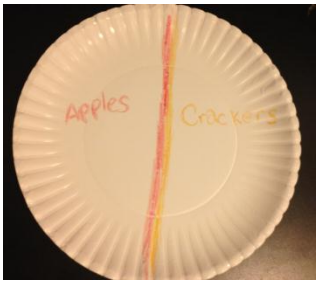
Detailed



MENU ACTIVITY

In groups of 2-3 from your center, use the plates provided
Draw a meal that:
(1) best fits MyPlate and
(2) least fits MyPlate





CHOOSING HEALTHIER ALTERNATIVES – BREAKFAST

228 calories – ¼ cup

26 calories – ¼ cup

30g sugar – 1 cup

15g sugar – 1 medium orange

212 mg sodium – 1 cup

9 mg sodium – 1 cup

272 kcal – 1 medium donut

139 kcal – 1 medium bagel

BREAKFAST IDEAS

Yogurt Parfait

Fruit Quesadilla

Banana Dog

Breakfast Kabobs

Bagel Face

CHOOSING HEALTHIER ALTERNATIVES – SNACK

25 kcals –
2 crackers

7 kcals –
½ cups (sliced)

271 kcals –
1 bag
1.75 ounces

129 kcals –
8 ounces

13g fat –
1 cup

1g fat –
1 cup

59 kcals
added sugar –
1 cupcake

2 kcals
added sugar –
1 muffin

SNACK IDEAS

Veggie Kabob

Fruit – n- Oat Pop

Frozen Fruit in Cone

"Apple Pie"
Apple Sauce and Oats

CHOOSING HEALTHIER ALTERNATIVES – LUNCH

141 kcals –
1 medium breast

189 kcals –
4 pieces

33 kcals –
½ cup

106 kcals –
½ cup

307 mg
sodium –
½ cup

36 mg
sodium –
½ cup

0.5 g fiber –
1 slice

2 g fiber –
1 slice

LUNCH IDEAS

Sandwich Sushi

English Muffin Pizza

Veggie Soup

Sandwich on a Stick

DRINKS

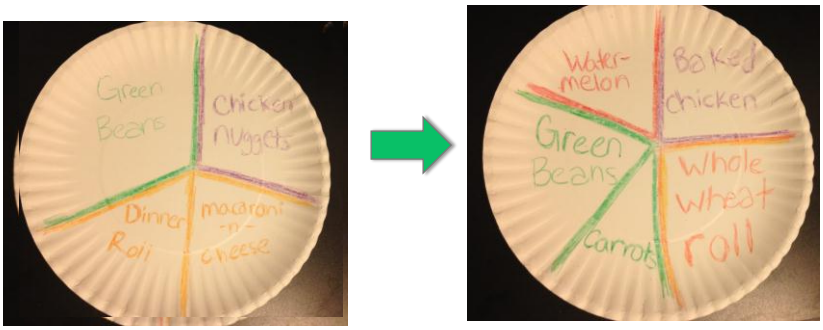
Don't Serve:

Nutrients

Serve:

BACK TO THE MENU ACTIVITY

- **How would you change your menus to more fit to MyPlate?**
- **Make another plate improve an aspect of your meal.**



CONCLUSIONS

- Serve a variety of whole foods
- Model good behavior
- Taste preferences matter
- No sugars sweetened beverages

10. Demographics Form for Focus Groups

Here we have provided you with space to write down any thoughts you were not able to share with the group during the discussion. Please fill out this short questionnaire as well. After the discussion has ended, please leave this paper on your chair. Thank you for your help!

8. What role(s) do you fill in your child-care center? (Check all that apply)
   - □ Cook/prepare meals for children
   - □ Caregiver
   - □ Director
   - □ Feed children
   - □ Other: _____
9. What types of education do you have? (Check all that apply)
   - □ High school degree or an equivalent (GED, etc)
   - □ Associate's degree
   - □ Working on an associate's degree
   - □ 4-year college degree
   - □ Working on a 4-year degree
   - □ Masters
   - □ PhD
   - □ Other: _____
10. How many children attend your center?
   - □ Less than 1 year
   - □ 1-12
   - □ 13-30
   - □ 31-50
   - □ 51-70
   - □ 71-90
   - □ 91-110
   - □ 110+
11. How many years have you worked at a child-care center?
   - □ 1-2
   - □ 2-5
   - □ 5-10
   - □ 10-15
   - □ 15-20
   - □ 20+
12. What zip code is you child-care center in?
   - □ 78666
   - □ 78667
   - □ 78640
   - □ 78602
   - □ Other: _____
13. Are you fulltime or part time? (Circle one)
14. What year were you born? _____
15. What is your sex?
   - □ Female
   - □ Male
16. Do children live with you?
   - □ Yes
   - □ No
17. What ethnicity do you consider yourself?
   - □ Hispanic or Latina/o
   - □ Black or African American
   - □ White Caucasian
   - □ Native American, Pacific Islander, Native Alaskan
   - □ Asian
   - □ Other: _____

_____

_____

Please feel free to take notes and write down anything you were not able to share with the group.

1. **Please share what you do to promote the things we talked about all day?**

2. **When trying to provide good nutrition and health practices in your facility what barriers do you encounter?**

3. **How do you think parents will respond to any menu or policy changes you may make?**

PLEASE WRITE YOUR ANSWERS TO THE FOLLOWING QUESTIONS BELOW

How was your experience at the workshop? What did you like or dislike?

What helped you? What did not help you?

Is there anything else you would like us to know about making child-care centers healthier?

Please leave this paper on your seat when the discussion is finished. Thank you for you time!

11. Focus Group Outline
12-15 people ideally, up to 20
After test 2
30-45 minutes

Group Discussion Script

Preliminary Activities – [10 minutes]
To begin, the moderator will introduce her/himself to the group and pass out a short demographic survey to be filled out. Following this the moderator explains we would now like to learn from them. The moderator will explain that we would like them to share what they currently do and what they recommend to promote the topics discussed during the day (breast feeding, nutrition, and physical activity). We would also like to know what barriers they face when trying to promote healthy activities. Finally, we would like to know what they thought of the workshop.

