2015

TARGETING OBESOGENIC BEHAVIORS: PILOT TESTING A MODIFIED RHODE ISLAND EFNEP CURRICULUM

Sarah La Roque Harper
University of Rhode Island, sharper012@gmail.com

TARGETING OBESOGENIC BEHAVIORS: PILOT TESTING A MODIFIED RHODE ISLAND EFNEP CURRICULUM

BY

SARAH LA ROQUE HARPER

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE

REQUIREMENTS FOR THE DEGREE OF

MASTER OF SCIENCE

IN

NUTRITION AND FOOD SCIENCES

UNIVERSITY OF RHODE ISLAND

2015

MASTER OF SCIENCE THESIS

OF

SARAH LA ROQUE HARPER

APPROVED:

Thesis Committee:

Major Professor: Alison Tovar

Geoffrey Greene

Karen McCurdy

Nasser Zawia
DEAN OF THE GRADUATE SCHOOL

UNIVERSITY OF RHODE ISLAND
2015

ABSTRACT

There are clear disparities in the prevalence of childhood obesity with low-income, minority populations being at the highest risk The Expanded Food and Nutrition Education Program (EFNEP) educates low-income populations primarily on improving their diet. Including other target behaviors such as physical activity, screen time and child feeding practices may be beneficial to help curb the obesity epidemic. In Rhode Island (RI), a qualitative study found that parents who had previously participated in EFNEP wanted to learn about these topics. Three additional EFNEP modules were developed covering these areas. The purpose of this study was to conduct a process evaluation of these modules. Five RI-EFNEP classes taught by paraprofessionals to parents of children ages 2-12 years (n=42) participated in this study. The process evaluation assessed fidelity, lesson observations, and participant feedback (surveys and focus groups). Analysis included frequencies and content analysis. Fidelity for all components of the modified curriculum was high (75-100%) except for goal setting, which occurred only 58.8% of the time. Observations show participants were attentive and open to discussion in 90-100% of the lessons. Participant feedback was positive for the new lessons and hands-on activities. However, participants expressed wanting more age specific information related to feeding together with hands-on activities, and information related to how food advertisements tailor to parents and children. Overall, the curriculum was successful and will be revised to modify goal setting and include more age appropriate information as well as focus on the effects of advertising. Future studies can benefit from participant feedback to improve interventions that target obesity-related health behaviors in low-income families.

ACKNOWLEDGEMENTS

I would like to thank Alison Tovar, PhD, MPH for being my mentor, inspiring me, and leading me through this project. Her experience and expertise has helped guide and educate me through this master's thesis project. I would also like to thank each of my committee members. Geoffrey Greene, PhD, RD, LDN and Karen McCurdy, PhD thank you for your support and assistance through this project.

In addition I would like to thank my lab-mate Noereem Mena, MS, RD, LDN for helping me with data collection and all preparation in completing this project. You have been a great friend and I am so proud of your accomplishments! I look to you for guidance when I feel overwhelmed, lost, and/or irrational. Also, thank you to my lab-mates Megan Fallon and Amy Moore for helping me through this project and your continuous support.

I would like to give an enormous thank you to my fellow graduate students for helping me through this project and course work, meow. Specifically, I would like to thank the Diva Pod: Kaitlyn Whipple, Anne Therese Edwards. Without your friendship, guidance, support, and divarants I would not be the same upbeat and fabulous graduate I am today.

Lastly, I would like to thank my parents Stephen and Laura Harper, without your guidance, love, and support I would not be the educated and loved person I am today.

PREFACE

This thesis was written to comply with the University of Rhode Island Graduate School Manuscript Thesis Format. This thesis contains one manuscript: Targeting Obesogenic Behaviors: Pilot Testing a Modified Rhode Island Expanded Food and Nutrition Program (EFNEP) Curriculum for Parents. 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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Process Evaluation of a Revised Nutrition Education Curriculum for Parents Targeting Obesogenic Behaviors

Sarah Harper[1]

Geoffrey Greene, PhD, RD, LDN[1]

Karen McCurdy, PhD[2]

Alison Tovar, PhD, MPH[1]

Prepared for submission to the *Journal of the Academy of Nutrition and Dietetics*

1 Department of Nutrition and Food Sciences, 112 Ranger Hall, University of Rhode Island, Kingston, RI 02881

[2] Department of Human Development and Family Studies, Transition Center, 2 Lower College Road, Kingston, RI 02881

ABSTRACT

Introduction: The Expanded Food and Nutrition Education Program (EFNEP) is designed to reach low-income populations primarily through curricula addressing dietary intake. Including other target behaviors such as physical activity, screen time and child feeding practices may be beneficial to help curb the obesity epidemic. In Rhode Island, a qualitative study found that parents who had previously participated in EFNEP wanted to learn about these topics. Three additional EFNEP modules were developed covering these areas.

Purpose: The purpose of this study was to conduct a process evaluation of these modules.

Design: Five RI-EFNEP classes taught by paraprofessionals to parents of children ages 2-12 years (n=42) participated in this study. The process evaluation assessed fidelity, lesson observations, and participant feedback (surveys and focus groups).

Analysis: Analysis included frequencies and content analysis.

Results: Fidelity for all components of the modified curriculum was high (75-100%) except for goal setting, which occurred only 58.8% of the time. Observations show participants were attentive and open to discussion in 90-100% of the lessons. Participant feedback was positive for the new lessons and hands-on activities. However, participants expressed wanting more age specific information related to feeding and physical activity together with hands-on activities, and information related to how food advertisements tailor to parents and children.

Conclusions: Overall, the curriculum was successful and will be revised to modify goal setting and include more age appropriate information as well as focus on the effects of advertising. Future studies can benefit from participant feedback to improve interventions that target obesity-related health behaviors in low-income families.

Introduction

Given the high prevalence of childhood obesity among low-income and minority populations finding ways to intervene is critical.[1] In 2011-2012 over one third of children and adolescents (ages 2-19) were overweight or obese.[1] In addition, ethnic disparities in the prevalence of obesity are evident, whereby 17% of Hispanic children ages 2-5 are obese compared to 3.5% of non-Hispanic white children.[1] In Rhode Island, the prevalence of obesity among Hispanic children ages 2-5 is even higher at 25% compared to the national average of 17%.[1,2] This is of concern given that Hispanics are the largest and fastest growing minority population in the United States (US).[3] In addition, children who are overweight or obese are at an increased risk of becoming overweight or obese as an adult[4,5] and suffering from the associated comorbidities such as type two diabetes and cardiovascular disease.[6] Therefore, obesity prevention early in life among these disadvantaged populations is important.

Exploring ways to engage hard to reach low-income parents in prevention efforts is critical because parents help shape a child's healthy eating and lifestyle behaviors early in life. [5,7-11] In an effort to engage parents in obesity prevention, several government initiatives have been put into place to promote healthful behaviors among low-income parents and children.[4,12] For example, "Let's Move"[1,4] provides parents with information that supports healthy lifestyles, more nutritious foods in schools, and ensures that families have access to healthy and affordable foods.[4] In addition to government programs, several interventions with an educational components related to healthy eating for low-income populations

have found significant improvements in fruit and vegetable consumption[13] and decreases in BMI percentile.[14,15] Although some of these interventions have been successful in improving health behaviors among parents and children[13,15], many did not include ethnically diverse parents participating in federal nutrition education programs and they did not discuss details on their process evaluation.

Intervention process evaluation techniques and components are critical to nutrition education interventions and programs.[16-18] Sustaining successful interventions requires identifying what is beneficial and what needs improvement also known as the "black box" of intervention effectiveness.[17,19] Process evaluation can aid in understanding relationships between program elements and program outcomes while understanding perceptions of participants and paraprofessionals throughout the program.[20] Collecting different types of process evaluation is important (i.e. focus groups vs. researcher observations). Qualitative data from focus groups, interviews, and open ended survey questions can result in themes that describe successful outcomes or flaws and barriers of the intervention. Quantitative observations or feedback can expose how behavior changes occurred and the attributes of the curriculum that are associated with these changes.

The Expanded Food Nutrition Education Program is a federal nutrition assistance program designed to assist low-income adults gain nutritional knowledge and skills to improve food-related attitudes and ultimately overall diet.[12] In Rhode Island, approximately 50% of participants are Hispanic. Although there have been several interventions to prevent obesity among low-income children and their families[21,22] few have done so through the federal EFNEP

program.[13,15] A pilot intervention in New York State with parents of 3-11 year old children, Healthy Children Healthy Families: Parents Making a Difference (HCHF), tested an integrated nutrition and parenting education intervention using the EFNEP program structure. The study found overall improvements in home environment, physical activity (PA), screen time (ST) behaviors, fruit, vegetable, snack, and soda intake for the parent and child. Federal nutrition community programs, like EFNEP, can serve as an important vehicle to reach a vulnerable parent population and educate them not only on improving their dietary behaviors but also helping them to create a healthy home environment for their children. The RI-EFNEP office recognized the need to address non-nutrition related obesogenic behaviors because although the current RI-EFNEP focuses on nutrition education, it does not incorporate education on other obesity-related behaviors.[13,23,24] Participants and their families who complete a curriculum, which addresses these behaviors, are more likely to improve health behaviors associated with obesity.[13]

As part of program improvement, it is important to continue to assess participant satisfaction and their practices and incorporate them in to future nutrition education interventions.[25] Van Asch et al.[26] conducted semi-structured interviews with primarily Hispanic (73%) RI-EFNEP participants. Participants reported wanting more information on how to incorporate healthy habits around ST, PA, and parenting skills/education on household routines to decrease obesity risk. [26] These content areas were used to modify the EFNEP curriculum.

