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PARENTAL PERCEPTIONS OF THE RHODE ISLAND EXPANDED FOOD AND NUTRITION EDUCATION PROGRAM

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PARENTAL PERCEPTIONS OF THE RHODE ISLAND EXPANDED FOOD AND NUTRITION EDUCATION PROGRAM

BY

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ABSTRACT

Childhood obesity in the United States has more than doubled over the last thirty years. As of 2012 in the United States, the percentage of obese children and adolescents ages 2 – 19 years remains alarmingly high at 16.9%. Childhood obesity is a major public health concern as obesity is associated with multiple health complications and increased mortality and morbidity. The Expanded Food and Nutrition Education Program (EFNEP) targets low-income households and provides knowledge and skills to improve nutritional well-being. The goal of this project was to explore: 1) participant satisfaction with regards to the current Rhode Island Expanded Food and Nutrition Education Program (RI-EFNEP) curriculum, 2) the perceived cultural appropriateness of the curriculum , 3) parents' perceptions of how certain obesity-related behaviors are discussed, and 4) participants' current parenting practices related to raising healthy children. Sixty minute semi-structured interviews were conducted in local community centers throughout Rhode Island with participants (n=22) who had completed the RI-EFNEP program. A translator was present for individuals communicating in Spanish. Participants were 18 or older and had a young child between ages 2 – 8 years. All interviews were transcribed. Content analysis was utilized to analyze themes coded in Microsoft NVivo 10 QSR. Approximately 73% of participants identified as Hispanic/Latino and all participants were low-income. Results indicate that parents increased nutritional knowledge and reported changed behaviors (e.g. greater fruit and vegetable intake, whole grain intake). They stated that they had an excellent experience and felt respected and empowered. Additionally, they had suggestions for improving the curriculum (e.g. budgeting, label reading,

media literacy, food demonstrations, parenting skills, portion control, and recipes). Participants reported that the paraprofessionals incorporated culture into the curriculum. Parents reported learning about obesity-related behaviors (e.g. sugar-sweetened beverages, eating outside the home, and fast-food consumption). Parents utilized routines and strategies at home for raising healthy children, but did identify skills and ideas they thought would help them. These findings can be used to tailor the curriculum for parents to ensure discussion on all obesity-related behaviors and can incorporate parenting skills education to further enhance the health of their families. Since EFNEP reaches a high-risk population, prevention of overweight and obesity should be promoted among these parents.

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PREFACE

This thesis was written to comply with the University of Rhode Island Graduate School Manuscript Thesis Format. This thesis contains one manuscript: *Parental perceptions of the Rhode Island Expanded Food and Nutrition Education Program.* This manuscript has been written in a form suitable for publication and is prepared for submission to the Journal of Nutrition Education and Behavior.

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Parental Perceptions of the Rhode Island Expanded Food and Nutrition Education Program

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ABSTRACT

Objective: To explore: 1) participant satisfaction with regards to the current Rhode Island Expanded Food and Nutrition Education Program (RI-EFNEP) curriculum, 2) the perceived cultural appropriateness of the curriculum, 3) parents' perceptions of how certain obesity-related behaviors are discussed, and 4) participants' current parenting practices related to raising healthy children.
Design: Sixty minute semi-structured interviews were conducted with participants (n=22) who had completed the RI-EFNEP program. A translator was present for individuals communicating in Spanish. Interviews were transcribed.
Setting: Interviews were conducted throughout Rhode Island in local community centers.
Participants: Participants were 18 or older and had a young child between ages 2 – 8 years.
Phenomenon of Interest: Parents' perceptions of the RI-EFNEP curriculum.
Analysis: Content analysis was utilized to analyze themes coded in Microsoft NVivo 10 Software.
Results: Approximately 73% of participants identified as Hispanic/Latino and all participants were low-income. Results indicate that parents reported increased nutritional knowledge and changed behaviors (e.g. greater fruit and vegetable intake and whole grain intake) as a result of participating in RI-EFNEP. They stated that they had an excellent experience and felt respected and empowered. Additionally, they had suggestions for improving the curriculum (e.g. budgeting, label reading, media literacy, food demonstrations, parenting skills, portion control, and recipes). Participants reported that the paraprofessionals incorporated culturally relevant activities and discussions into the curriculum. Parents reported learning about obesity-related behaviors (e.g. sugar-sweetened beverages, eating outside the home, and fast-food consumption). Parents reported already having some routines and strategies at home for raising healthy children, but identified skills and ideas that might help them improve their overall health.
Conclusions and Implications: Findings from this study can be used to tailor the current curriculum for parents to ensure discussion of all obesity-related behaviors in addition to incorporating parenting skills education to further enhance the health of their families. Since EFNEP reaches a high-risk population, prevention of overweight and obesity should be promoted among these parents.

INTRODUCTION

The prevalence of childhood obesity in the United States (US) has more than doubled over the last 3 decades.[1-3] As of 2012 in the US, the percentage of obese children and adolescents ages 2 – 19 years remains alarmingly high at 16.9%.[3,4] With nearly 17% of US children and adolescents obese, this is a major public health concern, as obesity is associated with multiple health complications and increased mortality and morbidity.[1] Obese children are more than twice as likely to die before reaching the age of 55 when compared to children with a healthy body mass index (BMI).[1] Racial and ethnic disparities still persist, with low-income and ethnic populations being the most at-risk group for obesity in this country.[3,5-8] Data from 2009 indicated that the percentage of obese Hispanic kindergarteners in Rhode Island (RI) was 25% as compared to 14% of obese non-Hispanic white kindergarteners.[9] Low-income populations are most at risk for various reasons, including environmental factors (lack of access to healthcare and fresh fruits and vegetables) and socio-cultural factors (lifestyle behaviors, acculturation, socioeconomic status, and education level).[5,10] Given that low-income children are more likely to be obese later in life, it is important to engage in preventative measures early in life.[11]

The Expanded Food and Nutrition Education Program (EFNEP) is designed to assist low-income communities with gaining skills and knowledge related to nutrition and dietary practices. It has been providing food and nutrition education to limited resource households since 1968.[12] Obesity rates have shifted drastically over the last three decades, and there is now an immense need to address childhood obesity prevention within existing nutrition programs, such as EFNEP. At its onset, EFNEP's

initial goal was to improve the health of low-income families through diet and nutrition education. Now, due to the rise in obesity, EFNEP curriculums may benefit by targeting additional behaviors related to obesity prevention. In RI, nearly all EFNEP participants are at or below 185% poverty level and more than half self-identify as Hispanic. The Rhode Island EFNEP (RI-EFNEP) paraprofessionals teach six, one-hour weekly lessons to groups of five to ten participants. All of the RI-EFNEP paraprofessionals teach the same six lessons as follows: 1) MyPlate and Go-Slow-Whoa foods, 2) Fruits and Vegetables, 3) Grains, 4) Dairy and Think Your Drink, 5) Fats and Oils, and 6) Protein. As part of the last lesson, they discuss shopping on a budget if time allows. The program is intended to improve the health of families, but is not directly targeting obesity prevention.[8] In order to modify the current RI-EFNEP curriculum to target obesity prevention in this-at risk population, it is necessary to first capture participant's experiences.

It is important to understand the different behaviors that may contribute to weight gain and the role that parents may play in order to think about how obesity prevention can be targeted within a nutrition education program. What indisputably causes weight gain is an excess intake of calories and/or a minimal amount of physical activity, which leads to positive energy balance, so it is important to address how excess calories are introduced into the diet.[13] Poor dietary choices during childhood are associated with chronic diseases and comorbidities later in life.[14,15] In addition, dietary patterns are likely to persist across the lifespan, and some suggest that diet quality actually decreases as children age.[15-17] Between 1989 and 2010, there was an increase in per capita daily energy intake among children ages 2 – 5 years regardless

of income or ethnicity and children ages 2 – 18 years from low-income homes.[18] Major sources of this added energy intake come from pizza, full-fat milks, sugar-sweetened beverages (SSB), ready-to-eat cereals, and sweet snacks and candies.[19] In addition, SSBs provide little or no nutritional value, are the biggest contributor to excess calories in children's diets, and consumption has more than doubled since 1977.[20-22] On the other side of energy balance, sedentary behaviors such as television viewing and screen time are positively associated with overweight and obesity in children.[23-26] More recently, sleep deprivation (less than 5 hours per night) has also been shown to be associated with obesity.[27] For every hour reduction in sleep, there is a concomitant increase in BMI by 0.35.[27] As gatekeepers, parents can positively influence these behaviors, which in turn may impact weight status.

Parents have significant influence on their children's dietary behaviors as they determine the availability and accessibility of foods, daily meal routines, and household rules.[28] Parents determine when eating occurs, the extent to which feeding occurs in response to hunger, the context in which eating occurs, and which feeding practices will be used.[29] In addition, parents also have an influence on children's screen time.[30] Parental monitoring of children's screen time may impact children's sleep, academic performance, and prosocial behaviors.[30] Thus, nutrition education programs may educate parents and provide them with the knowledge and skills to effectively promote healthy behaviors for themselves and their children.

Others have started to think about how to incorporate obesity prevention within existing nutrition programs; for example, Thompson and colleagues conducted a formative assessment among Hispanic parents of young children participating in an

EFNEP curriculum in Texas.[31] The authors combined both qualitative (focus groups) and quantitative (surveys) methods to assess participants' nutritional needs and the participants preferred format of delivery for an updated curriculum addressing obesity prevention.[31] They found that participants preferred activities which engaged them in active learning and discussions that involved sharing ideas and suggestions.[31] Additionally, the participants suggested goal setting, healthy recipes, tips to modify current recipes, and meal comparisons between healthy and unhealthy meals.[31] Although the authors collected information on nutrition obstacles, learning preferences, and learning needs, they did not explore what parents are doing to raise healthy children and what they would like to learn in order to improve what they are currently doing.[31] Thompson et al. reached out to the target audience before modifying a curriculum and demonstrated how insights from the target audience can be used to modify an existing curriculum.

Nutrition education delivery is difficult, especially when administering to multicultural groups, as is the case in RI. Effective nutrition education targets not only increasing nutritional knowledge, but also targets behavior change and goal setting.[32] Nutrition education interventions are most successful when improving behaviors is targeted at the individual level (e.g. personal motivation and barriers to change) and facilitated through community and organizational systems; doing so in EFENP can be difficult due to time limits and to delivery of the curriculum through groups.[32] The Academy of Nutrition and Dietetics recommends that nutrition education interventions for childhood obesity prevention need to emphasize family-centered approaches that involve nutritional knowledge, parenting skills, behavioral

strategies, and physical activity (PA) promotion.[33] The Academy also states that building parent engagement is highly important.[33] Parental education around childhood obesity prevention is most effective when parents are given guidance and at-home activities to improve healthy lifestyle changes for the child.[33] Behavior-based, multi-component nutrition education programs are more successful than knowledge-based nutrition education programs.[34] Through learner-centered education (participants' learning needs are emphasized and classroom involvement is encouraged) behavior based programs have been successful among low-income populations.[35] It is unclear, however, how the current RI-EFNEP goes beyond focusing on only increasing nutritional knowledge.

Not only does the delivery method in nutrition education matter, but addressing culture is also of great importance. Culture may influence the nutrition beliefs and behaviors of participants. It is especially important when considering individuals from countries outside the US and when looking at programs that serve a large population of immigrants with diverse cultures and health beliefs. In particular, 53% of participants of RI-EFNEP identify as Hispanic. Therefore, understanding and incorporating culturally relevant constructs into the nutrition curriculum is important. One important concept is that of acculturation, which can be defined as "the gradual exchange between immigrants' original attitudes and behavior and those of the host culture."[36] When discussing dietary habits, immigrants migrating into the US may adopt increased amounts of fast-food consumption, increased SSB consumption, increased portion sizes, and decreased consumption of fruits and vegetables.[36,37] Given that acculturation may negatively impact immigrants' diets, programs such as

RI-EFNEP, that work with a high number of diverse populations, should consider this when modifying a curriculum. Culturally tailored programs have proven successful in the past.[38,39] It is unclear, however, if participants of the current EFNEP program in RI perceive the program to be culturally relevant.

In order to improve and possibly expand the RI-EFNEP program to target obesity prevention it is important to first evaluate current participant satisfaction, the cultural appropriateness of the program, how it already discusses some obesity-related behaviors in the context of childhood obesity, and what parents are currently doing to keep their children healthy. Therefore, the goals of this project were to explore: 1) participant satisfaction with regards to the current RI-EFNEP curriculum, 2) the perceived cultural appropriateness of the curriculum, 3) parents' perceptions of how certain obesity-related behaviors are discussed within the current curriculum, and 4) participants' current parenting practices related to raising healthy children. With this information, areas for improvement within the RI-EFNEP curriculum can be addressed and revisions to tailor the curriculum to incorporate both childhood obesity and chronic disease prevention can be applied. This is important because the proportion of children in RI who are overweight or obese is noticeably higher than that of the entire US population.[3,40]

METHODS

Study Design

The data for this project were obtained from a series of individual face-to-face semi-structured interviews. Parents were recruited from RI-EFNEP. A list of parents with children ages 2 – 8 years who had completed the program between October 2012 and September 2013 was obtained. Given their already existing connection with past participants, a RI-EFNEP paraprofessional contacted, via telephone, past EFNEP participants, requesting their participation in an interview. Participants were asked to participate in an approximately 60 minute individual interview at a location convenient for them (e.g. community centers). During the phone call, the paraprofessional described the details of the interview, its purpose, and the gift card incentive for participating. The paraprofessional also informed participants that their names would be kept confidential. After an interview was scheduled, the researchers met with the participant at the designated community location most convenient to the participant. Prior to completing the interview, participants signed an Institutional Review Board approved informed consent. At the end of the interview, participants were asked to complete a brief socio-demographic survey. All interviews were audio-recorded and transcribed verbatim. Information gathered from the interviews was coded and organized using Microsoft NVivo QSR 10 Software.