Questions – [20 minutes]
1. Now that we've finished the work shop, please share what you do to promote the things we talked about?
PROMPT:

- Menu
  - Food on menus
  - Drinks provided
- Policy
  - For children
  - For staff
- Physical activity
- Breastfeeding
- Mealtime practices

Questions that may promote discussion

a. What do you think is working well?
b. What do you think could be improved?
c. Have you learned anything today that you would like to implement at your childcare center?
d. What is one thing you do to encourage nutrition in your day care?

2. When trying to provide good nutrition and health practices in your facility what barriers do you encounter?
PROMPT:

- Parents (sending unhealthy foods, having limited knowledge)
- Healthy food is too expensive
- Hard to buy healthier foods
- Hard to cook healthy foods in amount needed

▪ Taste preferences of children

Questions to promote discussion of above

a. How can do you address these barriers?
b. What does your childcare center do to work with parents on eating and physical activity habits?
c. How can we help you with any barriers you are experiencing with parents?

3. How do you think parents will respond to any menu or policy changes you may make?

Questions to promote discussion of above

a. Are parents currently interested in menus and policy? ii.
b. Will parents approve? Disapprove? Not care?
c. What does your childcare center do to work with parents on eating and physical activity habits?
d. What type of activities and information would parents be open to? What kinds of things would you recommend doing to get parents involved?
e. Can we help you with any barriers you are experiencing with parents?

CONCLUSION

Moderator will then ask participants if they have any other questions, thank them for their time, and direct them to the concluding activity.

12. Workshop Evaluation Tool

Name: _____

Email address: _____

Child Care Center Name: _____

Menu Analysis Evaluation:

Now that you have viewed the Menu Analysis for your childcare facility, which of the food groups do you think need the most improvement? Rank in order from 1 (needs most improvement) – 5.

— Grains
— Fruits
— Vegetables
— Dairy
— Protein

Please rate the following on the provided scales.

- How clear was the Menu Analysis Report for your childcare center?

  Very Clear Clear Unclear

  Very Unclear

- How helpful did you find the Menu Analysis Report to improve menus:

  Very Helpful Helpful Unhelpful

  Very Unhelpful

- Was the Menu Analysis Report about what you expected?

  Very Much Expected Expected Unexpected

  Very Unexpected

13. Goals

We will collect this form from you at the end of the workshop and then we will email you a copy. When we call May, June, July and August for follow up calls we will ask you to review this form during our conversation.

Please write your goals on the back of this paper.

Please list at least one short term goal for the following three areas that we have discussed today.

Menus

1.
2.

Physical Activity

1.
2.

Environment/Policies

1.
2.

Items you can accomplish by the end of May:

1.
2.

14. Test 2 – Director & Staff

This survey should take between 15-20 minutes; there are no right or wrong answers. Your part in participating in our Best Food FITS with Child-Care Center is very important. We thank you for taking the time to take this survey. Your answers will not be shared, they are private.

Your name_____
Your title_____
Date_____
Child-care facility name_____

Feeding Practices:

25. When caring for children, to help them become happy and healthy eaters:
    (please check yes or no for the following question about your personal opinions and thoughts)
    - I let the children eat wherever they want. _____yes _____no
    - We eat meals together. _____yes _____no
    - I serve all children the same food . _____yes _____no
    - I make the children eat foods I think are good for them. _____yes _____no
    - I let the children decide whether they want a second helping. _____yes _____no
    - I (we) only cook food the children will like. _____yes _____no
    - I insist on the children finishing their food before they leave the table. _____yes _____no
    - I let the children eat whenever they want. _____yes _____no
    - I leave food out on the table so the children can finish later on. _____yes _____no
    - I let the children decide how much they should eat. _____yes _____no
    - I encourage the children to eat what I think they should. _____yes _____no
    - I make the children finish all of their meal before they can have dessert. _____yes _____no
    - I let the children choose foods that they want from what is served at a meal. _____yes _____no
    - I let the children eat snacks whenever they want. _____yes _____no
    - I serve meals at about the same time every day. _____yes _____no
    - I turn the TV off during mealtime. _____yes _____no

26. When feeding children in your care: **(please check yes or no for the following question about your personal opinions and thoughts)**
    - It's okay to cook different foods for a child if he or she doesn't like the meal. _____yes _____no
    - Children are able to decide how much they need to eat at a meal. _____yes _____no
    - It's a good idea to let a child decide what foods you should buy, because then he or she will eat them. _____yes _____no
    - Children should not be allowed to eat whenever they want. _____yes _____no
    - Child-care givers should make a children eat vegetables even if they don't like them. _____yes _____no
    - It's important for young children to eat meals with the family. _____yes _____no
    - A child may need to try a food many times before he or she likes it. _____yes _____no
    - To encourage the child to eat, it's all right to let him or her eat anywhere he or she wants. _____yes _____no
    - It's okay to offer a reward (such as dessert) to get a child to eat. _____yes _____no
    - Child-care givers should make sure the child doesn't eat too much. _____yes _____no
    - Meals and snacks should usually be served at about the same time every day. _____yes _____no
    - Child-care givers should make sure a child eats even if he/she doesn't want to. _____yes _____no
    - Child-care givers should make sure the child finishes everything on his or her plate. _____yes _____no

27. What is the most important factor that affects what is on the menu? (age 1 & older)
    (please circle one)
    - Health
    - CACFP
    - Filling food
    - Pleasing the parents
    - Not applicable/I don't know

28. Are there rules regarding children having seconds? **(please check all that apply)**

- ☐ Anything at anytime
- ☐ Only if they finish some items
- ☐ Only if they finish everything on their plate
- ☐ Not applicable/I don't know

29. Check which of the following children are allowed to have seconds of: **(please check yes or no for the following):**
    - Vegetables _____yes _____no
    - Crackers _____yes _____no
    - Fruit _____yes _____no
    - Juice _____yes _____no
    - Milk _____yes - _____no
    - Potatoes _____yes _____no
    - Meat _____yes _____no
    - Dessert or sweets other than fruit _____yes _____no