Although other curriculums, like the HCHF curriculum, can increase knowledge and motivate parental attempts for behavior change[13], the needs of RI-EFNEP were to slightly modify the existing curriculum by creating additional modules that can be incorporated into the current curriculum without having to have paraprofessional go through an entire new training. Given that few studies have captured process evaluation among low-income parents, and obesity rates among RI Hispanic children are higher than the national average[1,2], the goal of this study was to pilot test a newly modified RI-EFNEP curriculum that incorporates other behavior such as parental feeding, PA, and ST behaviors for children. As part of this pilot, we expect that collecting detailed process evaluation data will help inform future modifications of the new lessons. The first objective of the study is to assess participant satisfaction with regards to the implementation of the modified modules. The second objective of the study is to assess areas in need of change via participant feedback and investigator observations. Our hypothesis is that the newly modified RI-EFNEP curriculum will improve parental healthy eating behaviors and children's healthy eating pre to post intervention. Finally, we will explore behavior change in the areas of parental feeding, PA, ST, fruit and vegetable intake, and energy dense snack food intake.

Methodology

Study Design

This non-experimental pilot study assessed a modified version of the RI-EFNEP curriculum for parents utilizing a pre-post design. Areas in need of improvement within RI-EFNEP were explored utilizing a prior formative study, and a curriculum was created for the pilot study as a result. The pilot study collected process and outcome evaluation of the modified curriculum. The extensive process evaluation measures included fidelity, researcher observations, participant post lesson surveys, and participant focus groups. The outcome evaluation included demographics and a validated 16- item pre-post survey used to assess participant's behavior change.[27] This study was approved by the Institutional Review Board on human subjects at The University of Rhode Island, Kingston RI.

Participants

Participants for this study were recruited through traditional programmatic EFNEP methods. Eligible participants for this study were parents and caregivers over the age of 18 with a child ages 2-12 years who were enrolled in EFNEP. Rhode Island EFNEP participants are at or below 185% of the federal poverty level income. Participants were either English or Spanish speaking. There was a translator present for groups with Spanish speaking participants. The RI-EFNEP supervisor utilized community agencies throughout the state of RI, such as adult education and workforce development agencies and parent groups to recruit participants. Working with the director of RI-EFNEP to coordinate recruitment

we recruited a convenience sample of five classes with 42 participants. During the first session of EFNEP, eligible participants were informed about the study, asked if they were interested in participating and if so, signed informed consents at that time. No eligible participants declined being part of the study. The EFNEP classes took place in community centers in Rhode Island.

Procedures:

Creating a Modified Curriculum

The modified curriculum and materials were created the summer prior to initiation of this pilot study. The current RI-EFNEP curriculum teaches six main lessons: 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. Three new lesson modules on PA, ST, and parental feeding practices were created by means of EFNEP directors, paraprofessionals, previous findings, and best practices and evidence,[13,15,26,28]

In order to help guide lesson modules, previous interventions have utilized the Four Steps of Learning that Lasts (The 4-A Model).[29] This model is used to ensure that appropriate content is included within each lesson, that participants can relate to it, apply it and be able to take the information with them. With this structure, participants are able to truly learn the material and be able to utilize it to exhibit behavior change. "Anchor" focuses the content specific to the participants from personal experiences.[30] "Add" takes the new information and incorporates it to the participants knowledge.[30] "Apply" allows the participant to relate to the new content in a new way.[30] "Away" asks the participant to take the new content

and use it in the future.[30] Each of the three new lessons followed the 4 A's model. After the new information "Add" was taught in the lesson the "Apply" component was then covered. Each new lesson had an activity that participants engaged in, these activities were poster and card matching, charades, food advertisement model (cereal boxes, "fruit" gummies) discussion. Goal setting was addressed in the "Away" component, a goal setting handout was to be filled out and taken home by the participants. Further explanation of the activities can be viewed in the lesson plan provided in appendix C.

We ensured that the modified curriculum was appropriate for the audience with regards to literacy, and layout using methods from the Suitability Assessment of Materials (SAM).[31] This assessment of materials is a widely used and accepted tool for modifying and improving education materials.[32] In order to ensure this process, the lessons and content were reviewed in detail with RI-EFNEP staff and paraprofessionals.

Process Evaluation:

Process evaluation is an integral part of this pilot. The steps to develop the process evaluation for this study can be viewed in further detail in Figure 1. These steps have been documented in the past and can be used for public health community programs to deliver more effective interventions.[20] Process evaluation measures included 1) fidelity of the intervention, 2) observations written by the graduate student researcher during the lessons, 3) short surveys completed by participants at the end of each session and, 4) audio-recorded focus group conducted for each group after the last RI-EFNEP lesson (Table 1).

i. Fidelity and Observations

Fidelity and observational checklists were developed and utilized while observing the new lessons in order to assess if the modules were being delivered as intended.[33] Because the fidelity checklist was thorough and matched practices from previous research we formulated the fidelity criteria and acceptable ranges accordingly.[15,17] Each area of the lesson plans (Anchor, Add, Apply, Away) had quantitative observations and at the end of the lessons these areas were summed and averaged to quantify the fidelity scoring.

The observational portion of the checklist was modeled after previous research observational checklists.[17] All new lesson observations included nine participant behavior questions. Example participant behavior questions included: "Participants demonstrated a sense of understanding of the lesson" and "The participants as a whole do not appear bored vs. bored" response choices were 1) yes, 2) no, 3) don't know. For each of the participant behavior questions, a set of criteria was developed. For example in order to assess understanding, the participants would have had to verbally engage and perform the group activities or looking around the room or texting would be coded as being bored. Two observations were excluded to remove high ambiguity from analysis due to the high response theme of "don't know". All answers were summed and averaged at the end of the lessons to quantify the observational scoring. See appendix D for fidelity and observational checklists.

ii. Short surveys

Participants completed a short survey after each of the three new lessons. The short surveys were modeled after previous research survey questions.[17] Each survey consisted of two multiple-choice questions and three open-ended questions relating to the new lesson. An example multiple choice question is "I plan to put something new I learned about feeding today into practice with my child/children" a) yes, I plan to do something new, b) I might plan to do something new, c) no, I do not plan on doing anything new. An example open-ended question is "What did you like most about this lesson? Please write below". A native Spanish speaker translated all surveys into Spanish for Spanish speaking participants and translated them back into English for the student investigator. See Appendix D for short survey.

iii. Focus groups

Four of the five recruited groups (n=27) participated in the focus groups. One group was unable to complete a focus group due to time constraints. Focus groups lasted approximately 10-15 min and were audio recorded with the researcher recording notes to ensure accuracy of information. The student researcher utilized the moderator guide to direct discussion, asking questions and probing participants for feedback about their satisfaction of the new lessons to guide the discussion. An example question was "What did you like most about the lesson on feeding your children? What didn't you like?" and the researcher probed the participants reintroducing them to the key messages from the new lesson. See appendix D for moderator guide. Feedback was audio recorded and

themes highlighted after the lessons. The audio recordings were reexamined after the lessons were complete to further highlight themes that had emerged.

Figure 1. The Six Steps to Develop Process Evaluation of the Modified RI-EFNEP Pilot Study.

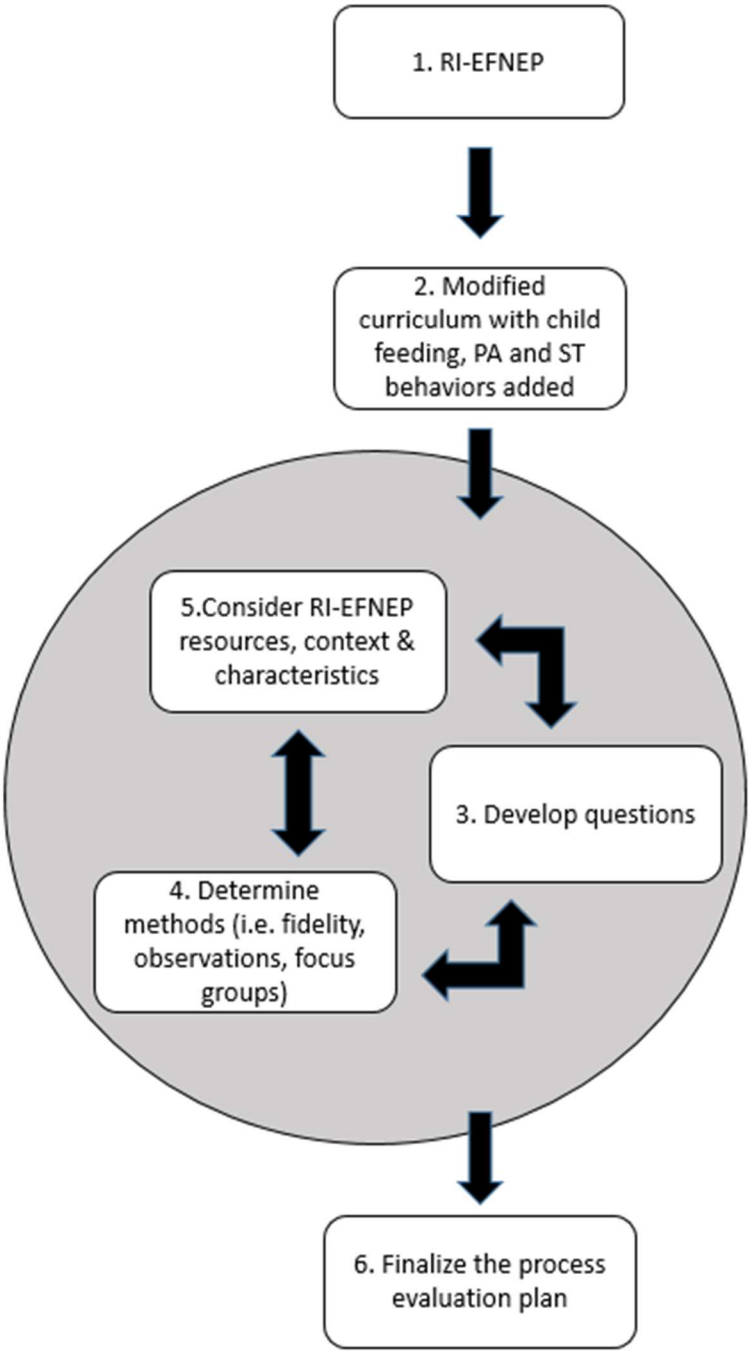

Table 1: Developing a Process Evaluation Plan		
Components	Purpose	How The Components Will Be Assessed
Fidelity (quality)	Extent to which intervention is followed as planned	• Fidelity check list
Dose Delivered (completeness)	Amount of curriculum component delivered	• Activity Logs • Observations and reports
Dose Received (exposure/satisfaction)	Extent of participant participation, receptiveness and satisfaction to the program	• Surveys • Observation and reports • Focus groups
Reach (participation rate)	Attrition, barriers to participation	• Activity log, attendance • Observation and reports