Participants

Parents were eligible to participate if they were at least 18 years old and had a child between the ages 2 – 8 years. The RI-EFNEP database was used to gather participants. Initially, the database provided names of 754 past participants from

October 2012 to September 2013. This was then filtered to parents who had completed the program and had a child ages 2 – 8 years, which narrowed the number of eligible participants to 161 (approximately 21% of the original list). Of these 161, there were 73 with phone numbers listed. Over a two month time period, the paraprofessional attempted to contact all 73 individuals, but due to wrong numbers and disconnected phones, was only able to contact 55. From the 55 contacted, 34 interviews were scheduled between October and November 2013. Due to cancelations and participants not showing up for scheduled interviews, the final sample of participants was 22. Thus, of the participants contacted, 40% completed an interview. Two participants were grandparents, but they identified themselves as primary caregivers and will be described as parents throughout this paper. For their time, participants were provided with a one-time $30 gift-card incentive to a local supermarket.

Procedures

Semi-structured interview.

For this project, the same interviewer conducted all the interviews. For Spanish speaking participants (n=14), interviews were conducted with a paraprofessional translator. Interviews were conducted in order to capture feedback from the program, and the interview was designed so that participants could feel more comfortable discussing the program in a one-on-one setting [41] Interviews were also appropriate because they allow the participants to express their views on their own terms, and the interviewer can probe for more in-depth responses to gain better insight and perceptions.[41]

The interview script was developed to guide the discussion and to keep interviews consistent. Once the research questions were clearly identified, the interview questions were conceptualized to answer the research questions. With the lead investigator, informed by the current literature, open-ended questions were developed and first reviewed during an initial meeting with other investigators. This meeting provided feedback and suggestions for improving questions, eliminating questions, and adding new questions to better address the goal of the project. The interview script was modified extensively as a result. The new set of questions was then piloted with three EFNEP paraprofessionals because of their direct contact with participants and their knowledge of the targeted community. The paraprofessionals were helpful in rewording and asking sensitive questions in an appropriate way, so further modifications were made. The script was then shared with a research scientist in community nutrition at Cornell University for feedback, and additional probes were added to questions as a result of this feedback. Given the semi-structured nature of the interview, the script was merely used as a guide and not followed verbatim. The interviewer was free to ask additional questions, ask questions in different ways, and remove questions depending on responses from the interviewee. The full interview script can be found in Appendix C. Table 1 provides an overview of the interview script and corresponding participant response themes.

Table 1. Interview and response themes

Concept	Section Topic	Example questions	Response Themes
1. Participant satisfaction.	General curriculum feedback ranging from strengths to suggestions for improvement.	Tell me about your experience with EFNEP. Do you have any ideas on how to make the curriculum better for you and your family?	Participants reported strengths of the curriculum. Participants had a positive experience with the curriculum which resulted in behavior changes. Participants offered suggestions on how to improve curriculum
2. Cultural appropriateness.	Information on how the curriculum did or did not address culture.	How did the class fit your culture or what country you come from? a) If not, what can be changed?	Paraprofessionals incorporated culturally relevant activities.
3. Discussion of obesity-related behaviors.	Obesity-related behaviors discussed.	What was discussed about eating outside the home in your EFNEP class? a) How do you feel about that? What did you learn about sugar-sweetened beverages in your EFNEP class? a) What do sugar-sweetened beverages mean to you and your family?	Participants learned about health risks associated with sugar sweetened beverages, eating outside the home, and fast-food consumption, but continued to be concerned about these behaviors.

Table 1 continued

4. Current parenting practices to raising healthy children.	Discussion on current parenting practices.	Tell me about some of the routines you have on a normal day with your kids. If the curriculum incorporated parenting skills, how would that impact you and your family? How do you feel about a class that incorporates parenting skills and education?	Parents engage in healthy household routines. Participants experienced obstacles that made following healthy household routines difficult. Participants had strategies and rules to keep their children healthy. Parents want information and skills related to parenting to help keep their children healthy.

Data analysis.

All semi-structured interviews were audio-recorded and transcribed verbatim. The research team developed categories that represent broad themes seen in the data. To do this, the graduate student investigator reviewed all transcripts and identified the most common themes within each interview concept and throughout the entire interview. After these common themes were identified, the graduate student investigator and lead investigator met to discuss these themes. After discussion, themes were modified and the graduate student investigator reviewed all transcripts again to ensure consistency. After this review, the graduate student investigator and lead investigator met for a second time to finalize themes. Finalized themes are presented in Table 1. Microsoft NVivo 10 QSR was used for text analysis and coding. Microsoft NVivo 10 QSR is useful for enhancing the analytical capacity of qualitative data. It was used to summarize interviews by coding key quotes into their appropriate themes. Socio-demographic data from the surveys were entered into Microsoft Excel and imported into IBM SPSS Statistics version 21. Descriptive statistics (means, standard deviations, and frequencies) were then analyzed.

RESULTS

Overview

A description of the sample is provided followed by the qualitative results (concepts and related response themes) presented in the order highlighted in Table 1: 1) participant satisfaction, 2) cultural appropriateness, 3) discussion of obesity-related behaviors, and 4) current parenting practices for raising healthy children. **Sample Characteristics**

Sample characteristics are presented in Table 2. All except for one of the participants (n = 22) were female. The mean age of participants was 38 ± 9.2 and the mean household income was $22,793 ± $12,224. There were, on average, more than two adults living in each household. The majority of participants (73%) self-identified as Hispanic and were born outside of the US, with most originating from the Dominican Republic. For those born outside the US, the mean years of residence was 12.1 ± 7.1. More than half the participants (86%) had at least a high school degree/GED and most had only one child between 2 – 8 years of age (64%). Approximately one-third of participants reported being employed full-time (36%), 27% being employed part-time, and 18% being unemployed and searching for work. Over half of the participants reported being married and living with their spouse (64%).

Table 2. Sample characteristics		
	Total (N = 21 female, 1 male)	
Sociodemographic variables	Mean	SD
Age	38.0	9.2
Income	$22,793	$12,224
Adults in household	2.6	1.6
Years of residence in US	12.1	7.1
	N	%
Race/Ethnicity		
Hispanic	16	73
Non-Hispanic Black	2	9
Non-Hispanic White	3	14
Native American	1	5
Birthplace		
Dominican Republic	9	41
Other	13	59
Education		
Less than high school equivalent	3	14
High school graduate or GED	11	50
More than high school	8	36
Children 2 – 8		
1	14	64
2	8	36
Employment		
Full-time	8	36
Part-time	6	27
Unemployed and searching	4	18
Student or homemaker	4	18
Marital status		
Married	14	64
Never married	5	23
Separated or divorced	3	14

Concept 1: Overall Parental Satisfaction Of The Current RI-EFNEP Curriculum

Response Theme: Participants reported strengths of the curriculum. These strengths included label-reading, hand-outs, practicality, portion control, benefits of eating a variety of colorful fruits and vegetables, whole grains and fiber, budgeting, and food safety (Table 3). Food safety was one of the most common strengths reported by participants. Additionally, the curriculum influenced participants' feelings of support. The participants stressed that they felt welcome and respected; that the paraprofessionals created a sense of inclusion and helped them feel empowered to change their own health. For example:

> *"Definitely respectful, absolutely…So you know, they incorporated everything that they could to make all of the participants welcome, which was just outstanding in my book."*

Response Theme: Participants had a positive experience with the curriculum which resulted in behavior changes (Table 3). The majority of participants felt that the curriculum was enjoyable, relevant, and useful in helping to modify their health behaviors. For instance, one participant stated:

> *"It was definitely a positive experience. I loved all the information that I received from them. I greatly appreciated it. All the information that I actually got, I actually made copies and shared it with my neighbors.*"

The behavior changes most frequently reported included increasing individual daily exercise, replacing refined grains with whole grains, and trying new vegetables. They also mentioned how the curriculum influenced what they did as a family and even as a community. For example:

"I think it's made them [my kids] more conscious about what they're eating and why they should eat certain things. I'm not going to say 100% that they're going to keep these changes if I'm not around, but, I can see how it has affected them."

When asked to provide an example of what changes they thought were maintained, many participants reported weight loss. Changes that were maintained that they thought influenced their weight loss ranged from incorporating more whole grains, trying new vegetables, increasing physical activity, increasing intake of low-fat dairy, and eliminating energy-dense foods. Changing to eating whole grain foods was the most common change among families. Although they reported changes, they also mentioned the difficulties associated with maintaining these changes. They identified barriers, which included taste preferences, price, and getting their children to drink less juice. For instance:

"…before they used 3 or 4 glasses of juice per day, and now it's very difficult to say you need just to drink 4 ounces of juice per day."

Response Theme: Participants offered suggestions on how to improve the curriculum. With regards to suggestions on curriculum improvement related to their health and that of their children, participants requested more information on budgeting, how to incorporate exercise and PA into daily schedules, learning about media literacy, healthy food preparation and demonstrations, label reading, portion control, and tips for parents (Table 3). Portion control was identified as both a strength and area for improvement; this could be due to differences in paraprofessionals' delivery. More recipes and ideas for activities to keep their

children active were the most common suggestions for improvements among participants. Label reading was described as one of the most difficult aspects of the curriculum, but at the same time, was also one of the strengths because of the detail that the paraprofessionals provided. In regards to the length of the program, many participants suggested making the classes slightly longer (90 minutes) and requested having more than six lessons. Participants frequently mentioned how skilled and respectful the paraprofessionals were. Additional selected quotes are presented in Table 3.

Table 3. Concept 1: Overall Participant Satisfaction Response Themes and Selected Quotes

Response Theme: Participants reported strengths of the curriculum.	
Label reading	…every time read them but they, they learn us to focus more on it and read it carefully and they taught us how to read it.
Hand-outs	…my son sometimes can be a picky eater at times and they gave me this little paper called "Kids Plate" and it shows like you know, little things that you could do to make the kids eat better and healthier. So that was good to know.
Practicality	They were so smooth in the way that they presented it. With the information it was clear cut, easy to read, easy to understand. If anyone had a question, they addressed it, and they also, they made sure that you understood before they went on to anything else.
Food/diet related	I learned more about the benefits about each color about the fruits and vegetables. It helped to me because as a wife, as a mother, to learn more how to be healthy how to be healthy. I love when they talk about the whole grains because the whole grains, they give you more fiber. So there needs to be more whole grains.
Budgeting	A shopping list. And now I try to check the shelves and see what I need and I make a shopping list.
Food safety	…it was very educational because most of the girls they are not realizing that just cutting meat and vegetables on the same board will cause contamination. Or using a sponge to wash things that… you know? I mean I was watching their expressions and they were like "Oh I never even thought about that."
Response Theme: Participants had positive experience with the curriculum which resulted in behavior changes.	
Individual	…I am eating more whole grains and 1% milk. I am using brown rice, and every day fruits. Before I took the class I never ate breakfast and now that I took the class I am eating breakfast every day because that is very important.

Table 3 continued	
Family	And now for example, the bread, I was using the regular bread and now I'm changing for the whole wheat bread. And I was using one slice of white bread and the other one of whole wheat bread and now they are eating now. So for example, I was using the regular bread on the top and the whole wheat on the bottom. And the brown on the bottom so it looks like white. And now it's all brown.
Maintenance	Well, before I would do nothing and now I am walking a lot, every day. I lose 70 pounds.
Response Theme: Participants offered suggestions on how to improve the curriculum.	
Budgeting	Maybe more information on how to purchase food and save money.
Exercise and PA	I think they could help with activities, more activities that would be great. Definitely. Ideas for activities. Even ways to kind of engage different grade levels in activities because sometimes the teenagers aren't going to want to just get up and go play with you, he's going to want to do something else so it could be like, while this group is doing that, maybe you could do this with your kid or the kid can do this by themselves, or you know, something along those lines.
Food advertisements	…yes, we need to include more about media because all that they say on advertisements on TV cannot be true, it is not real.
Food demonstrations	…when they're talking about vegetables, they're talking about new vegetables, but they don't know how to cook that kind of vegetables.
Label reading	Maybe read more labels because that was the difficult part.
Portion control	Yes for example, measuring. If they ask for measuring half a cup of rice I can measure it very easy and another person can't…for example, when they ask about a deck of cards that the people were thinking they need to cut the meat like one card.