30. Do you serve food family style? (age 1 & older) **(please circle one)**
    - No
    - Yes
        - If yes, can children help themselves? **(please circle one)**
            - Yes
            - No
    - Not applicable/I don't know

31. Regarding sampling/taste-testing of unfamiliar foods and strategies to introduce new foods: (age 1 & older) **(please check all that apply):**
    - ☐ Small serving of new food, taste-test samples
    - ☐ Children help to make the new foods
    - ☐ Routinely put new food that children haven't been served on the menu
    - ☐ None of the above, we prefer to stick to what we know children will like and eat
    - ☐ Not applicable/I don't know

32. Children are encouraged by staff to try a new or less favorite food: **(please circle one)**
    - Rarely or never
    - Some of the time
    - Most of the time
    - All of the time
    - Not applicable/I don't know

33. Staff join children at the table for meals: **(please circle one)**
    - Rarely or never

- Some of the time
- Most of the time
- All of the time
- Not applicable/I don't know

34. Staff consume the same food and drinks as the children: **(please circle one)**
    - Rarely or never
    - Some of the time
    - Most of the time
    - All of the time
    - Not applicable/I don't know

35. Staff eat or drink sweets, soda, and fast food in front of the children: **(please circle one)**
    - Rarely or never
    - Some of the time
    - Most of the time
    - All of the time
    - Not applicable/I don't know

36. Staff talk informally with children about trying and enjoying healthy foods: **(please circle one)**
    - Rarely or never
    - Some of the time
    - Most of the time
    - All of the time
    - Not applicable/I don't know

Policies

21. A written policy about food: **(please circle one)**
    - Does not exist
    - Exists informally, but is not written or followed
    - Is written, but not always followed
    - Is written, available, and followed
    - Not applicable/I don't know

22. A written policy about children's birthday parties and holidays: **(please circle one)**
    - Does not exist
    - Exists informally, but is not written or followed
    - Is written, but not always followed
    - Is written, available, and followed
    - Not applicable/I don't know

23. A written policy about access to water: **(please circle one)**
    - Does not exist
    - Exists informally, but is not written or followed
    - Is written, but not always followed
    - Is written, available, and followed
    - Not applicable/I don't know

24. A written policy on physical activity: **(please circle one)**
    - Does not exist
    - Exists informally, but is not written or followed
    - Is written, but not always followed
    - Is written, available, and followed
    - Not applicable/I don't know

25. A written policy about breastfeeding: **(please circle one)**
    - Does not exist
    - Exists informally, but is not written or followed
    - Is written, but not always followed
    - Is written, available, and followed
    - Not applicable/I don't know

Policies: Environment

7. Is there a written policy about any signs, posters, books that are displayed in the building? **(please circle one)**
    - Does not exist
    - Exists informally, but is not written or followed
    - Is written, but not always followed
    - Is written, available and followed
    - Not applicable/I don't know

8. Do you regulate the foods that employees can eat or drink in front of the children?
   (please circle one)
    - Yes
    - No
    - Not applicable/I don't know

9. Do you regulate statements that employees can make to children about food?
   (please circle one)
    - Yes
    - No
    - Not applicable/I don't know

26. Are parents involved in developing policies? **(please circle one)**
    - No
    - Yes, please explain
      _____
      _____
      _____
    - Not applicable/I don't know

27. Meals are served family style (children serve themselves with limited help):
   (please circle one)
    - Rarely or never
    - Some of the time
    - Most of the time
    - All of the time
    - Not applicable/I don't know

28. Do you provide a designated space for mothers to nurse?
    - If yes, please describe this space
      _____
      _____
      _____
    - If no, please explain
      _____
      _____
      _____
    - Not applicable/I don't know

29. Children who misbehave are not allowed to play as a punishment: **(please circle one)**
    - Often
    - Sometimes
    - Never
    - Never and we provide more active play for good behavior
    - Not applicable/I don't know

30. Television and video use consists of the: **(please circle one)**
    - TV/videos turned on for 5 or more hours per week
    - TV/videos turned on for 3-4 hours per week
    - TV/videos turned on 2 hours per week or less
    - TV/videos used rarely or never
    - Not applicable/I don't know

Responsibility Questions

7. What responsibility do you think the child-care center has for feeding children? **(please check yes or no for the following)**
    - Feed them so they are not hungry _____yes _____no
    - Provide a balance of nutrients _____yes _____no
    - Feed them as much as possible because they may not get enough food at home _____yes _____no
    - Not primary food provider. Children receive most nutrients outside of child-care. _____yes _____no

8. What is the child-care center's responsibility for breastfeeding? **(please check yes or no for the following)**
    - Encourage moms to come breastfeed during the day _____yes _____no
    - Allow moms to come breastfeed during the day _____yes _____no
    - Provide a room for moms to breastfeed _____yes _____no
    - Make it easy for mom to send breast milk _____yes _____no

9. What is the child-care center's responsibility for children getting physical activity? **(please circle one)**
   - Provide an environment for the children to play
   - Have staff guided play time
   - Encourage children to stay active during play time
   - Let the children enjoy play time in the way they like
   - Not applicable/I don't know

Infant Feeding

11. How is infant feeding handled at your child-care facility? **(please check all that apply)**
    - ☐ Mothers have a private area to breastfeed at the center.
    - ☐ Parents may provide prepared infant formula.
    - ☐ Parents may provide infant formula to be prepared by staff.
    - ☐ Mothers may provide breast milk in a bottle.
    - ☐ There is a refrigerator for mothers to store breast milk or prepared formula.
    - ☐ Parents may bring infant foods for the staff to feed to the child.
    - ☐ The center provides baby food for infants before they are 6 months old.
    - ☐ The center provides baby food for infants when they are 6-12 months old.
    - ☐ Not applicable/I don't know

12. Which is true about any educational information about infant feeding provided to staff, parents, or both? **(please check all that apply)**
    - ☐ None is provided
    - ☐ Information about breastfeeding is provided
    - ☐ Information about when and how to introduce first foods and beverages is provided **(please provide copies or write in information)**

      _____
      _____
      _____
    - ☐ Information about adding cereal to the bottle is provided
    - ☐ Not applicable/I don't know.