Outcome Evaluation:

All outcomes were assessed pre and post. Parental feeding, child ST, parent and child PA, and fruit and vegetable intake were assessed using questions from a validated 16-item checklist from the HCHF study.[13,27] Example questions from the checklist include: "In a typical week, how often do you let your children decide how much food to eat?" and the response range is 1)"almost never" 2) "less than half the time", 3) "half the time", 4) "'more than half the time", 5) "almost always".[27] "How much time do your children spend watching TV, using the computer or playing video games?" the response range is 5) "less than 1 hour each day", 4) "1-2 hours each day", 3) "3-4 days each day", 2) "5-6 hours each day", 1)" 7 or more hours each day".[27] For this question higher scores on the likert scale representing the healthier behavior.

Physical activity is defined as breathing a little harder or heart beating a little faster than normal. The questions were scored using a 5-point Likert type scale of increasing frequency (per day, per week) and coded 1-5 using the increasing frequency. Five behaviors included "less" which reduced frequency is recommended and the checklist item is reverse coded.[13,27] Fruit intake is defined as fresh, dried, frozen, or canned with vegetables defined similarly without the "dried" criteria. Additional questions from the 16-item checklist used in the pre and post surveys for this study can be found in appendix E. Attendance data was collected and added as an additional variable.

a. Curriculum Implementation and evaluation procedures

Paraprofessionals attended a 3-hour hands on training on the new lesson modules (Table 2). Instructions were provided and paraprofessionals had an opportunity to teach back and role-play to ensure that they mastered the material. A total of five RI-EFENP groups participated in six to eight classes, which lasted sixty minutes. Classes were conducted in English, if needed, a Spanish speaking interpreter was present to translate. The short surveys, observations, and fidelity data were collected at each of the new lessons. Pre-post tests were collected during the first and final lessons.

Data Analysis

Process evaluation

For fidelity, frequency counts of the averaged module component were used to summarize the data. All observations, and post lesson short surveys were reviewed and themes highlighted by the student investigator. The student investigator reviewed the focus group audio tapes and data was analyzed according to the moderator guide.[34] Thematic coding and frequency counts were used in analyzing observations, post lesson short surveys, and focus group data. In the final phase, themes were again reviewed and modified as needed. The instruments used to analyze the new modules are further explained in Table 3.

Outcome evaluation

A coding manual was created to define variable names and missing values as necessary. Normality was assessed using the test of normality Kilmogoroc-Smirnov statistic. Participant demographics (i.e. age, gender, child ages in

household, education etc.) and the participant behavior questions were analyzed descriptively. Chi-square tests for goodness of fit was used to investigate differences in demographic characteristics between participants who were present for the post-survey and excluded due to missing data, and the participants who completed the pre and post survey.

The quantitative data collected via pre and post surveys was analyzed using SPSS version 22 (IBM, Armonk, New York, 2013). The magnitude of change scores pre-post was not normally distributed, therefore paired t-tests was not appropriate and the Wilcoxon signed rank test, a nonparametric test of differences was utilized instead. Coefficient alpha of 0.05 was used. Modeled after a prior study utilizing the 16-item checklist, participants were also classified by whether or not their score improved by at least 1 point or by at least 2 points.[13,27]

Table 2: Modified RI-EFNEP Curriculum Logic Model				
Objective	Activities	Inputs (Resources)	Outputs (Process Outcome Targets)	Outcomes (Predicted Program Goals)
To develop, conduct, and evaluate a modified obesity prevention curriculum targeting obesogenic behaviors of parents and their families promoting parental feeding practices, child screen time and physical activity, and food advertisements directed to children.	• Develop modified curriculum • Develop new lesson materials • Develop process evaluation tools • Train paraprofessionals • Recruitment through EFNEP	• EFNEP staff • Community programs • URI financial support to develop materials	• 5 groups will be enrolled in the modified curriculum • 5-20 participants per group will complete the modified curriculum	• Improved parental feeding behaviors • Improved screen time and physical activity behaviors in parents and their children (not included in the study) • Improved fruit and vegetable intake

Table 3: Process Evaluation Instruments

Instrument	Rationale	Sample	Analysis Method
Attendance sheets	• To assess exposure to curriculum	• Attendance sheets for each group	• Scores of attendance calculated
Fidelity checklist	• To assess fidelity of the curriculum implementation	• One from each lesson, for each group** • Total of 12	• Tally scores by session, by lesson area, by group • Report percentages of covered material
Observation check list	• To assess group progress • To assess participant attainment of new modules	• One from each lesson, for each group** • Total of 12	• Analyzed • Nine participant observation questions tallied and calculated
Participant comment sheet	• Assess participant attainment of new modules • To assess barriers and positive outcomes of the lessons	• One from each lesson, for each group** • Total of 12	• Data quality was analyzed • Percentages calculated
Focus group moderator guide	• To assess barriers and positive outcomes of the lessons	• One for each group • Total of 4*	• Audio recorded discussions were analyzed and coded for themes
16-item checklist	• To assess behavior change	• Collected pre and post curriculum	• Descriptive statistics, Wilcoxon signed rank test and correlations performed

**exclusion of one group due to conflicting class schedules
*exclusion due to time limitations

Results

Overview

A description of the sample is provided followed by the process evaluation results (fidelity, observations, post lesson surveys and participant focus groups) and outcome evaluation results (pre-post 16-item checklist).

Sample Characteristics

Five groups and 24 out of 42 participants completed the pre-post surveys (57% of participants). Participants who did not attend post data measurements were less educated, spoke Spanish and participated in Head Start ($p > 0.05$) as compared to the participants that were present during pre and post. Demographic results from the 24 participants with pre-post data are presented (Table 4). Participants were on average 33.8 years (±9.9) and have an average of 2.0(±1.1) children. Most participants are female (87.5%), reported receiving Supplemental Nutrition Assistance Program (SNAP) (70.8%), and over half are Latino (59.1%). Most of the participants (91.7%) attended all of the classes (Table 4). Of the participants that completed the pre and post surveys 91.7% attended all of the new lessons.

Table 4. Characteristics of the RI-EFNEP Participants Characteristic	n=42[b] n(%)[a]	n=18[x] n(%)	n=24[c] n(%)
Age, years:			
Mean age, years:	33.6±12.2	33.2±15.4	33.81±9.9
Ethnicity:			
Latino	18(50.0)	5(35.7)	13(59.1)
Language:			
Spanish	7(16.7)	0(0)	2(8.3)
Race:			
White	9(31.0)	5(37.5)	4(26.7)
Black	12(41.4)	5(37.5)	7(46.7)
Other race	8(27.6)	3(21.4)	4(26.6)
Gender:			
Female	38(90.5)	17(94.4)	21(87.5)
Education:			
High School Graduate	18(43.9)	9(50.0)	9(39.1)
More Than High School Education	13(31.7)	3(16.7)	10(43.4)
Other	10(24.4)	6(33.3)	4(17.4)
Participants of food programs:			
SNAP benefits	33(78.6)	16(88.9)	17(70.8)
Head Start	6(14.3)	5(27.8)	1(4.2)
Child Nutrition at school (Free/Reduced school lunch/Breakfast)	20(47.6)	10(55.6)	10(41.7)
Average number of children in household:	2.1±1.0	2.33±0.9	2.0±1.1

[a] Percentages do not include missing data
[b] All participants recruited
[c] Number of participants who completed the consent form and completed the pre and post survey
[d]Attendance was recorded by the RI-EFNEP paraprofessionals
[x]Number of participants who only completed the pre survey and consent form

Process evaluation

a. Fidelity, observations, and post lesson surveys

Scores of the fidelity checklist were high for three of the lesson components (>75%), Anchor 88.8%, Add 87.9%, and Apply 77.9% as compared to previous research.[15] However, for the Away component of the new lessons fidelity was low at 58.5%. Participant behavior was observed during eleven modified curriculum classes (Table 5). Participants were respectful to one another and were attentive to paraprofessionals throughout all of the observations (100%). Researcher observations reported participants stating they wanted more information about healthy food advertisements that exist in the media and how to promote those healthy advertisements to their children. Additionally, based on the researcher observations lessons that were first taught in English and then translated into Spanish ran longer than usual and participants were more likely to appear board. Observations also showed that in over half of the lessons the participants did not articulate alternative strategies to problems presented to them. This is consistent with the observation that there was a lack of goal setting.