Table 3 continued

Food preparation and recipes	…maybe the nutrition class help maybe with ideas for example, when I'm doing the cook preparation, maybe the kids can help doing the cook preparation. Helping for example, passing the spoons or passing something. I would definitely say some …either some recipes just to kind of, get someone who like in my situation where I have no balance of like "maybe I should do this" or "this". And it's like if I had something to fall back on like a cheat sheet, it could kind of get me more dependent on it.
Tips for parents	…more suggestions on how the parents can give kids healthier foods. I want some tips of how to teach my daughter how to be more active.

Concept 2: Cultural Appropriateness Of The Curriculum

Response Theme: Paraprofessionals incorporated culturally relevant activities. Even though the curriculum does not specifically address ethnic specific foods and incorporate cultural appropriateness into the lesson plans, it appeared that the paraprofessionals incorporate culture in some way. In particular, this was true for all of the Hispanic, Native American, and non-Hispanic black participants where they felt that their food preferences and beliefs were incorporated into the curriculum:

"Yeah, they spoke about variety, and taught us about ethnicities and what they do.

"Yes. I felt comfortable. They were respectful and helpful."

"And she also went beyond as to exotic foods that certain cultures, not like Americanized foods, Spanish fruits and vegetables, and African fruits and vegetables, things like that that I didn't know about."

"They even asked us to share some differences, you know, what would be different the way that you would do this? Or you know how your culture does that or foods that your culture eats, you know at celebrations, on an everyday basis, only on holidays. So you know, they incorporated everything that they could to make all of the participants welcome which was just outstanding in my book."

Concept 3: Discussion of obesity-related behaviors within the EFNEP curriculum.

Response Theme: Participants learned about health risks associated with sugar sweetened beverages, eating outside the home, and fast-food consumption. Participants reported how dangerous they thought SSBs are in relation to obesity and diabetes and how they were concerned about these behaviors in their children. The

majority of participants reported learning about the dangers of consuming excessive amounts of SSB, eating frequently outside the home, and fast-food consumption. For example:

> *"…the juice that we give to the kids, we spoke about that – to be careful of what our kids consume because some of those juices are less juice and more preservatives or sugar."*
>
> *"…it was cool because they gave us that little…it's like a pamphlet book thing and it says it each thing and the calorie count, the sugar count, and the fat count and it's like 'Whoa'."*
>
> *"That they are high in fats, and also they talk about that that kind of fat clogs the arteries. Before I took the class, I never imagined how the fat could clog the arteries, and now I knows how the fats they can clog the arteries."*

When presented with the questions about fast-food and SSB consumption, participants were quick to respond at how "unhealthy" and "dangerous" these are. As for discussion of eating outside the home (other than fast-food), the participants reported mainly discussing substitutions and portion control.

Concept 4: Current Parenting Practices Related to Healthy eating

Response Theme: <u>Parents engage in healthy household routines</u>. Participants reported having household routines related to meals and diet, physical activity, and sleep in order to raise healthy children (Table 4). Additionally, some routines were related to personal hygiene. Participants identified that personal hygiene was important for health. For example:

"They need to be very clean. And I try to keep them clean: wash the hands, wash the teeth, brush the teeth."

"Get up in the morning…bathroom things like washing your face and brushing your teeth."

Response Theme: Participants experienced obstacles that made following healthy household routines difficult. These obstacles ranged from family and peer influence to time management and schedules (Table 4). In particular, "indulgent" influences from other family members were problematic in keeping and maintaining healthy routines.

Response Theme: Participants had strategies and rules to keep their children healthy. Participants also reported strategies and activities, which they believe keep their children healthy. These included providing a healthy food environment, encouraging physical activity, making sure their children sleep enough, acting as role models, and educating their children on why being healthy is important (Table 4). Keeping their children active was mostly done through playtime outside or participating in sporting activities. Participants varied in their use of screen time with children. Many parents restricted screen time; however, it differed by amount, which screen was being used, and some parents did not limit screen time. Selected quotes are presented in Table 4.

Table 4. Concept 4: Current Parenting Practices Related to Healthy Eating Response Themes and Selected Quotes

Response Theme: Parents engage in healthy household routines.	
Diet and meals	Yes, when it's time to eat, together, we sit down everybody together. …they need to clean the bedroom before they eat, and after that they have breakfast, small portions of breakfast.
PA and outdoor play	…in the summer they can go outside. After he does his homework, then he needs to go to class for baseball.
Sleep	Then if we're out we'll come home, wash up, get into pajamas. Or if we're home, we'll watch maybe a movie or so, and then go wash up, get into pajamas and then kind of relax for the night. …personal hygiene. Before bed routines we have reading a book, clapping out the alphabet, clapping out numbers 1-30, getting into bed, reading another story, and then kind of relaxing until she goes to sleep.
Other	When they are not at school I try to help the kids with the homework, or do some activities like coloring. So when they came home at 4, they eat something. After that they need to do their homework. They can watch TV around 8:30PM. …she also has a homework routine; when she comes home from school she can have one snack while she's doing her homework but it can't be something that's packaged so she is learning the difference between packaged and unpackaged food and what it could be placed in; like unpackaged you can kind of just leave on the counter. If it's something like a thing of like the clubhouse crackers or the Cheez-its or the goldfish you can leave those on the counter or in the Ziploc bags but, if it's fruit, it needs to be in the fridge, if it's vegetables it needs to be in the fridge with its dip.

Table 4 continued	
Response Theme: Participants experienced obstacles that made following healthy household routines difficult.	
Obstacles	…busy during the day it makes it harder to get home and cook. Other family, I have a big family and we're close, and they all, they try to help. But they're not on her like…My mother will give her whatever she wants. …the kid has his own personality, so he's very, he's very hard to understand because sometimes she try to choose something for him, and he doesn't want it. He wants another thing. The truth is I don't know how to do it. I try to deal with him but it's hard.
Response Theme: Participants had strategies and rules to keep their children healthy.	
Food	…he has to complete his dish before he goes to bed and he must drink milk before he go to bed. It's one apple and sometimes a banana. He never eats in his room, never. He just eats in the kitchen. I try lots of fruits at hands reach. …they don't eat at the bedrooms.
Physical Activity and outdoor play	I have an hour where I let them play outside in the yard, I have a big yard with swings. They go outside in the front, play with the ball, ride their bikes, and they also go to the park too. Run around, goes on structures, climb.

Table 4 continued

Sleep	…they need to go to the bed at 8pm. The rule is to go to bed at 10:00PM. I make sure they go to bed on time and they take a nap also.
Role modeling	…as a parent I need to be a role model for them…Also talking about the healthy benefits for the food, so why they need the healthy nutrients or the benefits. So I try to talk to the kids about that. Definitely try to be the person that they see eating the healthy meals.
Education	Because as a mother I need to learn how to more eat healthy and receive more benefits how to eat healthy. To improve the health of my family. I also try to give them the information that they need to make judgments for themselves…
Screen-time	…they use computer because they need to do the homework that is requested by the school. For example the rule for the TV is just a half an hour, no more. TV, they watch TV for like two or three hours. I try to keep them away from the TV. …no more than 2 hours with the video games and they need to do it after their homework. …with the video games, they forgot to make their homework or they forgot to do everything. And that is not good for the brain.

Response Theme*:* Parents want information and skills related to parenting to help keep their children healthy. When asked about parenting skills and education, participants were open to new information and had ideas about what they thought would be helpful for them and others. Many parents had difficulties getting their children to follow rules and requesting more information on how to effectively enforce rules was common. Participants also mentioned that family and peers make it difficult for them to get their children to follow rules. For example:

> *"…sometimes you just want to see through someone else's eyes."*
>
> *"…if I have more skills, I can do a better job with the kids."*
>
> *"And you know, a fresh outlook always helps. Sometimes parents don't see their own flaws."*
>
> *"…sometimes we don't know how to talk with the kids…and also some rules and skills of how to handle."*
>
> *"…there's always little tricks and hints out there that you don't know that you haven't thought of that without even realizing would help you with whatever situation your child has because every child is different."*
>
> *"Time management skills. Also for me my biggest challenge is like outside peer influences, so how to deal with that."*
>
> *"What they should show is how to actually get them to follow directions, how to listen, how you can lose your temper with them also."*

Most parents responded positively towards more information on parenting skills, stating that it would be helpful for them. When asked if they would like to have classes incorporating parenting education, a few participants said the following:

> *"…it's like they read my mind."*
>
> *"That would be a miracle."*
>
> *"That is wonderful."*

DISCUSSION

The goals of this project were to explore: 1) participant satisfaction with regards to the current RI-EFNEP curriculum, 2) the perceived cultural appropriateness of the curriculum, 3) parents' perceptions of how certain obesity-related behaviors are discussed within the current curriculum, and 4) participants' current parenting practices related to raising healthy children. We found that participants of RI-EFNEP had a positive experience and reported health behavior changes as a result of their participation. Reported strengths of the curriculum included learning about label reading, hand-outs, food safety, portion control, benefits of eating a variety of colorful fruits and vegetables, and practicality. Participants were open to discussion about improving the program and had many suggestions themselves, including: budgeting, PA, more recipes, food demonstrations, food preparation, tips for parents, and portion control. Although they had suggestions for program improvement, participants also stated that it was an enjoyable experience and provided culturally appropriate knowledge and support to improve their own and their families' health behaviors. It was evident that participants learned about SSB consumption, fast-food consumption, and dining out (i.e. behaviors associated with obesity). Parents believed in the use of implementing strategies, rules, and routines to raise healthy children, which did not necessarily center just on food. Although they practiced some of these routines, participants expressed that they would welcome more strategies on how to work with their children to be healthy. Our results reinforce the importance of gathering feedback from the target audience prior to curriculum modifications.

Participants reported that they enjoyed both the content of the program as well as

the delivery of the program through paraprofessionals. Our findings that participants enjoyed the program and reported changing behavior as a result, is similar to what others have found.[35,42] Participants also reported telling family members and neighbors about the information they learned through EFNEP, which is similar to findings from Thompson and colleagues.[31] Further research might explore the impact of EFNEP on both immediate and distant family members of participants. With regards to delivery of the program participants reported that the paraprofessionals delivering the current curriculum engage with them as active learners, and although they are acquiring information about healthy eating, they are participating in hands-on activities and having important nutrition and health related discussions. Participants frequently mentioned how inclusive and respectful the paraprofessionals were. It appears that the positive perceptions of the current program may be directly related to the paraprofessionals' ability to facilitate active learning and adapt to each group, making all participants feel welcome. Dickin et al. found an association with paraprofessionals perceived value of the program and participants reported nutritional behavior changes.[43] Given that paraprofessionals may impact nutritional knowledge and in turn behavior change, paraprofessionals need to be effective and consistent in program delivery.[44] Therefore, RI-EFNEP should ensure consistency across education, training, and delivery methodology to all paraprofessionals.

Although the curriculum does not specify that paraprofessionals incorporate cultural appropriateness and ethnic foods into class discussion, the paraprofessionals in RI do so in multiple ways. For example, as an in-class activity, some participants reported that paraprofessionals asked them to build menus using their own cultural

foods and then compared their menus with the class, an activity that was not part of the original curriculum. Participants in our study—of predominately Hispanic background—felt that the program was culturally appropriate. This could be due to the fact that the paraprofessionals are from local communities similar to those of the participants, and they try to be as inclusive as possible. Interestingly, when the non-Hispanic white participants were asked about cultural appropriateness, they did not seem to think the paraprofessionals discussed culture. Culturally appropriate programs are important to ensure effectiveness within culturally diverse populations.[38,39,45,46] The use of paraprofessionals has been used to improve health behaviors and/or health status with adults and, more recently, with low-income families because they have real-life understanding of existing social networks, cultural values, needs, and attributes and are able to communicate in ways that resonate with their peers.[47-51] Paraprofessionals play a key role in ensuring cultural appropriateness of the curriculum, yet the process should be captured and documented in order to replicate success. Further research should be conducted to explore the variation in paraprofessionals' cultural awareness, competency, and program delivery.

The current RI-EFNEP program is already discussing several obesity-related behaviors such as SSB consumption, eating outside the home, and fast-food consumption. Discussing these in a nutrition education program is important because these behaviors may lead to excess calorie consumption and therefore weight gain. We were interested to see how the paraprofessionals integrated these behaviors into the lessons. Participants reported learning about the dangers of these behaviors. Consistent with Thompson and colleagues, our results indicate that participants were

concerned about the food and beverages their families consume and expressed desire to learn more about nutrition.[31] It is crucial that programs like EFNEP provide the knowledge and skills to protect against obesity-related behaviors in this at-risk population, as they may not receive the information elsewhere. There are areas for improvement; other obesity-related behaviors that are not part of the program include PA for children, sleep, and screen time. These behaviors, although not part of the current curriculum, are important as they have been associated with obesity in children.[23-27,52] In particular, participants reported wanting more information and guidance with regards to these behaviors, especially ideas for activities to keep their children active. An updated curriculum for parents would benefit from including these three topics.