13. Which of the following is true about breastfeeding and infant formula? **(please check ONLY ONE column per statement)**
    - May raise IQ level
      ____breastfeeding ____formula ____neither
    - May lower risk of diabetes
      ____breastfeeding ____formula ____neither
    - May raise risk of obesity
      ____breastfeeding ____formula ____neither
    - May lower risk of ear infections
      ____breastfeeding ____formula ____neither
    - May lower the spread of germs
      ____breastfeeding ____formula ____neither
    - May lower risk of allergies, eczema, asthma
      ____breastfeeding ____formula ____neither

14. True or False? **(please check true or false for the following)**
    - Breastfed babies need extra water. ____T ____F

- Breastfeeding is inconvenient for child-care staff. ____T ____F
- Formula provides the same benefits as breastfeeding. ____T ____F

15. Infants 0 – 6 months should have: **(please check yes or no for the following)**
    - Juice _____yes _____no
    - Cereal _____yes _____no
    - Formula _____yes _____no
    - Breast milk _____yes _____no
    - Baby food
        - Stage 1 _____yes _____no
        - Stage 2 _____yes _____no

Physical Activity

11. What is the usual total amount of time per day spent in play time? (when all children are moving) **(please circle one)**
    - 45 or less minutes
    - 46-90 minutes
    - 91-120 minutes
    - 121 minutes or greater
    - Not applicable/I don't know

12. During active play time, staff: **(please circle one)**
    - Supervise play only (mostly sit or stand)
    - Sometimes encourage children to be active
    - Sometimes encourage children to be active and join children in active play
    - Often encourage children to be active and join children in active play
    - Not applicable/I don't know

13. What ways do the children get physical activity? **(check all that apply)**
    - ☐ Playing with toys
    - ☐ Walks
    - ☐ Running
    - ☐ Jumping
    - ☐ Playing with balls
    - ☐ Time in the sandbox
    - ☐ Riding a tricycle/bicycle
    - ☐ Time in swings or climbers
    - ☐ Structured physical activity lead by instructor
    - ☐ Jump rope

14. In the event of a weather change such as rain, how is physical activity obtained?
    - Please explain

      _____

      _____

_____

- Not applicable/I don't know

15. Teacher-led physical activity is provided to all children: **(please circle one)**
    - 1 time per week or less
    - 2-4 times per week
    - 1 time per day
    - 2 or more times per day
    - Not applicable/I don't know

Workshop Questions

1. Do you feel that the workshop was helpful? **(please circle one)**
    - Yes
    - No

2. If you do not already have policies in place, will you implement a policy for any of the topics discussed today? **(please check all that apply)**
    - ☐ Breastfeeding
    - ☐ Food
    - ☐ Physical activity
    - ☐ Children's birthday parties and holidays
    - ☐ Access to water

3. Which of the topics did you like the most? **(please circle one)**
    - Policy discussion (or activity)
    - Menu discussion (or activity)
    - Nutrition for infants and toddlers information
    - Breastfeeding information
    - Physical activity information

4. Which of the following topics did you like the least? **(please circle one)**
    - Policy discussion (or activity)
    - Menu discussion (or activity)
    - Nutrition for infants and toddlers information
    - Breastfeeding information
    - Physical activity information

5. Did you find the activities for the menu helpful? **(please circle one)**
    - Very helpful
    - Moderately helpful
    - Not helpful

6. Did you find the activities for policies helpful? **(please circle one)**
    - Very helpful
    - Moderately helpful
    - Not helpful

7. How was the length of the workshop? **(please circle one)**
    - Too long
    - Too short
    - About right

8. Do you feel this workshop helped you?
    - Yes
    - No

9. Is there anything that you think we could change to improve on for future workshops?

    _____
    _____
    _____

10. Did the workshop change your mind on any of the following?
    (please check all that apply)
    - ☐ Nutrition for infants and toddlers
    - ☐ Creating healthy menus
    - ☐ Policy importance
    - ☐ Breastfeeding importance
    - ☐ Physical activity

11. How will you use the information that you obtained in this workshop?
    (please check all that apply)
    - ☐ Will not use any of the information obtained today.
    - ☐ Will use the policy information for policy creation or change.
    - ☐ Will use the menu information to create more healthful menus.
    - ☐ Will use the breastfeeding information to change or create a new policy.
    - ☐ Will use the physical activity information to change play activities.

15. First Follow-Up Call Script

Center Name: _____
Phone number: _____
Director Name: _____
Email: _____

Hello, my name is _____ and I am calling from Texas State University Nutrition and Foods program, may I speak to the director please?

If director not available: If you could please let the director know that Texas State University Nutrition and Foods program will be sending an email requesting some additional information about our visit to your facility on (date)_____.

Is this the correct email address? _____

Excellent, it may be easier for the director to speak to us on the phone. If you could have them call us back the number at the community lab is 512.245.6848 or 512-619-3404.

If director: Hello (Director's name), my name is _____ and I am calling from Texas State University Nutrition and Foods program with Best Food FITS! childcare centers to follow up about your menu.

Do you have a few minutes right now to talk about more specifics on your menu?

No, When would be a better time to call you back? _____

Are you the best person to ask about menu questions, or do you have a person who prepares your food that we should talk to?

If the director says she/he can answer the questions, continue on.

If we need to talk to a cook, when would be the best time to call (cook's name) back?_____

Yes, Perfect. First, I have that you ARE or ARE NOT (circle) CACFP. Is that correct? _____

Great, Now I just have a few more questions on more specific serving sizes.

Look at highlighted items on menu: When you serve _____, how much do you give the children?

Okay (Director's name), we have everything we need from you, do you have any other questions for us? Thank you again for participating with us. Have a great day!

Center Name: _____
Phone number: _____
Director Name: _____
Email: _____

16. Second Follow-Up Call Script

Hello, my name is _____ and I am calling from Texas State University Nutrition and Foods program, may I speak to the director please?