The quantitative results for the post lesson participant survey showed that all of the participants plan or might plan to do something new after participating in the new lessons. Furthermore, on average 95.5% of participants felt they learned new information (Figure 2). The qualitative results from the three open ended questions showed that participants found charades, and the example food advertisements (i.e. cereal boxes, yogurt cups, “fruit” gummies) discussions to be

the most helpful learning activities. Moreover, through these three process evaluation components participants wanted more food preparation techniques, indoor activities and recipes, information on activities for different child age groups, and information on healthy food advertisements.

Table 5. Observed Participant Behavior Characteristics: †	Yes (%)
1. Participants demonstrated a sense of understanding of the lesson	72.7
2. At least one participant discussed his or her own barriers	63.6
3. The participants as a whole do not appear bored vs. bored	81.8
4. Participants are attentive to the paraprofessionals	100.0
5. Participants are open and comfortable during the discussion	90.9
6. Participants are respectful of one another	100.0
7. The participants articulate alternative actions/strategies to problems presented to them	45.5

†n=11 classes out of possible 15 conducted participant observation. Missing 4 classes due to conflicting class schedule and/or inability to take notes during the lesson.

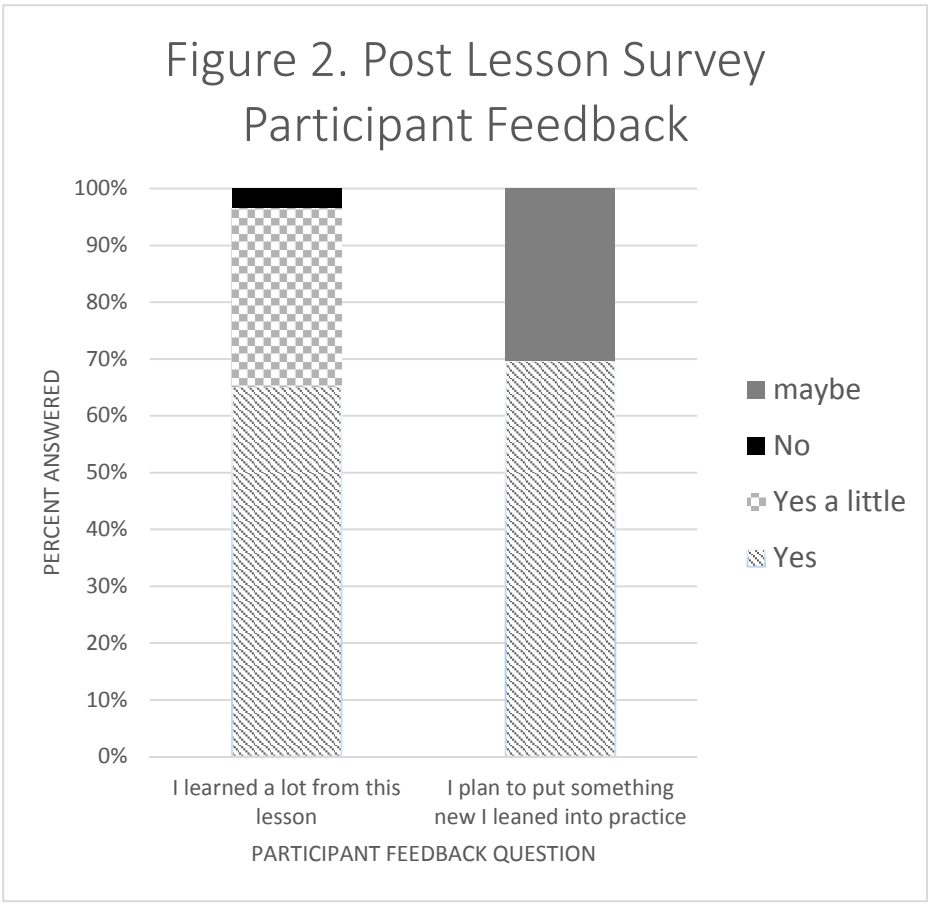
Figure 2. Post Lesson Survey Participant Feedback
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
PERCENT ANSWERED
I learned a lot from this lesson
I plan to put something new I leaned into practice
PARTICIPANT FEEDBACK QUESTION
maybe
No
Yes a little
Yes

b. Focus Groups

Focus groups data are presented according to the moderator guide domains (feeding your child, PA and ST, food advertisements, and overall). Themes are incorporated within the moderator domains. See appendix D for moderator guide. The seven themes that emerged from the focus groups are as follows:

i. Feeding your child:

Two themes emerged from the participant's feedback, in response to the question: "What did you like most about the lesson on feeding your children? What didn't you like?" The first response theme: Allowing their children to have an active role during meal time (Table 6). After the child feeding lesson, participants learned about the importance of involving their children and therefore felt like they could do this more at home. One participant said;

"I'll let my kids serve themselves"

another commented…

"…letting my son set up the table"

The second theme that emerged was eating together with the family. One participant stated:

"giving options and showing how important it is to eat together"

Another participant made a rule centered around eating with the family based on the information from the lesson. The participant explained she

"(made a) rule that we all have to sit at-least one meal together (everyday)."

Also, another participant states she will…

"try to explain to him (son) that you need to take care of the inside of the body as well as the outside, so I take this stuff home (new information) and share it with him (son)."

These themes emphasize that eating together and creating a healthy food home are key "take away" messages of the new feeding lesson. Multiple participants emphasized that they enjoyed the information on letting their children pick from different varieties of food. Participants also discussed how the lesson could be improved; in particular, they felt like the lesson on feeding your child needed demonstration. Participants explained they would like for the lesson to

"…show (us) how to do it"

and…

"…(we would) like to get cooking the food".

ii. Physical Activity

Participants had mostly positive feedback with regards to the question "What did you like most about the lesson on being active with your children? What didn't you like?" One of themes was spending time and being active with family. Participants found the charades game (that was used as an activity in this lesson) was a fun way to show how to be active. One participant stated:

"doesn't have to be running around chasing a ball, it can be something as small as something like charades (referring to physical activity)"

Another theme that emerged was information on limiting screen time was enlightening. One participant stated:

"I thought that was a good one because it's hard to get your child away from the video games".

Participants expressed multiple areas of behavior change around ST.

"I started limiting screen-time… they're not happy with me",

and…

"I limit the TV, we do more activity stuff... so when it's time for bed they just knock-out",

as well as…

"I've been trying to (...) spend more time with him... so he's not, so much, in front of the TV" (little brother).

iii. **Food Advertisements**

Based on information discussed from the question "What did you like most about the lesson on how food is marketed to kids? What didn't you like?" two themes emerged. Participants felt that a lot of the information learned during this lesson was new and eye opening information. Participants said;

"there were a lot of things I didn't know"

and…

"the visual stuff ("kids"cereal boxes, child directed yogurt cups, "fruit"gummies) was always my favorite because it was very eye opening".

Participants also stated how they will apply the information on how food advertisements affects their children.

For example:

"it's our job to kinda see through the (food advertisements)"

and another said;

"... I worked on it with my kids".

iv. Overall

Based on the moderator guide question, "In what way were the classes most helpful to you and your family?" there were multiple areas where participants found age specific information would have been beneficial. This introduced the last theme to include age specific information in future lessons. Some responses were:

"when kids get older…(incorporate ways) to still have (healthy behaviors)"

and…

"(kids)10 and up is lazy…include older (kids) tips".

Overall, paraprofessional and participant comments were very positive. For example, one participant stated

"...I really liked it!",

and…

"(the paraprofessional) was awesome… you made them all fun!"

Table 6. Focus Group Moderator Guide Questions and Corresponding Themes		
Domain	**Questions**	**Themes "*selected quote*"**
Feeding your child	*What did you like most about the lesson on feeding your children? What didn't you like?* *a.* **Probe:** *was there anything in particular that you liked, that stood out to you?* <u>Key messages of the lesson:</u> i. Be a role model ii. Patience works better than pressure iii. Eat together iv. Create a healthy food home	**1.** Allowing their children to have an active role during meal time *"I'll let my kids serve themselves"* **2.** Eating together with the family *"giving options and showing how important it is to eat together"* **3.** Demonstration approach "…show (us) how to do it"
Physical activity and screen time	*What did you like most about the lesson on being active with your children? What didn't you like?* a. **Probe:** *was there anything in particular that you liked, that stood out to you?* <u>Key messages of the lesson:</u> i. Be active everyday ii. Limit screen time	**4.** Spending time and being active with family *"doesn't have to be running around chasing a ball, it can be something as small as something like charades"* **5.** Information on limiting screen time *"I started limiting screen-time… they're not happy with me"*

Food Advertisements	*What did you like most about the lesson on how food is marketed to kids? What didn't you like?* *a.* **Probe***: was there anything in particular that you liked, that stood out to you?* <u>Key messages of the lesson:</u> i. Understanding why and how big food advertisers market to children Explaining food advertisements to your children and why it is important	**6.** Eye opening information *"there were a lot of things I didn't know"*
Overall	*In what way were the classes most helpful to you and your family?* a. **Probe:** *could you describe how the lessons influenced any changes that you made relating to:* *…..feeding your child,* *……being active with your child* *…..how food is marketed to kids?*	**7.** Include age specific information in future lessons *"when kids get older…(incorporate ways) to still have (healthy behaviors)"*