Many participants were taking steps and implementing strategies and household routines to enhance the well-being of their families. Parents brought up screen time, eating as a family, and sleep when discussing common household routines. These household routines have been associated with a decrease in the prevalence of obesity in children, and a randomized control trial implementing these routines resulted in significant reductions in child BMI.[53,54] Although the parents in our study mentioned these routines, it was not apparent that they were aware of the current recommendations associated with each of these routines. For example, several parents mentioned that their children watched several hours of screen time a day, and some participants mentioned watching television while eating meals. Parents did report some obstacles to keeping their household routines consistent (e.g. family members and schedules). Similar to what Herman et al. found, participants in our study

reported common challenges to keeping children healthy when in the presence of other family members.[55] This is important, especially considering most of our participants reported having more than 2 adults in the home, which may impact the influence on the child's dietary behaviors. Family members wanting to indulge children with food may also be rooted in Hispanic culture, whereby the view of a larger child is a healthier one.[56,57] Even though parents were faced with some obstacles to building healthy household routines for their children, parents were enthusiastic and positive towards learning more about parenting, possible solutions to overcome some of the challenges, and how to effectively apply household rules. Improving effective parenting in early childhood is associated with a healthier BMI.[58] Integrating healthy household routines with parenting skills among low-income populations, such as in RI-EFNEP, through a modified curriculum for parents may help prevent obesity in young children.

The strengths of this research include the detailed in-depth interview, the involvement of the target audience, and the cultural representation in the sample. Limitations include the small sample size, possible non-response bias (participants were likely going to be positive about the curriculum whereas non-participants who were unable to be contacted may not have felt positive about the curriculum), possible self-selection bias (participants may be similar in the fact that they chose to participate in the study, and individuals who chose not to participate may not have the same ideas and opinions), and the restriction to RI, which may limit the generalizability of these findings.

It is evident from our results that parents are receiving nutrition education and are making steps to implement changes in their household. In addition to reporting positively about the nutrition education delivery, participants want more parenting education to better implement healthy changes for their children. We also found that the paraprofessionals incorporate cultural appropriateness into the curriculum, and some obesity-related behaviors are covered within the curriculum but concerns relating to these remain. We noted that participants had household routines and parenting strategies for raising healthy children, not necessarily related to nutrition. Participants felt that more information relating to parenting skills and strategies would be useful in their lives for raising healthy children. Based on the findings from our research, an EFNEP class designed for parents may be appropriate for childhood obesity prevention and should incorporate topics relating to all obesity-related behaviors and effective parenting.

IMPLICATIONS FOR RESEARCH AND PRACTICE

Assessment of the target population before implementation or modification of an educational curriculum such as EFNEP is of great importance. Research needs to identify what is important to the target population, why it is important to that audience, and how to best deliver the information. With the findings from this research, the RI-EFNEP curriculum can be tailored to meet the needs of diverse parents. This is important because childhood obesity rates remain alarmingly high, and this low-income population is at high-risk.[3,8] Our findings are helpful for individuals designing future curriculums because they can provide necessary information for the development of materials and lesson plans tailored to meet the needs, experiences, and preferences of the target audience. The current RI-EFNEP curriculum can be tailored for classes with parents; a curriculum that builds on the existing curriculum by focusing on all obesity-related behaviors (adding screen time, sleep, and PA for children), parenting skills and education (adding household routines to decrease obesity risk and providing effective parenting education to improve children's health), and is culturally appropriate to the RI-EFNEP audience.

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APPENDICES

APPENDIX A: REVIEW OF THE LITERATURE

1) Introduction

Obesity is complex given that mechanisms in body weight regulation and maintenance are not yet fully understood[1]. It is multifactorial and can affect all the body's organs, and there are many factors that must be taken into consideration when discussing prevention[1]. Obesity can lead to many chronic diseases, and childhood overweight and obesity places children at high risk[2]. Considering the complications associated with obesity, along with the rise in obesity and mortality, obesity is a serious public health concern[2]. The United States (US) is one of the wealthiest developed countries in the world; however, the life expectancy of individuals in the US is one of the worst among developed countries[3]. As of 2009, the US ranked 50 in life expectancy across the globe, and the occurrence of obesity contributes to the given statistic due obesity's negative impact on longevity[3,4]. Although the US has seen a rise in life expectancy over the last 100 years, it is predicted that it will decrease in the next 100 years due to complications associated with obesity[5]. Clearly, there is room for significant improvement with regards to the prevention of obesity. The health costs of obesity are astounding, at an estimated $14.1 billion annually[6]. Cardiovascular disease is the leading cause of death in the US and is directly associated with obesity[7-9]. Obese children are more than twice as likely to die before reaching the age of 55 when compared to children with a healthy BMI[2]. If a society can adequately prevent this deadly diagnosis, it may be possible to improve the health of the US population.

One of the first areas that should be prioritized includes programs that can reach the most at-risk populations. Low-income ethnic populations have undoubtedly been identified as the most at-risk group in this country[10-12]. This population is most at risk for various reasons, including lack of access to healthcare, lifestyle behaviors, lack of access to fresh fruits and vegetables, acculturation, socioeconomic status, and education level[10,13]. Prevention efforts must target this high-risk group to have the greatest impact. Additionally, prevention should be targeting individuals early in life as lifestyle habits developed during early childhood are continued throughout the life cycle[14]. For prevention to be effective, interventions need to be audience specific and tailored to produce the desired outcome[15].

The RI-EFNEP curriculum was developed to assist low-income households to gain skills and knowledge to prepare and provide healthy meals for themselves and their families. The goal of this project was to explore: 1) participant satisfaction with regards to the current RI-EFNEP curriculum, 2) the perceived cultural appropriateness of the curriculum, 3) parents' perceptions of how certain obesity-related behaviors are discussed, and 4) participants' current parenting practices related to raising healthy children. Therefore, in order to understand the importance of this project, the following areas will be discussed throughout this review: prevalence of childhood overweight and obesity, health disparities in overweight and obesity, the relationship between acculturation and obesity, factors that influence overweight and obesity (e.g. diet quality and sedentary behaviors, sugar-sweetened beverage consumption, sleep duration, parenting styles, feeding practices, parents' perception of overweight and obesity, and genetics), complications associated with overweight and obesity, obesity

prevention efforts, the current RI-EFNEP curriculum, successful nutrition education, the Healthy Children Healthy Families (HCHF) curriculum, and implications for the future.

2) Prevalence of childhood overweight and obesity

Overweight in children can be defined as greater than or equal to the 85th percentile but less than the 95th percentile for body mass index (BMI) on the Centers for Disease Control (CDC) 2000 growth chart. Obesity is defined as greater than or equal to the 95th percentile[16]. These age- and sex-specific percentiles for BMI are used for children rather than using BMI categories as in adults. With the definitions provided, it is relatively simple to identify and categorize the prevalence of overweight and obesity among children. Using BMI is the most cost-effective and common tool to measure childhood obesity. It uses height and weight to measure weight status, but is inadequate in measuring adiposity. The use of BMI fails to measure adipose tissue and fat-free mass, which is important when assessing overweight and obesity in children.

Worldwide rates of childhood overweight and obesity are increasing[17]. The prevalence of childhood obesity in the US has tripled over the last three decades[18]. Between 1976 and 2012 in the US, the percentage of overweight children ages 2 – 5 increased from 7% to 19%[19,20]. Based on data obtained from 2007 to 2008, one-third of children and adolescents in the United States are overweight or obese[18]. Recent data indicates an overall national decrease in obesity among children ages 2 – 5 from 2003-2004 to 2011-2012; however the percentage of children ages 2 – 5 who are overweight or obese still remains alarmingly high at 22.8%.[21] Additionally, as of

2012 in the US, the percentage of obese children and adolescents ages 2 – 19 years remains alarmingly high at 16.9%[19,21]. The World Health Organization places obesity within the top global public health issues[22]. In 2008, a nationwide US poll listed obesity as the most important health problem facing children[23].

Childhood obesity is a serious concern in Rhode Island (RI) given that low-income RI residents are affected greatly[12]. The RI Women, Infants, and Children (WIC) program found that 19% of children ages 2 – 4 are overweight and 16% are obese[20]. These percentages are slightly higher than that of the US population: 14% overweight and 8% obese[21]. Knowing that obesity is a concern, it is evident that it is even more of a concern for the state of RI when taking into account that this state has a higher prevalence than national averages[20,21].

3) Complications associated with overweight and obesity

The US has seen a corresponding rise in health complications associated with excess body fat in children, including hyperlipidemia, hypertension, impaired glucose tolerance, and reduced quality of life[24-27]. Obesity has the potential to negatively impact the entire body. Comorbidities associated with obesity include hypertension, dyslipidemia, type 2 diabetes, and some cancers[28,29]. Obesity increases the risk for cancers of the esophagus, pancreas, colon, and breasts[30]. Children who are obese are at a greater risk for becoming obese adults, increasing the risk for these complications and comorbidities[31]. Given that childhood obesity has the potential to cause such health distress later in life, it is important to engage in preventative measures early.

4) Disparities in overweight and obesity

Overweight and obesity in childhood is an issue for a multitude of reasons. In the US, over 30% of children are overweight or obese, but disparities among underserved populations are evident[10,18,32]. Socioeconomic status (SES) is inversely related to childhood obesity[10]. Families of Hispanic/Latino descent are disproportionately affected by the rates of overweight and obesity in children and have higher rates of poverty and food insecurity as compared to whites [18,33,34]. Hispanic and black children are more likely to be obese than non-Hispanic-white children[35]. By age six, approximately 28% of Latino-American children are overweight or obese compared to 17% in the non-Hispanic white population[18]. In the state of RI, 47% of Hispanic children were living in poverty as of 2005, which is much higher than the national average of 29% among all ethnicities. In 2000, RI Hispanics had the lowest median family income of all Hispanics in the US[36]. Hispanic kindergarteners in RI are more likely to be obese than non-Hispanic white kindergarteners[37]. Data from 2009 indicated that the percentage of obese Hispanic kindergarteners was 25% while the percentage of obese non-Hispanic white kindergarteners was much lower at 14%[37]. Although the prevalence of obesity among children appears to be stabilizing in the US, racial/ethnic disparities still persist[35].

5) Acculturation and obesity

Acculturation is defined as "the gradual exchange between immigrants' original attitudes and behavior and those of the host culture[38]." The host culture is the culture in which the immigrant has moved. Acculturation is associated with some negative health consequences for immigrants including stress, poor mental health, and higher

BMI[38,39]. When considering dietary habits, immigrants migrating into the US may adopt increased amounts of fast-food consumption, increased sugar-sweetened beverage (SSB) consumption, increased portion sizes, and decreased consumption of fruits and vegetables[38,40]. A recent review found an overall positive correlation between acculturation into the US and the incidence of overweight and obesity in adults; the longer residence in the US, the higher the individuals' BMI[38].

Delavari et al. suggests that the relationship between acculturation and obesity may be likely due to the nutrition transition[38,40,41]. The nutrition transition is characterized by decreased consumption of nutritionally sound foods and replacement with fatty, processed foods observed in residents of developing countries[38,40]. This transition involves both the qualitative change in the diet and the rapidness of such change, which is more evident in migrants of low and middle income countries to high income countries, such as the US[38,40,42]. Acculturation reflects greatly from the nutrition transition to a more obesogenic diet, thus resulting in higher BMI[38]. Obesogenic food environments are characterized by a lack of physical activity, excessive intake of energy-dense, and intake of low-nutrient foods. [42,43] These obesogenic food environments induce high intakes of fast-food, convenience foods, and lower intakes of healthy foods[43,44]. These types of environments also fail to encourage energy expenditure[43]. When targeting ethnic minorities, it is important to consider acculturation when designing interventions for childhood obesity.

6) Factors affecting overweight and obesity

There are a myriad of factors that can contribute to a child being overweight and obese, and it is highly important to address these factors when designing a program for

prevention. What indisputably causes weight gain is an excess intake of calories and/or a minimal amount of physical activity, so it is important to address how excess calories are introduced into the diet. A positive energy imbalance causes weight gain[45]. Poor dietary choices during childhood is associated with chronic disease and comorbidities later in life[29,46]. In addition, dietary patterns are likely to persist across the lifespan, and some suggest that diet quality actually decreases as children age[14,46,47]. With regards to minimal amounts of physical activity, television viewing, playing video games, and computer use contribute to the lack of energy expenditure and are associated with childhood obesity[48].

Food environments are important when considering food choices and the impact on overweight and obesity. It has been suggested that the promotion of energy-dense foods with little nutritional value leads to poor food choices[49]. Disturbingly, fast-food restaurants are concentrated around schools[50]. Unfortunately, energy-dense foods with little nutritional value are available in school cafeterias although progress has been made to improve school lunch menus[24]. Regulations on the food that is available in schools has been implemented recently[47]. Food environments seem to play a role in the mediation of overweight and obesity[51]. Poor behaviors relating to diet and physical activity likely take place in these obesogenic environments. This section will discuss diet quality, screen time, physical activity, SSB consumption, food environments, sleep, parenting styles, feeding practices, and genetics as they relate to childhood overweight and obesity.

i) Diet quality

Diet quality plays an important role when discussing children's health. The diets of children in developed countries are low in fruit and vegetable consumption and are high in energy-dense foods with little nutritional value[46,52,53]. It has been shown that diet quality is inversely related to weight status in children[54]. Diets similar to a Mediterranean diet result in a beneficial trend in weight status of children[54]. This diet is high in vegetables, legumes, fish, whole grains/cereals, and low-fat dairy products. This diet is also low in meat and has a high ratio of monounsaturated to poly-unsaturated fats[54]. It has also been shown that the obesogenic environment—with a diet that has high intakes of fast-food, energy-dense snacks, and SSBs—increases the likelihood of obesity in children[38,43]. As expected, diet quality has a major impact on obesity.