If director not available: If you could please let the director know that Texas State University Nutrition and Foods program will be sending an email requesting some additional information about our visit to your facility on (date)_____.

Is this the correct email address? _____

Excellent, it may be easier for the director to speak to us on the phone. If you could have them call us back the number at the community lab is 512.245.6848 or 512-619-3404.

If director: Hello (Director's name), my name is _____ and I am calling from Texas State University Nutrition and Foods program to follow up on how your center is progressing with the goals you outlined at the Best Food FITS! workshop in April.

First of all, I have your first goal is:_____
_____
_____
_____
_____
_

Is that going well?

If yes, Why?_____

If not, Why? _____

Do you need any additional information at this time to help achieve this goal?

If yes,

how?_____

Your other goals are:

_____
_____
_____
_____
_____

Do you need any additional information at this time to help achieve this goal?

If yes,

how?_____

(Director's name), now I just wanted to remind you of our next site visit in July and August. This visit will be similar to our initial visit in which we will be observing lunch along with different features of your facility, as well as taking some measurements in your kitchen. During this visit we will **not** be interviewing you again or giving an addition survey. We would like to come out on:

Date:_____

Time:_____

Does this work with you?_____

If not when would be the best time for you?_____

Okay wonderful, now I want to remind you that we will also be collecting copies of any written policies you have and also a month's worth of menus. It would be very helpful if you could provide these items upon our arrival. If you cannot provide us copies we are more than happy to make digital copies at your location.

Okay, is there anything you need from us?

Nametags? _____ Driver's License? _____ Other? _____

Okay (Director's name), we have everything we need from you, do you have any other questions for us? Have a great day and we will see you (DATE AND TIME)!

17. Control Call Script to Schedule Final Visit

Center Name: _____
Phone number: _____
Director Name: _____
Email: _____

Hello, my name is _____ and I am calling from Texas State University Nutrition and Foods program, may I speak to the director please?

If director not available: If you could please let the director know that Texas State University Nutrition and Foods program will be sending an email requesting some additional information about our visit to your facility on (date)_____.

Is this the correct email address? _____

Excellent, it may be easier for the director to speak to us on the phone. If you could have them call us back the number at the community lab is 512.245.6848 or 512-619-3404.

If director: (Director's name), now I just wanted to remind you of our next site visit in July, August, or Septmember. This visit will be similar to our initial visit in which we will be observing lunch along with different features of your facility, as well as taking some measurements in your kitchen. During this visit we will **not** be interviewing you again or giving an addition survey. We would like to come out on:

Date:_____

Time:_____

Does this work with you?_____

If not when would be the best time for you?_____

Okay wonderful, now I want to remind you that we will also be collecting copies of any written policies you have and also a month's worth of menus. It would be very helpful if you could provide these items upon our arrival. If you cannot provide us copies we are more than happy to make digital copies at your location.

Okay, is there anything you need from us?

Nametags? _____ Driver's License? _____ Other? _____

Okay (Director's name), we have everything we need from you, do you have any other questions for us? Have a great day and we will see you (DATE AND TIME)!

18. Test 3 – Director & Staff

This survey should take between 15-20 minutes; there are no right or wrong answers. Your part in participating in our Best Food FITS with Child-Care Center is very important. We thank you for taking the time to take this survey. Your answers will not be shared, they are private.

Your name_____

Your title_____

Date_____

Child-care facility name_____

Did you go to the Best Food FITS Child Care Workshop?

- No
- Yes

Implementation Questions

1. Have you implemented any new policies or procedures since April 2013 (based on the topics discussed in the workshop)?

   Policies and Procedures (please check all that apply)

   - **Improving menus**
     - What changes did you make?
     - Were there any barriers to making changes? Please describe.
     - Have any parents liked the new changes? Please describe.
     - Have any parents complained about the new changes? Please describe.
   - **Limiting food brought in to the childcare center by parents**
     - What changes did you make?
     - Were there any barriers to making changes? Please describe.
     - Have any parents liked the new changes? Please describe.
     - Have any parents complained about the new changes? Please describe.
   - **Supporting breastfeeding**

- What changes did you make?
- Were there any barriers to making changes? Please describe.
- Have any parents liked the new changes? Please describe.
- Have any parents complained about the new changes? Please describe.

- **Rules about children's birthday parties and holidays**
  - What changes did you make?
  - Were there any barriers to making changes? Please describe.
  - Have any parents liked the new changes? Please describe.
  - Have any parents complained about the new changes? Please describe.

- **Staff improving modeling of healthy behaviors**
  - What changes did you make?
  - Were there any barriers to making changes? Please describe.
  - Have any parents liked the new changes? Please describe.
  - Have any parents complained about the new changes? Please describe.

- **Increasing physical activity (or decreasing sitting time)**
  - What changes did you make?
  - Were there any barriers to making changes? Please describe.

- Have any parents liked the new changes? Please describe.

- Have any parents complained about the new changes? Please describe.

- **Improving the center (to make it a healthier environment)**
  - What changes did you make?

  - Were there any barriers to making changes? Please describe.

  - Have any parents liked the new changes? Please describe.

  - Have any parents complained about the new changes? Please describe.

2. In general, what is your center doing to handle problems/barriers you faced with implementing new changes? **(Check one)**
   - ☐ We have not done anything.
   - ☐ We have done the following:

     _____
     _____
     _____

3. Did you try to make any changes since April 2013 (from the workshop) that didn't work for your center? **(Check one)**
   - ☐ No
   - ☐ Yes, please explain.