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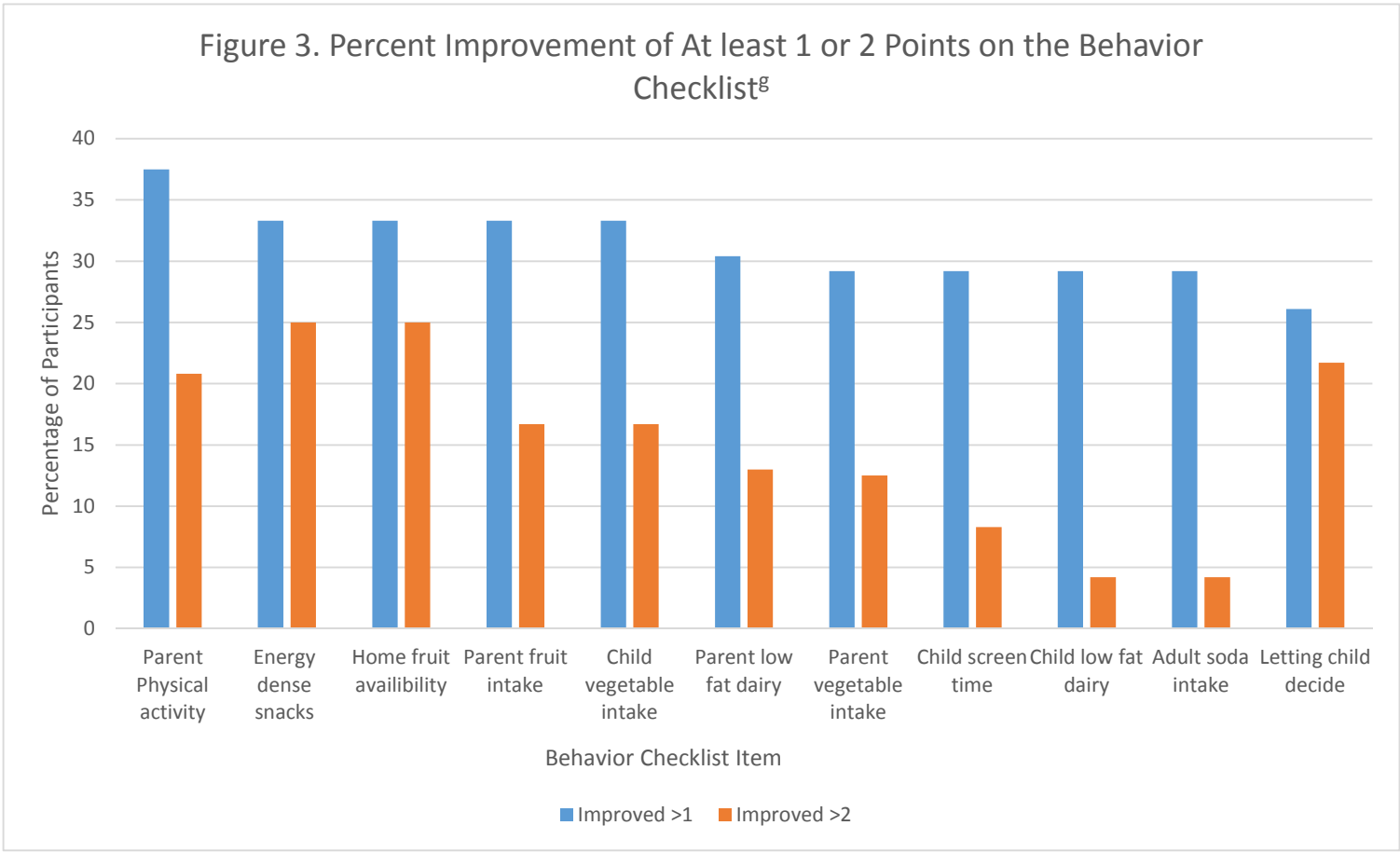
Outcome Evaluation

There were significant with-in person improvements for 1 of 16 of the individual items on the checklist. As shown in Table 7, within person improvement in parental consumption of soda was found (p=0.011) with a magnitude of change on the 5-point Likert style scale of -0.333. The post survey shows final parental soda consumption averaged was 3.96 on a 5 point Likert style scale which corresponded to"1-3 days each week" where the baseline score was 3.63 corresponding to "4-6 days each week". On average at baseline, home environment behaviors on the Likert scale scores ranged from 4.38 to 4.63 this corresponds to the participants eating meals as a family about "5-6 days each week", eating take out with their family "1-2 days each week", "more than half the time" fruit is available in their homes "and about half the time" did participants have energy dense snacks available to their children and did they let their child decide how much to eat about.

Although non-significant, the largest magnitude of change was in parents letting a child's decide on how much to eat (change = -0.540, p=0.15) and having energy dense snack foods less available (change = -0.458, p=0.068). Of the participants 37.5% had at least 1-point for parent physical activity (37.5%). Furthermore, 33.3% of participants had at least a 1-point change for availability of energy dense foods and home fruit availability and 25% had a 2-point change. (Figure 3).

Table 7. Mean Behavior Checklist Scores[d]					
Checklist Questions	n[e]	Baseline ± SD[f]	Post ± SD[f]	Change[e]	P-value
Parent frequency of food/beverage intake and activity					
Fruit	24	3.29 ± 1.756	3.54 ± 1.422	-0.250	0.427
Vegetables	24	3.13 ± 1.541	3.42 ± 1.197	-0.292	0.271
Less Soda*	24	3.63 ± 1.408	3.96 ± 0.565	-0.333	0.011
Low-Fat dairy	23	2.58 ± 1.349	2.87 ± 1.043	-0.290	0.374
Physical Activity	24	3.25 ± 1.539	3.5 ± 1.675	-0.250	0.547
Child Frequency of food/beverage intake and activity					
Fruit	23	3.92 ± 1.412	4.04 ± 1.325	-0.120	0.631
Vegetables	24	3.46 ± 1.474	3.75 ± 1.233	-0.292	0.213
Less Soda	24	4.17 ± 1.404	4.46 ± 0.751	-0.292	0.058
Low-Fat dairy	24	3.29 ± 1.334	3.33 ± 1.488	-0.042	0.754
Less television, computer, video games	24	3.50 ± 0.885	3.62 ± 0.97	-0.120	0.150
Active play (60 minutes)	24	3.71 ± 1.429	3.88 ± 1.308	-0.167	0.509
Parenting and home environment					
Parent eats with child	24	4.38 ± 1.096	4.38 ± 1.142	0.000	1.000
Lets child decide how much to eat	23	3.17 ± 1.557	3.71 ± 1.367	-0.540	0.150
Take-out or fast food less available	24	4.63 ± 0.576	4.5 ± 0.612	0.125	0.317
Energy-dense snacks less available	24	3.04 ± 1.546	3.5 ± 1.285	-0.458	0.068
Fruit available/offered	24	4.38 ± 1.096	4.63 ± 0.794	-0.250	0.131

[d]Parent responses to behavior checklist items were scored on a 5-point likert style scale that increased in frequency. Behaviors in the table that include "less" are those for which reduced frequency was ideal thus the checklist item was reverse coded.
[e]variations in number are due to no response to behavior checklist questions
[f]represents mean change of behavior checklist items ± SD (standard deviation)
[e]Representing change of behavior checklist item based on a 5-point likert style scale
*P<0.05 Wilcoxon signed rank test for nonparametric paired data



[g]Behavior changes presented in this graph represent checklist questions with a ≥25% 1 point improvement from baseline to post intervention.

Table 8. Areas of Change in the Modified Curriculum for Outcome Evaluation Based on Results of Process Evaluation

New Areas Addressed in Modified Curriculum	Outcome Evaluation Questions From the 16 Item-Checklist	Process Evaluation Outcome
Child Feeding	1. In a typical week, how often do you let your children decide how much food to eat? 2. How often do you usually eat together with your children at least one meal a day? 3. In a typical month how often are high fat, or high sugar snacks available at home for your children to eat? 4. In a typical month, how often are fruits available at home for your children to eat? 5. How often do your children usually eat take out or fast foods?	❖ Age related information ❖ Demonstrative approach ❖ Recipes ❖ Goal setting
Physical Activity	6. How often are you physically active for at least 30 minutes a day? 7. How often do your children play actively for at least 60 minutes a day?	❖ Age related information ❖ Goal setting
Screen Time Behaviors	8. How much time do your children spend watching TV, using the computer, or playing video games?	❖ Further explanation ❖ Goal setting

Discussion

The overall goal of this study was to pilot test a newly modified RI-EFNEP curriculum that incorporates other behavior such as parental feeding, PA, and ST behaviors for children. Through collection of detailed process evaluation measures we identified some strengths and areas in need of improvement within the new lessons. The identified strengths of the new modules included high participant enthusiasm and acceptability of the new modules including enthusiasm for the interactive activities during the PA/ST and food advertisements lesson. In addition, participants reported sharing the information from the modified curriculum with their family and children, which is consistent with findings from prior studies.[25,26] Although the participants had suggestions for improvement they, reported the modified curriculum was informative and that the paraprofessionals made the overall experience enjoyable. Four areas of improvement were identified: 1) need for more effective goal setting strategy 2) lack of age specific information within the new modules, 3) absence of hands on activities (specifically for the feeding module), and 4) necessity of a new approach to explain food advertisements. Although behavior change was not evident, probably due to the lack of power, future modifications within the new EFNEP curriculum can be made.

Through collecting this type of data in our study, we found that although fidelity and participant satisfaction was high for the newly added modules, goal setting strategies could be more effectively implemented. This is of particular importance given that studies have found that the execution of effective goal

setting techniques are critical to behavior change.[23,35,36] A previous study, successful in modifying parental behaviors, utilized discussion of healthy goals to identify behavioral barriers and solutions to overcome them.[23] Although the lesson plans include an "Away" component that incorporates goal setting into the lesson, we hypothesize that participants are not fully engaging in this task. It is possible that paraprofessionals did not get enough direction and training on how to discuss participant barriers and to include enough time to discuss goal setting. It is also possible that because the community classes often do not start "on-time" and goal setting is covered at the end of the lesson, that there is not enough time to discuss this component. Goal setting should be integral part of future paraprofessional training and it should be included throughout the lesson in order to ensure that participants engage in this activity.