A major concern when discussing diet quality is intake of empty calories. Solid fats and added sugars provide excess calories while providing little nutritional value and are referred to as empty calories[55,56]. Between 2009 and 2010, one-third of children's energy intake came from empty calories[57]. The 2010 Dietary Guidelines for Americans recommends that empty calories should be minimized to 8 – 19% of energy intake[58].

Between 1989 and 2004, there was a clear increase in per capita daily energy intake among children ages 2 – 5, Mexican-Americans, and children from low-income households[59]. In fact, among children ages 2 – 5 and those from low-income homes, there was a continued increase to 2010[59]. Major sources of this added energy intake

come from pizza, full-fat milks, SSBs, ready-to-eat cereals, and sweet snacks and candies[60]. Clearly, there is room for improvement in the diet of US children.

ii) Screen time

For children over the age of 2, the American Academy of Pediatrics recommends a maximum of two hours of screen time per day as well as removing screens from children's' bedrooms[61]. For the purposes of this review, screen time includes television viewing, video game usage, computer usage, tablet usage, and other items that engage individuals through a virtual screen. Television and screen time are positively associated with overweight and obesity in children[62-65]. Children who watch more than two hours of television per day are more than twice as likely to be overweight or obese as compared to children who watch one hour or less per day and are also more likely to be overweight than children who watch two hours or less[48,66]. Not surprisingly, the amount of television watched during childhood is positively associated with BMI later in life[67-69]. Some studies have shown an association with television viewing and weight gain in preschool children[63,70,71]. Children with access to a television in their bedroom are at an increased risk for being overweight and obese[70]. A national sample of preschoolers found that more than two hours per day of television viewing is independently associated with being overweight and having higher adiposity[66]. Providing structure around screen time and setting limits on how much the child can engage in, along with placement of the screen (e.g. television in the living area) are associated with lower media usage[72,73].

Eating while watching television also presents a problem. A longitudinal study conducted in Canada that sampled 1549 children found that children between the ages

of 4 – 5 tend to eat while watching television[48]. They also found that more than one-third of children eat while watching television at least once per day and nearly one-quarter of children do so twice per day; 22% eat breakfast while watching television, 7% watch during lunch, and 12% watch during dinner[48]. Children with younger mothers were more likely to watch television while eating[48]. Having an immigrant mother was highly associated with eating while watching television every day[48]. Also, parental education level was associated with eating while watching television, especially when the education was less than a high-school diploma[48]. Children from low-income households watched more television and had increased amounts of food consumption while watching television[48]. This may be due to the limited access to parks and neighborhood safety[48]. Women who report their neighborhood as unsafe also report higher amounts of television time for their children, as opposed to mothers who perceive their neighborhood as safe[74]. The total number of hours of television viewing was highly associated with eating while watching television[48]. In addition to the increased frequency of eating while watching television, children were consuming high-carbohydrate, high-fat, energy dense foods, as well as lower consumption of fruits and vegetables[48]. Eating while watching television was even associated with greater intakes of soda[48]. Most of the children who ate while watching television were watching more than three hours per day[48]. It has been found that a significant amount of children's daily intake is strongly related to increased amounts of television time[75]. Screen time frequencies differed by gender whereby boys tended to watch more television and ate more while watching television, as opposed to girls[48]. Dubois et al. states "given that parents are important change agents, particularly for shaping the

behavior of young children, the development of effective strategies for reducing the frequency with which children eat while watching television is warranted[48]." This is another reason it is important to involve parents when discussing childhood overweight and obesity prevention.

iii) Sugar-sweetened beverages

During the past few decades, the intakes of soft drinks among children have increased immensely[76,77]. Soft drink consumption has more than doubled in the US among children since 1977[76]. Sugar-sweetened beverages (SSBs) provide little or no nutritional value and are the biggest contributor to excess calories in children's diets[78,79]. In a longitudinal Canadian study of 1549 children, Dubois et al. found that 16% of children between ages 2.5 – 4.5 consumed a SSB between meals every day[80]. This study also found that maternal age, maternal education, and income were all inversely related to amount of SSB consumption in children[80]. Regular consumption of SSB daily between meals was found to be related to obesity, and the amount of SSB consumption increased as children aged[80]. In addition, they found that the regular consumption of SSBs and its association with being overweight in children is independent of other dietary factors, which include energy intake, macronutrient breakdown, and food group consumption[80]. From ages 2.5 – 4.5, children who regularly consumed SSBs were more than twice as likely to be overweight than nonconsumers[80]. In low-income households, children who consumed SSBs were more than three times more likely to be overweight than nonconsumers[80]. Another study found similar results whereby for every serving of a SSB, there is an increase in BMI by 0.24 in children[81]. Children who consume SSBs on a daily basis have an increase

in caloric intake by 7 – 20%[82,83]. In a longitudinal study of 9600 children ages 2 – 5, there was evidence that SSB consumption varied greatly by race/ethnicity with non-Hispanic black and Hispanic children having the highest intakes[84]. This study also observed that consumption of SSBs was positively associated with hours of television watched[84]. Other studies have found that in addition to weight gain associated with SSBs, SSB consumption may replace milk consumption, so children may not be consuming enough milk in their diets[85,86]. Since there is a positive relationship with the regular consumption of SSBs and overweight among preschool-aged children, interventions should target parents with messages and strategies to improve beverages choices for their children[80].

iv) Sleep duration

When comparing sleep in adults to that of children, the two vary by quantity and nature[87]. By age 10, sleep is similar to that of adults, but it is typically of longer duration[87]. A 2008 meta-analysis found that the majority of studies focusing on sleep and obesity in children had significant positive associations with short sleep duration (less than five hours per night) and obesity[87]. The meta-analysis concluded that for every hour reduction in sleep, there is a concomitant increase in BMI by 0.35[87]. Although the mechanism of sleep duration and obesity has not clearly been identified, it has been suggested that it may be due to hormone responses that increase appetite and caloric intake (ghrelin increases and leptin decreases)[88]. In a within-subjects crossover study of children ages 6 – 11, there was significant evidence to show a decrease in caloric intake by 134 kilocalories (kcals) during an increased sleep period[89]. When compared to decreased sleep, increased sleep resulted in lower

reported food intake, lower leptin levels, and lower weights[89]. Interestingly, during the decreased sleep period, more calories were consumed during the additional hours at an average of 103 kcals/day[89]. Thus, the caloric difference between increased sleep and decreased sleep totaled 237 kcals/day[89]. Therefore, sleep could potentially be a necessary component of obesity prevention efforts.

v) Parenting styles

Parents have strong control over home environments and have a significant influence on their children's dietary behaviors because they determine the availability and accessibility of foods, daily meal routines, and household rules[90]. Childhood and adolescence are critical stages of life for prevention of overweight and obesity because behavioral patterns related to eating developed during this time typically continue into adulthood[73]. Again, children who are already obese are more likely to obese as adults, placing them at risk for a multitude of health consequences[91]. Parents should be the targets for promoting healthful behaviors with their children[73].

The term parenting style "describes differences among parental attitudes and styles of interacting with children that could result in individual differences among children in key outcomes[92]." Based on demandingness (behavioral control over the child) and responsiveness (supportiveness of the child), parenting is classified into four different styles. These styles include authoritative, authoritarian, indulgent, or neglectful[92]. Hughes et al. altered the categories to focus on feeding rather than broader contexts[93]. They classify parents based on the use of demanding or responsive child-feeding behaviors and attitudes[92,93]. Utilizing feeding styles in the application of child-feeding

assumes that parents exhibit styles that can characterize how they interact with their children during any feeding situation[92].

It has been suggested that a more involved parenting style may provide protection against the onset of childhood overweight and obesity[94,95]. On the other hand, a more permissive or neglectful parenting style has been positively associated with childhood obesity[96]. An authoritative parenting style, one which is both responsive and demanding, has been associated with positive outcomes for children across all aspects from health, to psychological development, and to scholastic achievement[97,98].

Since a significant portion of children are already overweight when starting school, a focus on young children in the home provides an alternative route for obesity prevention[92]. Because the family is the primary social atmosphere that influences young children, it's likely that many risk factors for childhood obesity have the strongest roots within the family setting[92]. Parents are key in the development of children's obesogenic behaviors[73,99]. Because of their influential presence, parents can have an impact on children's dietary and physical activity behaviors.

vi) Feeding practices

Within the context of child feeding, feeding practices specify behavioral strategies parents use to control what, how much, or when their children eat[92]. Feeding practices include pressuring children to eat, using food as a reward, restricting access to certain foods, modeling, and the use of food to pacify or control[92].

Parents are important when discussing feeding practices because they control the key determinants of children's eating experiences[92]. They determine when eating occurs, the extent to which feeding occurs in response to hunger, the context in which

eating occurs, the foods and portions that are available, and which feeding practices will be used[92].

Culture influences nutrition and child feeding, and feeding practices differ among racial/ethnic minorities[100]. In a qualitative study of 30 mothers, Hispanic women were least restrictive in feeding practices and Black women tended to serve larger portions to their children[100]. According to Vollmer et al:

> "Differences in child feeding practices, barriers to a healthful diet, and implementation or interpretation of messages among mothers of different ethnic/racial groups may not be captured by quantitative measures; thus qualitative measures may provide new insights into these differences and contribute to developing culturally appropriate obesity prevention techniques[100]."

Demanding or controlling feeding practices have been associated with eating in the absence of hunger and eating more palatable foods when not under supervision[99]. Responsive and nurturing practices, such as providing rationale for rules around food have been associated with positive dietary behaviors (e.g. increased consumption of fruit and vegetables)[99]. Permissive and uninvolved feeding practices are typically associated with poorer dietary patterns and weight status[99]. Although these feeding practices are associated with unhealthy dietary patterns, there is room for improvement by integrating these into community interventions targeting obesity.

For example, in a study that assessed how parents perceive and implement nutrition messages, there was evidence to support that low-income mothers would benefit from receiving education on parental feeding skills because low-income mothers tend to have authoritarian or indulgent parenting styles[100]. The authoritative

style, associated with positive dietary behaviors in children, is not common among low-income mothers[100]. This study also found that misinformation and superficial knowledge about nutrition was common[100]. The authors suggest that low-income black and Hispanic mothers may benefit from information and skills on how to introduce new foods to their children, as well as more information on appropriate portion sizes[100,101]. The authors' recommendations suggest that black and Hispanic mothers might need interventions targeting a decrease in SSB consumption and portion control, and that all mothers should learn more about child feeding practices that are less controlling[100-103]. This is yet another reason it is important to involve parents.

Although progress has been made with regards to research involving feeding practices, Patrick and colleagues suggest that more research is needed to address the mechanisms the affect feeding practices[73]. They also state that it is important to view feeding practices from the context of not just parents, but from co-parents, other caregivers, and siblings[73]. More research is needed on the precursors of feeding practices as influenced by parenting styles in relation to childhood obesity[73]. Research also needs to show how neighborhoods, cultures, and relationships influence the interaction between parents and children[73]. As shown, there are significant gaps in research when discussing feeding practices.

vii) Genetics

On top of the aforementioned factors, there is also a significant genetic component that will affect childhood obesity[104,105]. This genetic component can have an effect on eating behaviors such as the following: rapid eating rate, eating in response to

environmental cues, eating in the absence of hunger, and poor recognition of physiological satiety cues[95,106-108]. A recent review found that genes influence children's ability to self-regulate food intake[109]. This is imperative because even a minor change in energy intake during early childhood (as low as +30 kcals/day) may promote obesity[45,110]. Although this is important to recognize as a factor, it should be noted that the human genome is currently not modifiable. Because this risk factor is unmodifiable, it's necessary to focus on the above modifiable factors.

7) Prevention efforts and suggested strategies to prevent overweight and obesity

Prevention of obesity early in life among at-risk populations should be a priority, as obese children are more likely to become obese adults[111]. Nutrition promotion as the target prevention effort for obesity should be initiated in early childhood to ingrain healthful dietary habits, especially considering the dietary habits developed in early childhood are likely to continue throughout the lifespan[14,46,47,112-114]. As previously mentioned, being an overweight or obese adult increases the risk for chronic diseases, such as diabetes, cardiovascular disease, and some cancers[30]. Discussions of interventions related to childhood obesity are important to determine areas of improvement.