     _____
     _____
     _____

4. Would you like more information about any of the topics discussed in the workshop? **(Check ALL that apply)**
   - Nutrition for infants and toddlers
   - Creating healthy menus
   - Breastfeeding
   - Physical activity
   - Children's birthday parties and holidays

- Physical activity
- Policy implementation

5. Which kind of information would be most helpful to you? **(Check ONE)**
   - ☐ Handouts
   - ☐ Another large workshop or class
   - ☐ One-on-one consultations
   - ☐ More phone calls
   - ☐ Small workshop at your child care center
   - ☐ Other _____

6. Please give us feedback about the following items included in the Best Food FITS – Child Care project (**CIRCLE ONLY ONE CHOICE** for each item).
   - **Policy Matrix:**
     Very Helpful Helpful Unhelpful
     Very Unhelpful
   - **Picture Feedback**
     Very Helpful Helpful Unhelpful
     Very Unhelpful
   - **Menu Feedback (Pie charts):**
     Very Helpful Helpful Unhelpful
     Very Unhelpful
   - **Berenstain Bears Lesson:**
     Very Helpful Helpful Unhelpful
     Very Unhelpful
   - **Eat Like a Bunny Activity:**
     Very Helpful Helpful Unhelpful
     Very Unhelpful
   - **Follow up Calls:**
     Very Helpful Helpful Unhelpful
     Very Unhelpful
   - **Setting Goals:**
     Very Helpful Helpful Unhelpful
     Very Unhelpful
   - **Visits to Center:**
     Very Helpful Helpful Unhelpful
     Very Unhelpful

Please complete the following:

Feeding Practices:

37. When caring for children, to help them become happy and healthy eaters: **(Check yes or no for the following question about your personal opinions and thoughts)**

- I let the children eat wherever they want. _____yes _____no
- We eat meals together. _____yes _____no
- I serve all children the same food . _____yes _____no
- I make the children eat foods I think are good for them. _____yes _____no
- I let the children decide whether they want a second helping. _____yes _____no
- I (we) only cook food the children will like. _____yes _____no
- I insist on the children finishing their food before they leave the table. _____yes _____no
- I let the children eat whenever they want. _____yes _____no
- I leave food out on the table so the children can finish later on. _____yes _____no
- I let the children decide how much they should eat. _____yes _____no
- I encourage the children to eat what I think they should. _____yes _____no
- I make the children finish all of their meal before they can have dessert. _____yes _____no
- I let the children choose foods that they want from what is served at a meal. _____yes _____no
- I let the children eat snacks whenever they want. _____yes _____no
- I serve meals at about the same time every day. _____yes _____no
- I turn the TV off during mealtime. _____yes _____no

38. When feeding children in your care: **(Check yes or no for the following question about your personal opinions and thoughts)**

- It's okay to cook different foods for a child if he or she doesn't like the meal. _____yes _____no
- Children are able to decide how much they need to eat at a meal. _____yes _____no
- It's a good idea to let a child decide what foods you should buy, because then he or she will eat them. _____yes _____no
- Children should not be allowed to eat whenever they want. _____yes _____no
- Child-care givers should make a children eat vegetables even if they don't like them. _____yes _____no
- It's important for young children to eat meals with the family. _____yes _____no
- A child may need to try a food many times before he or she likes it. _____yes _____no
- To encourage the child to eat, it's all right to let him or her eat anywhere he or she wants. _____yes _____no
- It's okay to offer a reward (such as dessert) to get a child to eat. _____yes _____no
- Child-care givers should make sure the child doesn't eat too much. _____yes _____no
- Meals and snacks should usually be served at about the same time every day. _____yes _____no
- Child-care givers should make sure a child eats even if he/she doesn't want to. _____yes _____no
- Child-care givers should make sure the child finishes everything on his or her plate. _____yes _____no

39. What is THE most important factor that affects what is on the menu? (age 1 & older) **(Check ONE)**
    - ☐ Health
    - ☐ CACFP

- ☐ Filling food
- ☐ Pleasing the parents
- ☐ Not applicable/I don't know

40. Are there rules regarding children having seconds? **(Check ALL that apply)**
    - ☐ Anything at anytime
    - ☐ Only if they finish some items
    - ☐ Only if they finish everything on their plate
    - ☐ Not applicable/I don't know

41. Check which of the following children are allowed to have seconds of: **(Check yes or no)**:
    - Vegetables _____yes _____no
    - Crackers _____yes _____no
    - Fruit _____yes _____no
    - Juice _____yes _____no
    - Milk _____yes - _____no
    - Potatoes _____yes _____no
    - Meat _____yes _____no
    - Dessert or sweets other than fruit _____yes _____no

42. Do you serve food family style? (age 1 & older) **(Check ONE)**
    - ☐ No
    - ☐ Yes
        - If yes, can children help themselves? **(Check ONE)**
            - ☐ Yes
            - ☐ No
    - Not applicable/I don't know

43. Regarding sampling/taste-testing of unfamiliar foods and strategies to introduce new foods (age 1 & older) **(Check ALL that apply)**:
    - ☐ Small serving of new food, taste-test samples
    - ☐ Children help to make the new foods

- Routinely put new food that children haven't been served on the menu
- None of the above, we prefer to stick to what we know children will like and eat
- Not applicable/I don't know

44. Children are encouraged by staff to try a new or less favorite food: **(Check ONE)**
    - ☐ Rarely or never
    - ☐ Some of the time
    - ☐ Most of the time
    - ☐ All of the time
    - ☐ Not applicable/I don't know

45. Staff join children at the table for meals: **(Check ONE)**
    - ☐ Rarely or never
    - ☐ Some of the time
    - ☐ Most of the time
    - ☐ All of the time
    - ☐ Not applicable/I don't know

46. Staff consume the same food and drinks as the children: **(Check ONE)**
    - ☐ Rarely or never
    - ☐ Some of the time
    - ☐ Most of the time
    - ☐ All of the time
    - ☐ Not applicable/I don't know

47. Staff eat or drink sweets, soda, and fast food in front of the children: **(Check ONE)**
    - ☐ Rarely or never
    - ☐ Some of the time
    - ☐ Most of the time
    - ☐ All of the time
    - ☐ Not applicable/I don't know

48. Staff talk informally with children about trying and enjoying healthy foods: **(Check ONE)**
    - ☐ Rarely or never
    - ☐ Some of the time
    - ☐ Most of the time
    - ☐ All of the time
    - ☐ Not applicable/I don't know

Policies

31. A written policy about food: **(Check ONE)**
    - ☐ Does not exist
    - ☐ Exists informally, but is not written or followed
    - ☐ Is written, but not always followed
    - ☐ Is written, available, and followed
    - ☐ Not applicable/I don't know