Our finding that more age specific information is needed is similar to what others have found.[37] For example, most of the literature exploring feeding, child eating patterns, and diet quality groups all child ages together. Interventions should provide age-appropriate information to parents, specifically about portion sizes, to target this problem area.[37] It is possible that incorporating more age specific information into the curriculum (i.e. through tips for picky eaters in a school age child vs. toddler), might have lead to behavioral improvements in feeding and PA behaviors. This is true with regards to PA, whereby prominent differences exist between preschool to school aged children. Timmons et al.[38] provides four recommendations for children 2-5 years of age including a focus on gross motor play that children find fun and PA for children should be enhanced by

adult facilitation and modeling. The recommendations are based on scientific evidence and can be used to for strategies on improving PA in children 2-5 years of age. Including these recommendations in to the new modules is appropriate and consistent with the literature on "how to make preschool children more active".[38]

We also found that participants wanted more hands on activities around feeding their children. Involving children in meal preparation has shown to increase fruit and vegetable intake and[39,40] including meal preparation in nutrition intervention has shown to be successful in previous studies.[40] It is possible that including meal preparation demonstrations within the feeding your child lesson will help parents and children engage in meal preparation together and therefore improve the quality of their diet. Based on our findings, changes will be made to better target this area. Using meal preparation involvement as a model for demonstration may prove to be successful for behavior change.[39,40]

Lastly, we found that participants were unaware of how the media targets unhealthy products for children. Specifically they were interested in how fruit and vegetable advertisement might be used in the media and wanted to learn more on this subject. However, there is an absence of sufficient fruit and vegetable food advertisement in the media. Most of the literature today is focused on child media exposure to unhealthy foods, and is severely lacking in child media exposure to fruit and vegetables[40]. The next iteration of the modified RI-EFNEP curriculum will include information on how unhealthy food advertisements are used to target children (i.e. fast food TV commercials). Additionally, an activity demonstrating

how the overwhelming majority of child directed food advertisements with poor nutritional content occur on TV commercials will be incorporated.

Eight out of the 16-items in the checklist are targeted in the new modules. Subsequently, significant improvements occurred for one of the HCHF 16-item behaviors.[13] We found that adult soda consumption was significant. While we did not find statistically significant improvements in parental feeding, PA, and ST behaviors these findings warrant careful consideration as at least two hypothesis may explain these findings: 1) The modified curriculum was ineffective and these areas were not appropriately targeted within the curriculum and 2) the outcome evaluation failed to measure an effect where one existed, keeping in mind the small sample (n=24). Future studies should consider working with larger sample sizes that utilize an experimental design.

Previous studies have found that EFNEP positively impacts family dietary behaviors and obesity prevention.[15,41] However, ongoing research is necessary to determine the most effective and efficient ways to deliver nutrition education to at-risk populations.[41] The added modules of the RI-EFNEP curriculum mirror similar successful interventions added to the other state EFNEP programs, including the HCHF curriculum.[13,15] Family based interventions targeting home food environment are needed in order to improve healthy family practices.[42] Dickin et al.[13] documented positive behavior changes in parenting skills and home food environment styles for parents receiving the HCHF curriculum using the validated HCHF 16-item checklist in regards to feeding, PA, ST, fruit and vegetable intake, and high calorie snack intake. However, it is worth noting that

the HCHF curriculum is training intensive for the paraprofessionals with up to 40 hours of training. Given that detailed process evaluation data was omitted in this study due to space limitations it is unclear what aspects of the program were effective in measured behavior change.[13]

Rhode Island EFNEP has the potential to address parental feeding practices, PA, and ST in order to establish healthy habits. Strengths of this study include the thorough process and outcome evaluation measures. Collecting data on both process and outcome evaluation helps us understand the mechanism by which behavior changes is achieved.[43-45] The use of both methods to evaluate the curriculum allows for important insights and could be critical in improving and refining future interventions.[21] The mixed methods analysis of this pilot study allows the investigator to examine multiple aspects of the curriculum thus uncovering strengths and weaknesses of the modified curriculum. Although other measures of feeding could have been included, participant burden was a concern, therefore a validated 16-item checklist which has low response burden was used.[13] This study adds to the growing literature on the importance of evaluating federal nutrition programs, which can impact chronic disease prevention among low-income populations.[13,15]

Some limitations of our findings should also be noted. First, we did not incorporate a control group and measured participant behavior change was self-reported. The study could have benefited from incorporating a pre-post parental feeding questionnaire to further assess parental feeding behavior change but as previously mentioned we wanted to reduce participant burden. Although we used

extensive process evaluation in the new lessons there was no in depth evaluation of the entire curriculum. Our sample size was small and we may have not seen significant changed due to lack of power. In addition, with the pre-post tests on certain behaviors, there were multiple comparisons and our significant findings could have been seen by chance alone. The focus groups occurred during the last lesson of the curriculum and participants may have forgotten some of the information covered during the new modules given that they were presented earlier in the curriculum. Despite this limitation, the data proved to be valid because the participants remembered the lessons when key messages were reintroduced to the participants. The new module sessions were observed and this may have influenced participant behavior, even though fidelity is typically assessed in this way. It is possible however for future studies to consider incorporating video recordings of the intervention to more thoroughly evaluate the process evaluation of the new lessons Finally, in the lessons with Spanish speakers, the lesson was introduced in English and then translated into Spanish. It is possible that this may lead to participants being bored and reduce engagement. However, given that low-income populations are hard to reach, and Spanish-speaking participant numbers were low it was decided by EFNEP staff that combining the group would be best in order to reach all participants.

Implications

The findings from this study help inform the future of the EFNEP curriculum and highlight the importance of utilizing EFNEP as a vehicle to reach low-income populations that are risk for childhood obesity. Based on these results, lessons will be modified to incorporate age specific information for parents, create a more effective goal setting strategy, add an interactive activity in the feeding your child lesson, and include more focus on the effects of advertising. Future studies could benefit from program participant feedback to improve interventions that target obesity-related health behaviors in low-income families. Given the reach of federal nutrition programs, continuing research of the effects of EFNEP on parent and child health is warranted.

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Appendices

Appendix A: A REVIEW OF THE LITTERATURE
Literature Review

I. Introduction

Obesity prevention, in the early years of life is important in developing future healthy lifestyle habits.[1] Childhood overweight and obesity increases risk for developing chronic diseases such as cardiovascular disease and type two diabetes.[2] National data shows that children in the United States (US), who are overweight and obese, are at an increased risk of being overweight and obese as an adult.[3] Children who were overweight entering kindergarten make up 50% of the children who are overweight from kindergarten to eighth grade.[4] Currently in Rhode Island (RI), 17% of young children (ages 1-5) are obese.[5] Even more alarming are the disparities that exist among racial/ethnic minorities, low education, and low socioeconomic status (SES) individuals.[6] About 40% of African American and Hispanic children are overweight or obese.[3] Data from 2008 states prevalence of childhood obesity in low-income preschool aged children increased from 12.4% (1998) to 14.6%.[7] Given the high prevalence of childhood obesity among low-income and some minority populations, exploring ways to engage parents in prevention efforts is critical during early childhood.

Due to a strong association between living in poverty as a child and adiposity in adulthood,[8] there have been several initiatives to promote healthful behaviors among low-income populations.[3,9] Government funded programs such as "Let's Move" have focused on obesity prevention in the United States (US).[3,10] This initiative provides parents with helpful information that support healthy lifestyle

choices, more nutritious foods in schools, and ensuring that families have access to healthy and affordable foods.[3] Educating parents on these topics are important since parents play a critical role in shaping children's dietary preferences and eating behaviors. [1,11-16]

The Expanded Food Nutrition and Education Program (EFNEP) is designed to assist low-income adults gain nutritional knowledge and skills, while improving food-related attitudes to ultimately enhance their overall diet.[9] Educating parents can not only improve their overall diet but the knowledge can help create a home environment to foster healthy diet and behavioral changes in their children. Although the current RI-EFNEP focuses on nutrition education, it does not incorporate education on other obesity-related behaviors, such as parental feeding, sleep, excess screen time (ST), and lack of physical activity (PA). Results from previous studies show strong evidence for an association between knowledge and healthy eating[17,18] and behaviors.[19] It is possible that parents and their families who complete a curriculum, which addresses these behaviors, would be more likely to improve health behaviors associated with obesity. The modified RI-EFNEP curriculum will be discussed in further detail later.

To better understand the scope of childhood obesity and the intervention and prevention efforts needed early in life among this high-risk population, this literature will describe the following areas: 1) The prevalence of childhood obesity and its consequences, 2) obesity-related (or obesogenic) behaviors (i.e, diet, ST and electronic media, PA, sleep, and parental behaviors), 3) the

importance of effective nutrition education programs and, 4) current childhood obesity prevention and intervention efforts.

II. Prevalence of Childhood Obesity and its Consequences:

In the US, obesity has increased over the past three decades.[20] Obesity is a risk factor for many chronic diseases.[2,3] Data obtained from 2011-2012 suggests that about 20% of children and adolescents in the United States are overweight or obese.[10] This is of concern because overweight and obese children and adolescents can develop long-term and immediate health consequences related to obesity such as heart disease, high blood pressure, cancer, and asthma.[3] As a result, childhood obesity in the United States is considered a public health threat and there is a need for more community intervention.[3]

Although prevention efforts appear to be successful, prevalence of obesity was high in children and adolescents[10] and disparities among Hispanic children remain.[10,21] In RI, 40% of the children living in poverty were Hispanic.[21] Data from 2011-2012 shows the prevalence of obesity among Hispanic children ages 2-5 years was 16.7% compared to 3.5% in non-Hispanic White children.[10] In RI, according to data from 2009, obesity rates among children ages 2-5 years was 25% in Hispanic/Latino kindergarteners compared to 14% in non-Hispanic White kindergarteners.[22]

What is obesity?