Branscum and Sharma conducted a systematic review for prevention of childhood overweight and obesity that used health education and promotion interventions[34]. They found that interventions were more successful when participants were at a higher risk for obesity, a parent was included, and the intervention was of longer duration[34]. They suggested that interventions target physical activity and dietary behaviors[34]. They also stressed the importance of decreasing the consumption of SSBs and

restricting the portions of snacks and meals[34]. In 2007, Davis and colleagues reviewed evidence for behavioral and practice interventions related to childhood obesity prevention and have provided many suggestions for the prevention of childhood obesity which include: 1) limit consumption of SSBs, 2) encourage fruit and vegetable consumption, 3) limit screen time, 4) eat a healthy breakfast daily 5) limit eating outside the home, especially fast-food, 6) encourage family meals, 7) limit portion sizes, and 8) promote physical activity[115]. Considering the research, these areas are beneficial to address for future programs.

Interventions aimed at younger children are more likely to have an impact on adiposity than interventions targeting older children[24]. Obesity prevention efforts that administer behavior based nutrition education across age groups are necessary to help parents modify their families' food related behaviors[24]. The Academy of Nutrition and Dietetics (AND) states that

> "the prevention and treatment of pediatric overweight and obesity require synergy between the personal and public responsibility in an integrated systems-level approach that includes consistent messages and environmental support across all sectors of society to achieve sustainable behavior change for life[24]."

Prevention efforts cannot exist solely at home. They must exist across homes, schools, grocery stores, and others' households. To have an impact, prevention efforts need to be consistent across environments, which suggests that public policy aimed at preventing overweight and obesity is crucial. All systems need to work together to be most effective and produce desired results.

Adapting the home environment to limit television access has been implemented for the prevention of overweight and obesity[116]. It has been found that family-based approaches achieve the most significant decreases in overweight in children[117,118]. In a randomized home-based intervention that utilized tailored counseling by health coaches to promote behavior change relating to television use in 74 families found that both weekday and weekend television viewing significantly decreased after 6 months[119]. The intervention focused on limiting television time, removing the television from the child's bedroom, sleep duration, and family meals[119]. This study also observed an improvement in child sleep duration[119]. As evidenced by the link between screen time and obesity, there should be a focus on identifying strategies to reduce the amount of screen time and increase physical activity for children[95].

As stated before, it is important to include a parental component when designing an intervention; however, involving parents and families in childhood obesity prevention efforts and treatment can be quite difficult[24,34]. It is even more difficult for low-income families who encounter multiple challenges[24]. Effective and sustainable parenting skills and feeding practices to manage children's requests for unhealthy foods may not be practiced by all adults during early childhood[24]. Parents seem to focus mainly on health issues with direct and instantaneous consequences (e.g. drug use)[24]. It is also important to note that even when parents are engaged with their children, their efforts may not be followed through in the schools where nutrition education is often limited, or in communities where food advertisements and the availability of unhealthy foods does not promote healthy food choices[49].

The AND recommends that participation of the parent or caregiver is absolutely necessary to encourage healthful eating and adequate growth and development[24]. The AND also recommends that prevention of overweight and obesity should focus on foods and eating patterns associated with increased risk, parental and family factors, sedentary activity, and physical activity[24].

8) EFNEP

EFNEP was developed in 1968 because of concerns with hunger within the US[120]. According to the United States Department of Agriculture (USDA) National Institute of Food and Agriculture:

> EFNEP is designed to assist limited resource audiences in acquiring the knowledge, skills, attitudes, and changed behavior necessary for nutritionally sound diets, and to contribute to their personal development and the improvement of the total family diet and nutritional well-being. Through an experiential learning process, adult program participants learn how to make food choices which can improve the nutritional quality of the meals they serve their families. They increase their ability to select and buy food that meets the nutritional needs of their family. They gain new skills in food production, preparation, storage, safety and sanitation, and they learn to better manage their food budgets and related resources from federal, state, and local food assistance agencies and organizations…EFNEP is delivered as a series of 10-12 or more lessons, often over several months, by paraprofessionals (peer educators) and volunteers, many of whom are indigenous to the target population. The hands-on, learn-by-doing approach allows the participants to

> gain the practical skills necessary to make positive behavior changes. Through EFNEP, participants also experience increased self-worth, recognizing that they have something to offer their families and society[121].

EFNEP currently operates in all fifty states [121]. Obesity rates have shifted drastically over the last 3 decades, and there is now an immense need to address childhood obesity prevention in this at-risk population. It is important for nutrition education programs to incorporate obesity prevention efforts because of the immense shift in obesity rates. When EFNEP began, the main goal was to improve the health of low-income families through diet and nutrition education. Now, due to the rise in obesity, EFNEP curriculums may benefit by targeting additional behaviors related to obesity prevention. In RI, nearly all EFNEP participants are at or below 185% poverty level, more than half self-identify as Hispanic, and 21% are parents of young children.

The current RI-EFNEP curriculum was developed and implemented initially at the University of Florida, Gainesville campus. The University of Florida Institute of Food and Agricultural Sciences (IFAS) Cooperative Extension is responsible for this series of lessons, Eat Right for Life. The curriculum incorporates twenty lessons, including 1) MyPlate, 2) Getting Your Grains, 3) Vary Your Vegetables, 4) Focus on Fruits, 5) Get Your Calcium, 6) Go Lean on Protein, 7) Know Your Fats, 8) Discretionary Calories: Use Extra Calories Wisely, 9) Be Active, 10) Fresh Produce: From Farm to Table, 11) Reading Labels for Better Nutrition, 12) Meal Planning for Good Nutrition, 13) Saving Money on Meals, 14) Eating Breakfast: The Best Way to Start Your Day, 15) Snack Smart, 16) Keep Food Safe, 17) Feeding Infants, 18) Feeding Your

Children, 19) Eating for Healthy Mom and Baby, and 20) Disaster Food Safety. Course materials are available in both English and Spanish.

The RI-EFNEP faculty teaches lessons over the course of six weeks. Groups of five to ten participants meet once a week for approximately an hour for each lesson. To receive their completion certificate, participants must attend a minimum of five out of the six lessons. All of the RI-EFNEP paraprofessionals teach the same 6 lessons and they are as follows: 1) MyPlate and Go-Slow-Whoa foods, 2) Fruits and Vegetables, 3) Grains, 4) Dairy and Think Your Drink, 5) Fats and Oils, and 6) Protein. Throughout all six lessons, the parapofessionals provide at least one food safety tip per lesson. In the last lesson (Protein) they do discuss shopping on a budget, if time allows. Although the focus of this curriculum is on healthy eating, there are some key behaviors associated with childhood obesity that are not part of the curriculum, such as: sleep duration, physical activity and outdoor play for children, and screen time. The program is intended to improve the health of families, but is not directly targeting obesity prevention. Therefore it is important to focus on obesity prevention among high-risk populations, including parents with young children, through widespread community programs such as RI-EFNEP.[35] In order to modify the focus of the current RI-EFNEP curriculum, it is important to first capture participant's experiences. Although participants provide feedback through surveys, satisfaction of the overall program and in-depth responses is not captured.

In Rhode Island during 2012, 53% of EFNEP participants identified as Hispanic/Latino, 20% identified as white, 10% identified as black, 1% identified as American Indian or Alaskan Native, 4% identified as Asian, and less than 1%

identified as Native Hawaiian or Pacific Islander. As for income, nearly all participants in the RI-EFNEP curriculum are at or below 185% of the federal poverty level and more than one-fifth of participants are below 50% of the federal poverty level. Data obtained from RI-EFNEP in 2012 indicates that 65% of participants were female and 35% of participants were male.

The RI-EFNEP faculty recruits through community agencies, such as adult education and workforce development agencies. These agencies offer low-income populations language courses, life skills classes, and other essential programs for those in need. The RI-EFNEP faculty also recruits through parent groups around the state. Given that RI-EFNEP participants are a high-risk population, it is vital to implement obesity prevention efforts.

9) Nutrition Education

Nutrition education delivery is difficult, especially when administering to multicultural groups, as is the case in RI. Effective nutrition education targets not only increasing nutritional knowledge, but also targets behavior change and goal setting[122]. They are most successful when improving behaviors is targeted at the individual level (e.g. personal motivation and barriers to change) and facilitated through community and organizational systems[122]. The AND recommends that nutrition education interventions for childhood obesity prevention need to emphasize family-centered approaches that involve nutritional knowledge, parenting skills, behavioral strategies, and physical activity promotion[24]. The AND also states that building parent engagement is highly important[24]. Parental education around childhood obesity prevention is most effective when parents are given guidance and

at-home activities to improve healthy lifestyle changes for the child[24]. Behavior-based nutrition education programs are more successful than knowledge-based nutrition education programs[123]. The most successful programs target more than one personal, environmental, or behavioral influence. Learner-centered education with in-class interaction and activities has been successful in a low-income population[124]. Education needs to emphasize participants' learning needs and encourage classroom involvement[124]. Obesity prevention efforts that evaluate programs in a pilot and that incorporate parental involvement have improved outcomes[125]. This suggests a need for education beyond nutritional knowledge; for childhood obesity prevention, parents need to be educated on creating a healthy environment, and they need the knowledge and skills to implement parenting practices that promote healthy child lifestyles.

Addressing culture in nutrition education programs is important because it may effect nutrition beliefs and behaviors of participants. It is especially important when considering individuals from countries outside the US and when looking at programs that serve a large population of immigrants with diverse cultures and health beliefs. In particular, 53% of participants of Rhode Island EFNEP identify as Hispanic. Therefore understanding and incorporating culturally relevant constructs is important. One important concept is that of acculturation, which can be defined as "the gradual exchange between immigrants' original attitudes and behavior and those of the host culture"[38]. When discussing dietary habits, immigrants migrating into the US may adopt increased amounts of fast-food consumption, increased SSB consumption, increased portion sizes, and decreased consumption of fruits and vegetables[38,40]. Thus,

nutrition education programs such as EFNEP need to be culturally relevant and appropriately tailored.

10) Healthy Children Healthy Families Curriculum

Healthy Children Healthy Families (HCHF) is a curriculum that was developed as part of Cornell University's initiative Collaboration for Healthy Activity and Nutrition in Children's Environments through Food and Nutrition Education in Communities office. This curriculum was developed to provide education to parents that focuses on nutrition, physical activity, and parenting strategies. The overall goal is to help families make healthy choices. The curriculum aims to address the behaviors that help children maintain a healthy weight and avoid unnecessary weight gain. These behaviors include eating more fruits and vegetables, increasing physical activity and outdoor play, reducing energy-dense foods, limiting screen time, minimizing the consumption of SSBs, and monitoring portion sizes. The curriculum also incorporates parenting strategies to influence children's food choices and these include teaching by example, helping children feel good about themselves, offering choices within limits, and altering environments to help make healthy choices easier.

The curriculum includes eight lessons: 1) Introduction, 2) Think Your Drink, 3) Fruits and Vegetables, 4) Playing Actively, 5) Reducing Energy-dense Foods, 6) Minimizing Screen Time, 7) Having Sensible Servings, and 8) Review. All lessons are approximately 90 minutes in length.

The program has proven successful[126]. Participants report reduced SSB intake, greater consumption of low-fat dairy, increased fruit and vegetable consumption, letting children regulate energy intake, increased physical activity, and making fruit

more available in the home while reducing energy-dense snacks[126]. The evaluation of this curriculum observed that it can increase knowledge and motivate parents to change nutrition, physical activity, parental feeding practices and home food environments[126]. Authors suggest that this curriculum is ready to be implemented into a community nutrition program, such as EFNEP[126]. Before doing so, it is important to assess the target community.

11) Conclusions

It has been discussed that disparities exist within the context of race/ethnicity and SES with regards to childhood obesity[35]. Obesity is influenced by many factors, and interventions targeting obesogenic behaviors can have a positive impact on weight status in children[34]. Not only do obesogenic behaviors affect obesity, but parenting also plays an important role in affecting these behaviors[73]. Programs can reach high-risk populations and EFNEP is a primary avenue for the prevention of obesity through the nutrition education provided to parents. To further enhance this program, evidence from the literature should be incorporated into EFNEP curriculums to adequately target all obesogenic behaviors and address cultural differences.

12) Significance of project

With the results from this project, the RI-EFNEP curriculum can be revised and tailored to incorporate both obesity and chronic disease prevention for parents of young children. The tailored curriculum would specifically be developed to target parents. Although there is an existing curriculum (HCHF) which targets several of these behaviors, it is important to get feedback from the current participants and assess the current population before imposing a completely different curriculum.

Since EFNEP aims to reach low-income at risk populations, it is imperative that this population receive education and tools via an EFNEP curriculum for addressing obesity and chronic disease prevention[121]. The EFNEP curriculum can serve as the primary tool to have a positive impact on this population given that it can provide crucial information and skills. This review of the literature has shown that childhood obesity is a public health concern. Interventions have been developed to prevent childhood obesity, but unfortunately they have not been able to sustain long-term improvements. The literature has also identified that interventions need to involve parents and need to be tailored to the audience at hand.