32. A written policy about children's birthday parties and holidays: **(Check ONE)**
    - ☐ Does not exist
    - ☐ Exists informally, but is not written or followed
    - ☐ Is written, but not always followed
    - ☐ Is written, available, and followed
    - ☐ Not applicable/I don't know

33. A written policy about access to water: **(Check ONE)**
    - ☐ Does not exist
    - ☐ Exists informally, but is not written or followed
    - ☐ Is written, but not always followed
    - ☐ Is written, available, and followed
    - ☐ Not applicable/I don't know

34. A written policy on physical activity: **(Check ONE)**
    - ☐ Does not exist
    - ☐ Exists informally, but is not written or followed
    - ☐ Is written, but not always followed
    - ☐ Is written, available, and followed
    - ☐ Not applicable/I don't know

35. A written policy about breastfeeding: **(Check ONE)**
    - ☐ Does not exist
    - ☐ Exists informally, but is not written or followed
    - ☐ Is written, but not always followed
    - ☐ Is written, available, and followed
    - ☐ Not applicable/I don't know

Policies: Environment

10. Is there a written policy about any signs, posters, books that are displayed in the building? **(Check ONE)**
    - ☐ Does not exist
    - ☐ Exists informally, but is not written or followed

- ☐ Is written, but not always followed
- ☐ Is written, available and followed
- ☐ Not applicable/I don't know

11. Do you regulate the foods that employees can eat or drink in front of the children? **(Check ONE)**
    - ☐ Yes
    - ☐ No
    - ☐ Not applicable/I don't know

12. Do you regulate statements that employees can make to children about food? **(Check ONE)**
    - ☐ Yes
    - ☐ No
    - ☐ Not applicable/I don't know

36. Are parents involved in developing policies? **(Check ONE)**
    - ☐ No
    - ☐ Yes, please explain
      _____
      _____
      _____
    - ☐ Not applicable/I don't know

37. Meals are served family style (children serve themselves with limited help): **(Check ONE)**
    - ☐ Rarely or never
    - ☐ Some of the time
    - ☐ Most of the time
    - ☐ All of the time
    - ☐ Not applicable/I don't know

38. Do you provide a designated space for mothers to nurse?
    - If yes, please describe this space
      _____
      _____
      _____
    - If no, please explain
      _____
      _____
      _____
    - Not applicable/I don't know

39. Children who misbehave are not allowed to play as a punishment: **(Check ONE)**
    - ☐ Often
    - ☐ Sometimes
    - ☐ Never
    - ☐ Never and we provide more active play for good behavior
    - ☐ Not applicable/I don't know

40. Television and video use consists of the: **(Check ONE)**
    - ☐ TV/videos turned on for 5 or more hours per week
    - ☐ TV/videos turned on for 3-4 hours per week
    - ☐ TV/videos turned on 2 hours per week or less
    - ☐ TV/videos used rarely or never
    - ☐ Not applicable/I don't know

Responsibility Questions

10. What responsibility do you think the child-care center has for feeding children? **(Check yes or no for the following)**
    - Feed them so they are not hungry _____yes _____no
    - Provide a balance of nutrients _____yes _____no
    - Feed them as much as possible because they may not get enough food at home _____yes _____no
    - Not primary food provider. Children receive most nutrients outside of child-care. _____yes _____no

11. What is the child-care center's responsibility for breastfeeding? **(Check yes or no for the following)**
    - Encourage moms to come breastfeed during the day _____yes _____no
    - Allow moms to come breastfeed during the day _____yes _____no
    - Provide a room for moms to breastfeed _____yes _____no
    - Make it easy for mom to send breast milk _____yes _____no

12. What is the child-care center's responsibility for children getting physical activity? **(Check ONE)**

- ☐ Provide an environment for the children to play
- ☐ Have staff guided play time
- ☐ Encourage children to stay active during play time
- ☐ Let the children enjoy play time in the way they like
- ☐ Not applicable/I don't know

Infant Feeding

16. How is infant feeding handled at your child-care facility? **(Check ALL that apply)**
    - ☐ Mothers have a private area to breastfeed at the center.
    - ☐ Parents may provide prepared infant formula.
    - ☐ Parents may provide infant formula to be prepared by staff.
    - ☐ Mothers may provide breast milk in a bottle.
    - ☐ There is a refrigerator for mothers to store breast milk or prepared formula.
    - ☐ Parents may bring infant foods for the staff to feed to the child.
    - ☐ The center provides baby food for infants before they are 6 months old.
    - ☐ The center provides baby food for infants when they are 6-12 months old.
    - ☐ Not applicable/I don't know

17. Which is true about any educational information about infant feeding provided to staff, parents, or both? **(Check ALL that apply)**
    - ☐ None is provided
    - ☐ Information about breastfeeding is provided
    - ☐ Information about when and how to introduce first foods and beverages is provided **(Please provide copies or write in information)**

      _____
      _____
      _____
    - ☐ Information about adding cereal to the bottle is provided
    - ☐ Not applicable/I don't know.

18. Which of the following is true about breastfeeding and infant formula? **(Check ONLY ONE per statement)**
    - May raise IQ level
      ____breastfeeding ____formula ____neither
    - May lower risk of diabetes
      ____breastfeeding ____formula ____neither
    - May raise risk of obesity
      ____breastfeeding ____formula ____neither
    - May lower risk of ear infections
      ____breastfeeding ____formula ____neither

- May lower the spread of germs
  ____breastfeeding ____formula ____neither
- May lower risk of allergies, eczema, asthma
  ____breastfeeding ____formula ____neither

19. True or False? **(Check true or false for the following)**
    - Breastfed babies need extra water. ____T ____F
    - Breastfeeding is inconvenient for child-care staff. ____T ____F
    - Formula provides the same benefits as breastfeeding. ____T ____F

20. Infants 0 – 6 months should have: **(Check yes or no for the following)**
    - Juice _____yes
      _____no
    - Cereal _____yes
      _____no
    - Formula _____yes
      _____no
    - Breast milk _____yes
      _____no
    - Baby food
      - Stage 1 _____yes
        _____no
      - Stage 2 _____yes
        _____no