In the United States, overweight and obesity are defined for children.[23] The Center for Disease Control (CDC) defines measurement of overweight in children as body mass index (BMI) greater or equal to the 85th percentile but less than the 95th percentile and obesity as greater than the 95th percentile.[24] Additionally, the CDC defines obesity as "excess adipose tissue that usually has a negative impact on one's health".[24] Measurement of BMI in children is based on age, sex, weight, and height to factor in growth changes.[24] Although BMI does not measure adipose tissue directly it is an acceptable measurement if used appropriately.[24]

Consequences of childhood obesity

Consequences of obesity encompass health implications as well as public health costs [25]; therefore preventing childhood obesity is critical. Sleep apnea, cardiovascular disease, high blood pressure, and asthma are all becoming more prevalent among obese children and adolescents. [26,27] Obesity is also a major risk factor for type II diabetes. Once considered to be an adult disease the diagnosis of type II diabetes has documented a high prevalence among US minority children.[28] It is estimated that obesity and obesity related conditions cost $14 billion annually in health expenses.[25]

Addressing obesity early in life may help prevent the onset of chronic diseases later in life. Recent statistics from the National Health and Nutrition Examination Survey (NHANES) shows progress in decreasing the number of obese 2-5 year old children in the US with a 5.5% decrease from 2002-2004 to

2011-2012.[10] It appears that low-income preschool aged children participating in federal nutrition programs, like EFNEP are within the groups experiencing a decrease in the prevalence of obesity.[10,29]

Childhood Obesity's Relationship to Disparities

Disparities occur in minorities and socioeconomically disadvantaged children and adolescents.[10,30] In the US, Hispanic children are more likely than White children to be obese.[31] In addition, research shows that obesity is inversely related to SES.[30,32-34] In RI, according to data from 2010-2012, 42% of Hispanic children live in poverty compared to the national rate of 34%.[21] Limited economic resources may lead dietary choices towards an energy dense diet providing maximum calories per unit volume at lower cost.[30] In 2014, a report stated the achievement gap between Hispanic/Latino and White students in RI is among the largest in the United States.[21] The current efforts to close the gap in racial/ethnic and SES disparities are critical in the prevention of obesity.

Obesogenic Behaviors

Obesogenic behaviors are behaviors that contribute to the risk of obesity. Obesogenic behaviors may be non-modifiable risk factors (e.g., age, gender, race, ethnicity, and genetics)[35] or modifiable risk factors such as diet[36], ST[37], PA[38], sleep[39], and parental behaviors.[40] Modifiable behaviors may contribute to an obesogenic environment, which is defined as the sum of influences that the surroundings, opportunities, or conditions of life have on promoting obesity in

individuals or populations.[41] This literature review will address the modifiable risk factors and behaviors that the pilot tested modified RI-EFNEP curriculum addressed.

Diet

An imbalanced diet can result in excess caloric intake and cause a positive energy balance, which may lead to increased adiposity. Moreover, french fries and fried potatoes are currently the most commonly consumed vegetable by preschoolers in the US,[36] making it important for parents to expose their children to a wide variety of fruits and vegetables. Studies have shown when parents increased exposure to healthy foods, like fruits and vegetables, this increased child intake.[42,43] Dietary quality for children and adolescents may be adversely affected by low SES[44] and diet quality among children ages 2-11 years needs improvement.[36,45] Poverty and food insecurity are associated with poorer diet quality, with decreased consumption of fruit and vegetables and high intake of energy dense foods high in fat and sugar.[30]

Diet quality is a major factor contributing to obesity.[46] About 85% of children ages 2-3 years consume at least one type of sugar sweetened beverage (SSB) or sweet or salty snack per day.[36] Sugar sweetened beverage intake has shown to be related to diet quality and BMI increases in school aged children.[45] Briefel et al.[47] found that the diet consumed at home provided the most "empty calories" during a 24-hour period in a population of children grades 1-12. Due to

the major influence parents have on a child's diet parental involvement is crucial in the preventative efforts toward childhood obesity.[48,49]

Diet quality among low-SES Hispanic children has shown to fail to adhere to The Dietary Guidelines for Americans.[50] Results from a study by Wilson et al.[50] show low-SES Hispanic children often exceed guidelines for fat and added sugar. Another study found that the dietary patterns described in Mexican Americans were high risk for chronic diseases due to the lack of "healthy" dietary patterns.[51] The findings of these studies highlight the importance of targeting dietary patterns in populations that are high risk for obesity and chronic diseases.

Screen Time and Electronic Media

For the purposes of this paper, ST refers to the amount of time spent engaged in televisions, video games, cellphones (i.e. smartphones), tablets, computers, and all other electronic devices that encompass an interactive "screen". The American Association of Pediatrics recommends children spend 2 hours or less of ST per day.[52] However, the average child spends about 7 hours per day. [52] A study using US NHANES data (2001-2006) found about 50% of children and adolescents' ages 2-15 years spent 2 hours or less per day using electronic devises.[53] In 2013, 32.5% of US students watched 3 hours or less of television and 41.3% played video/computer games or used a computer that was not school related for 3 hours or less on an average school day.[54]

There is no recent evidence suggesting that ST has decreased significantly among US children and adolescents.[53,54] Moreover, multiple studies show that an

increase in ST is positively associated with childhood obesity.[32,55-57] ST has also been associated with adverse dietary outcomes.[58] A positive association has been found between ST and snacking frequency.[59,60] While watching television children are more likely to consume more sweet snacks[61], energy-dense drinks[62], SSB, fruit juice, fast foods[63], and higher energy dense snack foods.[62,64,65] Research has also indicated that Hispanic children tend to engage in greater ST than do White children[66], thus targeting this high-risk population is critical.

i. Television viewing

High incidences of television viewing can contribute to the development of overweight and obesity during childhood and may be an indicator of unhealthy behaviors and health status in adulthood.[56,67] Bauer et al.[40] found the number of cable televisions and DVD players in the home to be positively associated with BMI and percent body fat in adolescent girls. Another study found that children consume a significant amount of their daily energy (weekend 25%, weekday 20%) while watching TV.[68] Consumption of high-fat foods while watching television has been positively associated with BMI in young children.[68] With these detrimental findings the current recommendations of the American Association of Pediatrics is to remove television sets from children bedrooms.[52] Removing the television from the bedroom can also have beneficial effects on sleep,[69] which will be discussed in more detail later.

To address ST and its relationship with childhood obesity many longitudinal studies have explored the relationship of ST and overweight and obesity from early childhood and adolescents to later in life.[56,65,67,70] In The Raine

Study, a 14-year longitudinal cohort study conducted in Australian children ages 1-14 years, ST had a direct influence on BMI at 6 years and 10 years and reported a lag time effect from 8 to 10 years.[56] The study found that of the obese adolescents, 45.9% were already obese and 33.3% were high ST users at 6 years of age.[56] Screen time increased among the obese adolescents from 33.3% at age 6 to 55.3% at age 14 compared to the healthy weight adolescents, where ST increased from 21.7% to 48.8% respectively. [56] This suggests that during early childhood, ST can be an indicator of weight status and behavior patterns later in life.[56]

Another longitudinal study, conducted on approximately 1,000 New Zealanders, assessed the effects of television viewing on overweight and unhealthy behaviors from birth to early adulthood.[67] At age 26 the prevalence of overweight was about 50% when the mean daily hours of television viewing were over 3 hours.[67] This study found television viewing for more than 2 hours a day during childhood and adolescence was positively associated with being overweight or obese and unhealthy behaviors such as smoking and poor physical fitness in early adulthood.[67]

In children and adolescents television viewing has shown to be associated with BMI.[37,65] One randomized controlled trial, spanning 2-years found a significant reduction in BMI and energy intake with reduced television viewing and computer time among children ages 4-7 years.[37] Many studies have explored the relationship between overweight and obesity, ST, and PA.[56,65,71] The

prevalence of ST should be addressed to decrease the risk of adiposity in children.[32,55-57,72,73]

ii. Media and Advertising

ST is also a problem for children and adolescents due to the exposure of unhealthy food advertisements.[69] The Annual Review of Public Health explains the exposure to food marketing ads increases children's unhealthy food consumption.[74] In 2007, The Kaiser Family Foundation reported out of all advertisements seen by children, food was the largest product category.[75] Of the food products in advertisements targeting children and adolescents 34% were for candy and snacks, 28% were for cereal, 10% were for fast food, 4% were for dairy products and none were for fruits and vegetables.[75] Advertising and electronic media, among other environmental influences, can influence a child's food preferences.[40] Studies have shown advertising is targeted toward and may contribute to obesogenic behaviors specifically in low income children and adolescents.[76,77] The reported advertisements targeting to children[75] is particularly dangerous for low-income children because there are higher prevalence of fast food restaurants in low income areas when compared to middle and high income areas.[78]

Increased ST, specifically television viewing, is associated with greater sedentary behaviors, decreases in PA and exposure to unhealthy food and beverages.[67,75] Decreased PA and increased sedentary behaviors have a positive association with obesity.[38] Interventions to diminish sedentary behaviors are critical in the efforts toward prevention of childhood obesity.[79]

Physical Activity

Sedentary behaviors are associated with physical inactivity, increasing risk for obesity.[38] The 2008 Physical Activity Guidelines for Americans states children should engage in at least 60 minutes of PA daily; this includes aerobic, muscle-strengthening, and bone-strengthening activities.[80] Child PA can be influenced by parental support[81] and parental PA[40], again demonstrating the importance of educating parents on parental support and parental PA to prevent childhood obesity.