In order to improve and possibly expand the RI-EFNEP program to target obesity prevention it is important to first evaluate current participant satisfaction, the cultural appropriateness of the program, how it already discusses some obesity-related behaviors in the context of childhood obesity, and what parents are currently doing to keep their children healthy. This project is unique because it aims to explore 1) participant satisfaction with regards to the current RI-EFNEP curriculum, 2) the perceived cultural appropriateness of the curriculum, 3) parents perceptions of how certain obesity-related behaviors are discussed, and 4) participants' current parenting practices related to raising healthy children. Addressing culture is important given that 53% of participants identify as Hispanic/Latino. With the results from this project, we will better understand the needs of the parental population participating in RI-EFNEP in order to revise and tailor the curriculum to incorporate both obesity and chronic disease prevention. This is important because the proportion of children ages

2 – 4 in RI who are overweight or obese is noticeably higher than that of the entire US population[20].

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APPENDIX B

EXTENDED METHODOLOGY

Overview

The goal of this project was explore: 1) participant satisfaction with regards to the current Rhode Island Expanded Food and Nutrition Education Program (RI-EFNEP) curriculum, 2) the perceived cultural appropriateness of the curriculum, 3) parents perceptions of how certain obesity-related behaviors are discussed, and 4) participants' current parenting practices related to raising healthy children.

In order to accomplish this, parents who had completed the RI-EFNEP adult curriculum between October 2012 and September 2013 were recruited to participate in an individual face-to-face interview. The interviews were semi-structured and were administered with a 24 question moderator guide. Twenty-two interviews were completed and each lasted approximately 60 minutes. All interviews were transcribed verbatim and themes were identified. After themes were identified, they were coded and organized using Microsoft NVivo QSR 10 Software.

Approach To The Problem

Study design.

The data for this project was obtained from a series of individual, face-to-face, semi-structured interviews. Parents were recruited from the EFNEP program in Rhode Island. A list of parents of children ages 2 – 8 years who had completed the program was obtained. Given their already existing connection with past participants, a Rhode Island-EFNEP paraprofessional contacted, via telephone, past EFNEP participants inquiring their participation in an interview. Paraprofessionals are

employees who have knowledge and skills in a specific field; however, they lack professional licensure. Paraprofessionals assist professionals in their field. In the case of EFNEP, paraprofessionals are generally from the same community as the participants. Participants were asked to participate in an approximately 60 minute individual interview at a location convenient for them (e.g. community centers). During the phone call, the paraprofessional described what the interview entailed, its purpose, and that they would receive a $30 gift card for participating. The paraprofessional also informed participants that their names would be kept confidential. If participants were interested in completing the interview, the paraprofessional scheduled the face-to-face interview within 2 weeks. After an interview was scheduled during the phone call, the researchers met with the participant at the designated community location most convenient to the participant. Prior to completing the interview, participants signed an IRB approved informed consent. At the end of the interview, participants were asked to complete a brief socio-demographic survey. All interviews were audio-recorded and were later transcribed verbatim. Information gathered from the interviews was coded and organized using Microsoft NVivo QSR 10 Software.

Participants.

Participants were eligible if they were at least 18 years old and had at least one child ages 2 – 8 years. Initially, the RI-EFNEP database provided names of 754 past participants. This was then filtered to parents who had completed the program and had a child ages 2 – 8 years, which narrowed the number of eligible participants to 161. Of these 161, there were 73 with phone numbers listed. The paraprofessional

attempted to contact all 73 individuals, but was only able to contact 55. From the 55 contacted, 34 interviews were scheduled between October and November 2013. Participants were contacted either the day before or the day of their scheduled interview as a reminder. Due to cancelations and participants not showing up for scheduled interviews, the final sample of participants was 22. Thus, of the participants contacted, 40% completed an interview. Two participants were grandparents, but they identified themselves as primary caregivers and will be described as parents throughout this paper. For their time, participants were provided with a one-time $30 gift-card incentive to a local supermarket.

Location.

Given participants busy schedules, the paraprofessional offered locations throughout Rhode Island, which were close to the participant, to conduct the interview (e.g. local library, community centers, etc). The interviews, however, were not conducted in the participants' home. This was to maintain the safety of both the interviewer and translator.

Procedures

Semi-structured interview.

Semi-structured interviews are most often used when you can only interview a participant on one occasion.[1] They consist of an interviewer and an interviewee where the two engage in a formal interview.[1] The interviewer uses an interview script that includes topics and questions to be discussed, and they are usually written in a specific order to serve as a guide.[1] The interviewer attempts to adhere to the script, but the interviewer may allow for exploration of tangential topics.[1] Open-ended questions

should be utilized.[1] Generally, the interview is audio-recorded for later transcription.[1] This type of interview is used frequently because it allows for preparation before the interview but also permits exploration of topics beyond the script.[1] They can provide reliable, comparable qualitative data.[1]

For this project the same interviewer conducted all the interviews. Many of the participants requested to conduct the interviews in Spanish. In this case, the paraprofessional served as the translator during the interview (n=14). Interviews best suit this project because participants are more likely to discuss sensitive issues and be more open about the program in a one-on-one setting.[1] Interviews were also appropriate because they allow the participants to express their views on their own terms, and the interviewer can probe for more in-depth responses to gain better insight and perceptions.[1]

The interview script was developed to guide the discussion and to keep interviews consistent and can be found in Appendix C. Once the research questions were clearly identified, the interview questions were conceptualized to answer the research questions. With the lead investigator, informed by the current literature, open-ended questions were developed and were first piloted during an initial meeting with other investigators. This meeting provided feedback and suggestions for improving questions, eliminating questions, and adding new questions to better address the goal of the project. The interview script was modified extensively as a result. The new set of questions was piloted again with 3 EFNEP paraprofessionals because of their direct contact with participants and their knowledge of the targeted community. The paraprofessionals were helpful in rewording and asking sensitive questions in an

appropriate way, so further modifications were made. This script was shared with a research scientist in community nutrition at Cornell University for feedback, and additional probes were added to questions as a result of this feedback. Probes are used to get more feedback from the participant if the original question was not clear or was misunderstood. Probes are also useful for gaining more information about the topic of the question by delving deeper into the thoughts and perceptions of the participant. Almost all questions in the finalized script had probes. The 24 question interview script can be found in Appendix C. Given the semi-structured nature of the interview, the script was merely used as a guide and not followed verbatim. The interviewer was free to ask additional questions, ask questions in different ways, and remove questions depending on responses from the interviewee. Table 1 provides an overview of the interview script and corresponding participant response themes.

Table 1. Interview and response themes

Concept	Section Topic	Example questions	Response Themes
1. Participant satisfaction.	General curriculum feedback ranging from strengths to suggestions for improvement.	Tell me about your experience with EFNEP. Do you have any ideas on how to make the curriculum better for you and your family?	Participants reported strengths of the curriculum. Participants had a positive experience with the curriculum which resulted in behavior changes. Participants offered suggestions on how to improve curriculum
2. Cultural appropriateness.	Information on how the curriculum did or did not address culture.	How did the class fit your culture or what country you come from? b) If not, what can be changed?	Paraprofessionals incorporated culturally relevant activities.
3. Discussion of obesity-related behaviors.	Obesity-related behaviors discussed.	What was discussed about eating outside the home in your EFNEP class? a) How do you feel about that? What did you learn about sugar-sweetened beverages in your EFNEP class? b) What do sugar-sweetened beverages mean to you and your family?	Participants learned about health risks associated with sugar sweetened beverages, eating outside the home, and fast-food consumption, but continued to be concerned about these behaviors.

Table 1 continued

4. Current parenting practices to raising healthy children.	Discussion on current parenting practices.	Tell me about some of the routines you have on a normal day with your kids. If the curriculum incorporated parenting skills, how would that impact you and your family? How do you feel about a class that incorporates parenting skills and education?	Parents engage in healthy household routines. Participants experienced obstacles that made following healthy household routines difficult. Participants had strategies and rules to keep their children healthy. Parents want information and skills related to parenting to help keep their children healthy.

Data analysis.

All semi-structured interviews were audio-taped and transcribed verbatim. The team developed categories which represent broad themes seen in the data. To do this, the graduate student investigator reviewed all transcripts and identified the most common themes within each interview concept and throughout the entire interview. After these common themes were identified, the graduate student investigator and lead investigator met to discuss these themes. After discussion, themes were modified and the graduate student investigator reviewed all transcripts again to ensure consistency. Finalized themes are presented in Table 1. Microsoft NVivo 10 QSR Software was used for text analysis and coding. Microsoft NVivo 10 QSR is useful for enhancing the analytical capacity of qualitative data. It was used to summarize interviews by coding key quotes into their appropriate themes. The major themes from the interviews were summarized and differences were assessed and discussed during two meetings with the student and lead investigator. Socio-demographic data from the surveys were entered into Microsoft Office Excel and imported into IBM SPSS Statistics version 21. Descriptive statistics (means and frequencies) were then analyzed.

Timeline.

Table 5. Timeline	
Month & Year	Task
June 2013 – August 2013	1. Developed interview script 2. Piloted interview questions with committee 3. Defended thesis proposal
August 2013 – September 2013	1. Piloted interview questions with EFNEP paraprofessionals
October 2013 – November 2013	1. Conducted interviews
November 2013 – December 2013	1. Transcribed interviews
December 2013 – January 2014	1. Developed themes and coded in NVivo
February 2014 – April 2014	1. Complete and defend thesis 2. Submit results for peer reviewed publication
April 2014 – May 2014	1. Present project at Experimental Biology 2. Participate in development of materials to improve curriculum

Resources Required

For this project, a departmental computer with Microsoft NVivo 10 QSR Software, IBM SPSS Statistics 21, and Microsoft Office was needed. The graduate student investigator was needed to conduct the interviews. The student investigator was also trained with Microsoft NVivo 10 QSR Software. Undergraduate research assistants were obtained to assist with transcription. A RI-EFNEP paraprofessional was needed to contact participants and also served as the translator in the cases of Spanish interviews. No other resources were required.

References

1. Cohen D CB. Qualitative Research Guidelines Project. 2006; http://www.qualres.org/HomeSemi-3629.html. Accessed June 18, 2013.

APPENDIX C

INTERVIEW SCRIPT

Rhode Island EFNEP Evaluation Project

University of Rhode Island: Nutrition and Food Sciences Department

General Information
The intent of this interview is to make participants as comfortable as possible during the interview and let them know what to expect by the end of the experience.

About the topic:
The EFNEP curriculum exists to provide low-income households with the knowledge and skills to provide their families, and themselves, with nutritionally beneficial diets and to improve the health of their families. The results from this interview will show us where the curriculum already provides useful topics with regards to childhood obesity and chronic disease prevention but also where it is lacking.

1. Objective Rules:
a. Respect all opinions and input.
b. Responses are voluntary and all ideas are welcome.
c. The interview will remain confidential. We ask that participants respect confidentiality.
d. We ask that respect be given to both the interviewer and interviewee. Both parties will be able to finish their thoughts before another response is given.

2. Purpose of the Interview:
a. Explore how parents perceive the RI-EFNEP curriculum and their child's health.
b. Get feedback to improve the RI-EFNEP curriculum to focus on childhood obesity and chronic disease prevention.

3. Audio Recorder:
a. The recordings are kept confidential.
b. When the recordings are transcribed, participants will be identified by a code (number).
c. Anonymous quotations may be used for reports and/or publications.

Format of Interview

1. Consent form	(5 minutes)
2. Welcome	(5 minutes)
3. Introductions	(5 minutes)
4. Questions	(40 minutes)
5. Survey & Compensation	(5 minutes)
Total: 1 hour (estimated)	

Opening
Consent and Welcome (10 minutes)

Thank you for meeting me for this interview. My name is Patrick, and I am a student at the University of Rhode Island. I study Nutrition and Food Science. We appreciate your willingness to participate in this interview and I am grateful for you giving up your time to provide us with beneficial feedback. Your opinions and ideas are important to us, so feel free to interrupt me whenever necessary. You were chosen to participate in this interview because you have already participated in an EFNEP class and you are a parent of a young child.

My job is to guide this interview with specific questions, but it is entirely up to you to provide me with feedback and ideas. I will be audio recording this interview so we can transcribe word-for-word at a later date. Keep in mind that everything you say will be kept confidential. If at any point you need to take a short break, feel free to stop me.

Please turn off any electronic devices before we begin.

Due to time restraints, I may ask you to move on to the next topic in a timely manner. This interview should last roughly one hour.

Do you have any questions before we begin?

Introductions (5 minutes)

Please tell me:

1. Your name
2. A little bit about yourself (where are you from)
3. About your family (how many children do you have and what are their ages)

I will begin so you have an idea of where to go.

Questions (40 minutes)
Thank you for sharing that with me. Now, why don't we move on to some of the questions related to your child's health.

Participant satisfaction with the curriculum

1. What was your impression of the EFNEP classes?
   1a. What did you like about the classes?
   1b. What did you dislike about the classes?
   1c. What made you want to attend?

2. Thinking back to the EFNEP program, what do you think about it?
   2a. How do you feel about the quality of the information?
   2b. How realistic was the information?
   2c. Tell me about your experience with the EFNEP?

3. What did you learn from the program that was helpful? Specific examples would be great.

4. What changes did you make in your daily life as a result of the class (if you haven't, that's okay)?
    4a. Were the changes more your changes or were they mainly changes for the whole family? (Probe to discuss changes in the child's life).
    4b. Can you give me an example of how you've been able to maintain the changes?
    4c. What makes these changes difficult or easy?