Physical Activity

13. What is the usual total amount of time per day spent in play time? (when all children are moving) **(Check ONE)**
    - ☐ 45 or less minutes
    - ☐ 46-90 minutes
    - ☐ 91-120 minutes
    - ☐ 121 minutes or greater
    - ☐ Not applicable/I don't know

14. During active play time, staff: **(Check ONE)**
    - ☐ Supervise play only (mostly sit or stand)
    - ☐ Sometimes encourage children to be active
    - ☐ Sometimes encourage children to be active and join children in active play
    - ☐ Often encourage children to be active and join children in active play
    - ☐ Not applicable/I don't know

16. What ways do the children get physical activity? **(Check ALL that apply)**
    - ☐ Playing with toys
    - ☐ Walks
    - ☐ Running
    - ☐ Jumping
    - ☐ Playing with balls
    - ☐ Time in the sandbox
    - ☐ Riding a tricycle/bicycle
    - ☐ Time in swings or climbers
    - ☐ Structured physical activity lead by instructor
    - ☐ Jump rope

17. In the event of a weather change such as rain, how is physical activity obtained?
    - Please explain
      _____
      _____
      _____
    - Not applicable/I don't know

18. Teacher-led physical activity is provided to all children: **(Check ONE)**
    - ☐ 1 time per week or less
    - ☐ 2-4 times per week
    - ☐ 1 time per day
    - ☐ 2 or more times per day
    - ☐ Not applicable/I don't know

19. Menu Scoring Guides

MyPlate Scoring Guide				
Nutritional Guidance	**Equation**	**Calculation**	**Point Allocation**	**Score**
½ plate F & V	Add up % on MyPlate		0 = % ≤ 29.9 1 = 30 ≤%≥ 34.9 2 = 35 ≤%≥ 39.9 3=40 ≤%≥ 44.9 4=45 ≤%≥ 49.9 5 = % ≥ 50	
½ Grain WG	(whole grains/total grains)*100		0 = % ≤ 29.9 1 = 30 ≤%≥ 34.9 2 = 35 ≤%≥ 39.9 3=40 ≤%≥ 44.9 4=45 ≤%≥ 49.9 5 = % ≥ 50	
Vary Vegetables	Count groups		0 = 0 1 = 1 2 = 2 3 = 3 4 = 4 5 = 5	
Whole Fruit	(whole fruits/total fruits)*100		0 = % ≤ 59.9 1 = 60 ≤%≥ 69.9 2 = 70 ≤%≥ 79.9 3 = 80 ≤%≥ 89.9 4 = 90 ≤%≥ 99.9 5 = % ≥100	
Lean Protein	(lean protein/ total protein)*100		0 = % ≤ 59.9 1 = 60 ≤%≥ 69.9 2 = 70 ≤%≥ 79.9 3 = 80 ≤%≥ 89.9 4 = 90 ≤%≥ 99.9 5 = % ≥100	
Choose low fat or no fat milk	(low fat/no fat milk/ total milk)*100		0 = % ≤ 59.9 1 = 60 ≤%≥ 69.9 2 = 70 ≤%≥ 79.9 3 = 80 ≤%≥ 89.9 4 = 90 ≤%≥ 99.9 5 = % ≥100	
Total				

CCC Scoring Guide				
Nutritional Guidance	Equation	Calculation	Point Allocation	Score
1 good source vitamin C a day	Count from the list provided in the recommended modifcations to CACFP meal patterns		0 = 0 - 12 1 = 12-13 2=14-15 3= 16-17 4 = 18-19 5 = 20	
3 good sources of vitamin A a week	Count from the list provided in the recommended modifications to CACFP meal patterns		0 = 0-6 1 = 7 2 = 8 - 9 3 = 10 4 = 11 5 = 12	
1 whole grain a day	individual count of menu items		0 = 0 - 11 1 = 12-13 2=14-15 3= 16-17 4 = 18-19 5 = 20	
Lunch				
2 fruit/veggie served per meal	individual count of menu items		0 = 0 - 23 1 = 24 - 27 2 = 28 - 31 3 = 32 - 35 4 = 36 - 39 5 = 40	
no juice	(juice served/total fruit) *100		0 = % ≤ 40 1 = 30 ≤%≥ 39.9 2 = 20 ≤%≥ 29.9 3 = 10 ≤%≥ 19.9 4 = 0.01 ≤%≥ 9.99 5 = % = 0.00%	
Snack				
limit crackers to 2 X a week	individual count of menu items		0 = # ≥ 25 1 = 21 - 24 2 = 17 - 20 3 = 13 - 16 4 = 9 - 12 5 = 0-8	
Breakfast				
limit sugary cereal 2 X week	individual count of menu items		0 = # ≥ 25 1 = 21 - 24 2 = 17 - 20 3 = 13 - 16 4 = 9 - 12 5 = 0-8	
Total				

20. Pre and Post Average Menu Scores for Intervention and Control Groups

	MyPlate Score (mean±SD)				**CCC Score** (mean±SD)				**Combined Score** (mean±SD)			
CCC	**Pre**		**Post**		**Pre**		**Post**		**Pre**		**Post**	
Intervention (n=19)	8.3	±3.6	8.5	±3.6	20.5	±9.3	21.8	±7.8	28.8	±10.0	30.2	±8.8
Control (n=5)	8.0	±2.6	9.2	±1.9	22.6	±8.2	21.6	±7.3	30.6	±9.2	30.8	±8.5

21. Syntax

```
MIXED GrainsAll_tot BY meal time WITH day
/CRITERIA=CIN(95) LCONVERGE(0.00001) MXITER(50000) PCONVERGE(1E-
5 RELATIVE)
/FIXED=meal time meal*time |SSTYPE(3)
/METHOD=REML
/PRINT=DESCRIPTIVES G SOLUTION TESTCOV
/RANDOM=INTERCEPT time | SUBJECT(id) COVTYPE(ID).
```