5. What else do you think can be included in the program to make it better (food preparation, recipe books, information on how to purchase food with SNAP benefits, etc)?

6. Do you have any ideas to make this program better for you and your family? You can be specific with examples (Probes: TV time, sleep, parenting skills, outdoor play).

7. Could you describe any difficulties you may have had with the program?

8. What do you think about the length of the program?
    8a. How do you feel about there being 6 sessions?
    8b. How do you feel about the sessions being about an hour long?

Obesogenic behaviors discussed

9. What did you learn about sugar-sweetened beverages in your EFNEP class? These drinks include soda, juice, juice drinks, coffee drinks, sports drinks, energy drinks, smoothies, milkshakes, and more.
    9a. Tell me what sugar-sweetened beverages mean to you and your family.

10. Can you think of ways the EFNEP instructors can improve the discussion on sugar-sweetened beverages (label reading, advertisements, etc)?

11. What was discussed about fast-food in your EFNEP class?

12. What was discussed about eating outside the home in your EFNEP class?
    12a. How do you feel about that?

13. Can you give me an example of a benefit to eating healthfully?
    13a. What benefits were discussed in your EFNEP class?

14. What did you learn about food advertisements in your EFNEP class?

15. What did you learn about being active/outdoor play in your EFNEP class?

16. What did you learn about getting enough sleep (for you and your child)?

Culture appropriateness

17. How did the class fit your culture or what country you come from (like the types of foods and/or lifestyle habits that were discussed)?
    17a. If not, what do you think could be changed?

18. Were there things that you learned in class that you are not sure you agree with? For example, were there things in the class, foods or recipes that you would never eat or that your family might not ever eat?

Parenting practices and routines

19. Tell me about some of the routines you have on a normal day with your kids. (Probes: bedtime routine, mealtime, playtime, TV/Video game/computer time)
    19a. What do you do to make sure these routines are followed?
    19b. What makes following these routines difficult?
    19c. Do you have strict rules that your child must follow?
    19d. What challenges do you face when trying to enforce these rules?

20. As a parent, what are things you do to help your child eat healthy meals, sleep enough, and be active? (Probes would follow-up on what the parent started with and then fall back to the other two topics).

21. Can you think of any information that could be provided to help you make routines easier for your family (parenting skills, rules, ideas, etc)?

22. Tell me about your family's use of television, video games, computers, and/or any type of screen.
    22a. Do you think this takes away from other important activities?
    22b. As a parent, how can EFNEP better assist you with reducing the amount of time your child spends playing video games, watching television , etc in your household (rules, ideas, suggestions, skills, etc)?

23. A program was created at Cornell University that focuses on parenting practices and parenting skills to help families make healthy changes. Participants learn to

use parenting strategies to increase their positive influence on children's choices (e.g. teach by example, help children feel good about themselves, offer choices within limits, and shape environments to make healthy choices easier). How do you think something like that would be useful (or not useful) for you and your family? [Show Good Big Chance Poster (pg 2)].

23a. If you did something like this, how can it impact your family?

23b. How would you feel about a class that includes parenting education (or tips for feeding kids)?

Probe: earlier you mentioned having difficulty getting your kids to be active (or other example), how would you feel about information to help with that?

24. What do you think of including some information on media into the current sessions?

24a. activity/outdoor play?

24b. parenting skills?

Is there any other feedback you can give me that you think would be helpful? If not, this concludes the interview. Thank you so much for your time. Your feedback is crucial for the future of this program.

Complete Demographic Survey (4 minutes)

Remind that everything will be kept confidential.

Compensation (1 minute)

Provide participant with $30 gift card and thank them for their time.

APPENDIX D

CONSENT FORMS

English

THE UNIVERSITY OF RHODE ISLAND

Individual Semi-structured Interviews on Tailoring the Expanded Food and Nutrition Education Program to Obesity and Chronic Disease Prevention

You have been invited to take part in a research project described below. The researcher will explain the project to you in detail. You should feel free to ask questions. If you have more questions later, Alison Tovar, PhD, the person mainly responsible for this study, (401)-874-9855, will discuss them with you. You must be at least 18 years old to be in this research project.

Description of this project:
This interview has been designed to gather feedback on nutrition education and cultural needs as parents of young children who participate in the Rhode Island Expanded Food and Nutrition Education Program (EFNEP). Your input will help revise and adapt the current curriculum of the EFNEP.

What will happen if I decide to participate in an individual semi-structured interview?
If you agree to participate in this focus group, the following will happen:

1. You will participate in one interview for about an hour at the EFNEP offices in downtown Providence. An interviewer will ask you to discuss some general questions about health concerns and needs for your children. In addition, you will be asked to react to some current curriculum materials.

2. Your interview will be audiotaped with a digital tape recorder. Notes also will be taken. The tapes will be used to provide additional detail to the notes. Identifiers will be removed, so no one will be able to identify you personally or anything that you have said. Tapes will be retained for three years following the completion of the project and then destroyed. The tapes will be stored securely in Dr. Tovar's research lab in Ranger Hall at the University of Rhode Island.

3. At the end of the interview, you will receive a $40 gift certificate to compensate you for your time.

Benefits or risks:
If you do decide to participate in this interview, you will be helping research project staff to help revise and adapt the current curriculum of the Rhode Island Expanded Food and Nutrition Education Program (EFNEP). This is important to try and

improve the health of families in Rhode Island and find more tailored approaches to preventing chronic diseases. There is minimal risk in participating.

Confidentiality:
Any information that is gathered from the interview in which you participate will be kept confidential--that is, no one else will know how you answered the questions. Tapes will be retained for three years following the completion of the project and then destroyed. The tapes will be stored in a locked filing cabinet in the Dr. Tovar's research lab in Ranger Hall at the University of Rhode Island. Only the researchers will know you have participated in this study

Right to quit at any time:
The decision to participate in this study is voluntary and is up to you. You can quit the interview at any time, simply by telling us that you no longer want to participate. If you decide not to participate in this interview, or leave during the interview, nothing will happen and you will still be eligible for any services to which you are entitled.

In case of injury:
If this study causes you any injury, you should tell a member of the project staff. You should also write or call the office of the URI Vice President for Research, and Outreach, Suite 2, 70 Lower College Road, The University of Rhode Island, Kingston, RI 02881; Telephone (401) 874-4328.

Rights and Complaints:
If you are not satisfied with the way this study is performed, you may discuss your complaints with Alison Tovar (401) 874-9855 anonymously, if you choose. In addition, if you have questions about your rights as a research participant, you may contact the office of the Vice President for Research, 70 Lower College Road, Suite 2, University of Rhode Island, Kingston, Rhode Island, telephone: (401) 874-4328.

You have read the Consent Form. You are at least 18 years old. Your questions have been answered. Your signature on this form means that you understand the information and you agree to participate in this study.

_____	_____
Signature of Participant	Signature of Researcher
_____	_____
Typed/printed Name	Typed/printed name
_____	_____
Date	Date

You give permission for the researcher to audiotape the focus group discussions.

_____	_____
Signature of Participant	Signature of Researcher
_____	_____
Typed/printed Name	Typed/printed name
_____	_____
Date	Date

Please sign both consent forms, and keep one for yourself.

Spanish

La Universidad de Rhode Island

Entrevistas Individuales: Informando "Expanded Food and Nutrition Education Program" Acerca de la Prevención de Obesidad y Enfermedades Crónicas

Usted ha sido invitado para participar en la investigación descrita en este documento. Los investigadores le explicara el proyecto en detalle. Siéntase libre de hacer preguntas. Si tiene preguntas mas tarde puede comunicarse con Alison Tovar, PhD, la persona responsable de este proyecto, 401-874-9855. Usted debe tener por lo menos 18 años para participar en este proyecto.

Descripción del Proyecto:
Esta entrevista ha sido diseñada para recolectar información acerca de sus necesidades nutricionales y culturales como padres de niños jóvenes que participan en "Rhode Island Expanded Food and Nutrition Education Program (EFNEP)." Su información nos ayudara a revisar y adaptar el currículo para EFNEP.

Que pasara si decido participar en este entrevista?
Si decide participar lo siguiente pasara:

1. Usted participara en una entrevista durante aproximadamente una hora en las oficinas de EFNEP en Providence. Un entrevistador le hará preguntas acerca de las necesidades de salud y nutricionales de sus hijo/a. También le aremos algunas preguntas acerca de algunos materiales en el currículo.
2. La entrevista será grabada con un grabadora digital. También estaremos tomando notas. Las grabaciones nos ayudara para obtener mas detalles de la discusión. Eliminaremos identificaciones personales para que nadie pueda identificar quien es. Las grabaciones serán guardadas durante tres años después de que completemos el estudio y luego serán destruidas. Las grabaciones serán guardadas en un archivo bajo llave el las oficinas de Dr. Tovar en Ranger Hall en la Universidad de Rhode Island.
3. Al final de las discusión, usted recibirá una tarjeta de regalo por $30 por su tiempo.

Beneficios o Riesgos:
Si usted decide participar en esta entrevista, usted estará ayudando a adaptar y posiblemente mejorar el currículo de Rhode Island Expanded Food and Nutrition Education Program (EFNEP). Esto es importante porque podemos mejorar la salud y la prevención de enfermedades crónicas de las familias en Rhode Island. El riesgo de participar es mínimo.

Confidencialidad:
Cualquier información recolectada será guardad confidencialmente- eso quiere decir que nadie mas sabrá como respondió a las preguntas. Las grabaciones serán guardadas

durante tres años después de que completemos el estudio y luego serán destruidas. Las grabaciones serán guardadas en un archivo bajo llave el las oficinas de Dr. Tovar en Ranger Hall en la Universidad de Rhode Island. Solo los investigadores sabrán que usted a participado en este estudio.

Su Derecho a Parar de Participar en Cualquier Momento:
La participación en este proyecto es voluntaria. Puede decidir no participar o retirarse del proyecto en cualquier momento, simplemente infórmenos que no quiere participar. Si decide no participar nada pasara y todavía será elegible para los servicios correspondientes .

En caso de lesiones:
Si este estudio le causa algún tipo de lesión, deberá informarle a la persona responsable. También deberá escribirle a oficina de URI Vicepresidente de Investigación, Suite 2, 70 Lower College Road, The University of Rhode Island, Kingston, RI 02881; Teléfono (401) 874-4328.

Derechos y Quejas:

Si usted no esta satisfecho con este estudio, puede discutirlo con Alison Tovar (401) 874-9855 anónimamente, si usted decide. También, si tiene preguntas acerca de sus derechos como participante, puede contactar Vice President de Investigación, 70 Lower College Road, Suite 2, University of Rhode Island, Kingston, Rhode Island, teléfono: (401) 874-4328.

Confirmo que el propósito del estudio, los procedimientos de investigación, los riesgos e incomodidades posibles así como los beneficios han sido explicados a la participante. Todas las preguntas se han contestado. La participante ha estado de acuerdo con participar en el estudio. Tiene por lo menos 18 años.

_____	_____
Firma del Participante	Firma del Investigador
_____	_____
Nombre el letra de imprenta	Nombre el letra de imprenta
_____	_____
Fecha	Fecha

Le da permiso al investigador grabar este entrevista.

_____	_____
Firma del Participante	Firma del Investigador
_____	_____
Nombre el letra de imprenta	Nombre el letra de imprenta
_____	_____
Fecha	Fecha

Por favor firme ambas copias y guarde una copia para usted

APPENDIX E

SOCIODEMOGRAPHIC SURVEY

Please answer the following questions about YOU.

1. What is your age?

_____ years old

2. What is your sex?
- ☐ Female
- ☐ Male

3. Are you Hispanic/Latino?_____

If yes, country of origin_____

4. How would you describe your race?
- ☐ White
- ☐ African-American
- ☐ American Indian/Alaskan Native
- ☐ Asian
- ☐ Native Hawaiian/Pacific Islander
- ☐ Other

5. What is the *highest level* of education / schooling you have completed?
- ☐ No formal schooling
- ☐ Less than 8th grade
- ☐ 8th grade or more, but less than high school
- ☐ High school graduate (finished 12th grade) or GED
- ☐ Post high school trade or technical school
- ☐ 1-3 years of college
- ☐ College graduate

6. How many children between the ages of 2 - 8 years old are living in your household?
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5 or more

7. Are you currently living with a spouse or partner?
- ☐ Yes
- ☐ No

8. How many adults live in your household?

_____

9. What is your current marital status?

- ☐ Never Married
- ☐ Married
- ☐ Separated
- ☐ Divorced
- ☐ Widowed

10. Where you born in the United States?

- ☐ Yes
- ☐ No

→ If NO, how many years have you lived in the United States?

_____ years

11. How would you describe your current employment status? Please check all that apply.

- ☐ Employed full time (more than 35 hours/week)
- ☐ Employed part time (less than 35 hours/week)
- ☐ Employed seasonally /on and off
- ☐ Unemployed /looking for work
- ☐ Student
- ☐ Homemaker

→If employed, how many jobs do you currently have?

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4+

12. Approximately what is your annual household income?

$_____ per year