Interventions that utilize parental support for PA report positive changes in child BMI.[81,82] Haerens et al.[82] conducted a clustered randomized controlled trial to evaluate the effectiveness of a 2-year middle school PA and diet intervention. A parental component was included in five of the ten intervention schools to support an environment for healthy behaviors outside of the classroom.[82] The PA component emphasized increasing levels of moderate to vigorous PA to <60 minutes per day.[82] Schools increased their weekly PA by 4.7 ± 2.66 hours.[82] Results also showed a significantly lower increase in BMI when parental support was incorporated in the intervention compared to the intervention alone and control group.[82] There was a clear difference in BMI and BMI z-score in girls after the 2-year intervention, thus inferring with parental support, this intervention could be effective at preventing overweight and obesity over a longer period of time.[82]

In addition to increasing parental support[81,82] Increased parental PA has shown to positively impact children and adolescent health.[40,79] A review by Van Der Horst et al.[79] found evidence of a positive association between parental PA and PA in boys. Promoting increased PA through parents decreases obesogenic behaviors in children and adolescents and serves as a valuable method for obesity prevention. _

Sleep

Sleep duration and Obstructive Sleep Apnea (OSA) has been linked to incidence of obesity in children.[39,83] Specifically, sleep duration has shown to have an inverse association with childhood obesity.[39] Children and adults differ in sleep by quantity and nature but sleep is similar to that of adults by age ten.[39] A meta-analysis by Cappuccio et al.[39] explored the relationship between sleep duration and child BMI. They found increased odds of having shorter sleep with higher BMI in childhood and adulthood.[39] Additionally, a reduction in sleep by 1 hour per day was associated with an increased BMI of 0.35kg/m^2 (i.e., with a person who is 70 inches it would be equivalent to 3.08lbs).[39] This association was consistent across different populations.[39] Another study by Gupta et al.[84] found that for each hour of sleep lost, the odds of obesity increased by 80%.

It has been hypothesized that the incidence of OSA is linked to metabolic alterations in glucose and insulin, which are known factors associated with and also increase the risk of obesity.[83] It is important for children to receive adequate

sleep and as discussed previously, sleep can be negatively impacted by TV's in the bedroom.[69]

Parental behaviors

Parental behaviors influence their children's behaviors.[85,86] Parents have the ability to modify their children's diet[48], ST[52], and PA[79] through their behaviors. The parental behaviors that will be discussed in this review are: parental role modeling, controlling feeding practices, home food environment, and family meals.

i. Role Modeling

Parental modeling of unhealthy eating behaviors has been shown to be associated with increased child BMI z-scores.[87-89] A review by Scaglioni et al.[48] states there are significant correlations between child and parent dietary intake. Hood et al.[87] analyzed the extent to which parental dietary restraint and disinhibited eating affected the adiposity in their children. Dietary restraint and disinhibited eating are defined as the intentional control of food intake to lose weight or avoid weight gain[90] and loss of control over eating[91] respectively. Their secondary analysis of the Framingham Children's Study looked at 3-5 year old children (n=92) and their parents.[87] Parents' eating behaviors were assessed at baseline using the Stunkard and Messick's Three Factor Eating Questionnaire (TFEQ).[87] Children whose parents scored high in both parent dietary restraint and disinhibiting had the greatest gains in sum of skinfolds (61.4mm).[87] The findings suggest that parental disinhibited eating, together with dietary restraint, may be

associated with increased risk of obesity in their children.[87] These findings are consistent with the literature that parental role modeling is important for the prevention of unhealthy eating behaviors in children.[85,92]

ii. Feeding Practices and Styles

Parental feeding practices and styles are important in promoting healthy food choices and behavior in children[93] Four parenting styles centered around responsiveness how demands/requests are carried out by the parent which are either child or parent centered and demandingness is the number of demands that parents place on children to get them to eat.[94] The four parental feeding styles authoritarian high (demandingness low responsiveness), permissive (low demandingness high responsiveness), neglectful (low demandingness low responsiveness), and authoritative (high demandingness, high responsiveness)[95] have shown to associated with child health outcomes.[93]

Controlling feeding practices have shown to have a negative impact on child BMI[96] and diet quality[85,97]. A longitudinal, observational cohort study of parents and their children aged 6-11 years (n=699) was conducted as part of the Neighborhood Impact on Kids (NIK) Study.[96] NIK evaluated the association of home environment factors with child and parent weight and weight related behaviors.[96] The study surveyed the participants on home food environment factors including a pressure to eat, restrictive food practices, and a permissive food practices scale.[96] Child BMI z-scores were negatively associated with parental pressure to eat and positively associated with parental use of food restriction.[96] Educating parents on how to be less controlling around child feeding

can be an effective method of childhood obesity prevention. Ethnicity and income may have an influence on how mothers feed their children.[98] One study found Hispanic mothers exhibited more restriction and pressure to eat when compared to White mothers.[98] Thus highlighting the importance of targeting mothers who are at higher risk of controlling feeding practices in efforts to prevent obesogenic home environments.

iii. Home food environment

Home food environment plays an important role in the diet quality of children.[49,99,100] The home food environment includes parental controlling feeding practices but, for the purposes of this literature review, it will be discussed as healthy food availability (i.e., fruits and vegetables).

Availability of fruits and vegetables at home can positively impact intake in children.[49] Neumark-Sztainer et al.[49] explored factors associated with fruit and vegetable intake among adolescents through the administration of surveys in Project Eating Among Teens (EAT). Adolescents from 31 middle and high schools (n=3,957) were included in the study.[49] The Project EAT surveys encompassed 221-items assessing 13 factors which were grouped into categories; socio-environmental personal factors and behavioral factors, associated with fruit and vegetable intake among adolescents.[49] Of the 13 factors availability of fruits and vegetables and taste preferences were considered to have a possible direct effect on fruit and vegetable intake ($p<0.01$).[49]

In contrast to fruits and vegetables, availability of energy dense snacks and SSB can have negative impact on diet quality in children.[99] Consumption of

energy dense, low-nutrient foods such as high-fat snacks, and SSB are major dietary factors that influence risk for overweight and obesity.[46,101] A significant source of added sugars come from SSB, which may lead to weight gain as they contribute to excess energy intake. One study found that SSB contributed almost 50% of added sugars in the diet of children and adolescents from all racial, ethnic, and income groups.[102] Sugar sweetened beverages include fruit juices, sodas, and energy drinks, and are the primary sources of added sugars in the diet across all racial and ethnic groups[102], however, they are consumed in excess among Hispanic children.[103] Income and education also appear to be associated with the amount of added sugar consumed, with lower intakes in children among more educated parents.[104]

Santiago-Torres et al.[99] evaluated the diet quality of Hispanic children to explore the influences of home food availability on children's overall diet quality. This cross sectional study reported dietary intake through The Healthy Eating Index (HEI), a food frequency questionnaire given to students (n=187) at a charter school in Wisconsin.[99] SSB availability had a significant ($p<0.05$) association with reduction in children's HEI scores.[99] Parental intake of fruits and vegetables was positively associated with children's HEI total score.[99] Therefore, changing the home food environment has the ability to aid in effective intervention approaches.[49,96,99]

iv. Family meals

Family meal frequency has been shown to be inversely associated with BMI[40] and preventative toward childhood obesity.[105] Positive family and parental-

interpersonal dynamics have been found to be associated with reduced risk of childhood obesity.[86] Berge et al. [86] explored the relationship between families with interpersonal dynamics during family meals and overweight and obesity in children. This 2-year mixed methods, cross–sectional study collected video recordings of family meals, qualitative interviews with the parents, and three 24-hour dietary recalls of children and parents (n=120) from low-income and minority communities.[86] Results showed more positive measures (i.e., group enjoyment and warmth/nurture) were associated with reduced prevalence of childhood overweight and obesity whereas negative measures (i.e., hostility and inconsistent discipline) were associated with increased prevalence of childhood overweight and obesity.[86]

Research has shown frequent family meals are associated with increased fruit and vegetable intake and healthy eating.[106,107] Using data obtained in Project EAT Neumark-Sztainer et al.[107] examined the association between family meal patterns and dietary intake during family meals in adolescents. Project EAT is previously described under obesogenic behaviors, parental behaviors and home food environment.[107] Frequency of family meals was measured using a questionnaire and dietary intake was assessed with the 149-item Youth and Adolescent Food Frequency Questionnaire.[107] Results showed that frequency of family meals was positively associated with fruit and vegetables, grains, and calcium-rich foods intake and negatively associated with soft drink intake.[107] These studies support that family meals are an essential component of childhood obesity prevention efforts.[86,107]

III. Childhood Obesity Prevention Interventions

Although there have been several interventions to prevent obesity among low-income children and their families[108,109] few have done so through the federal program EFNEP. For example, in a previous EFNEP study conducted in New York State parents of 3-11 year olds (n=210) completed a pilot intervention entitled Healthy Children, Healthy Families: Parents Making a Difference (HCHF).[19] Of the recruited participants 65.7% were Hispanic/Latino, 10.5% Black, 30.0% White, and 2.9% other race or ethnicity.[19] The study's demographics did not discuss the percentage of participants born outside of the US. The goal of the study was to develop and test an integrated nutrition and parenting education intervention using the EFNEP program and structure of 8, 90-minute classes in New York State.[19] The parent education curriculum addresses 6 nutrition and PA behavioral changes, referred as "Paths to Success". [19,110] The "Paths to Success" centered on evidence-based recommendations: eating vegetables and fruit, limiting high fat high sugar foods, drinking water or low-fat milk rather than SSB, having sensible servings, limiting ST, and playing actively.[19,110]

A behavior checklist score was developed to assess participant's progress.[19] The checklist asked parents to report frequency of 16-key behaviors on a 5-point Likert-type scale.[19] The study found significant within participant improvements in the overall behavior checklist score when comparing entry and exit data from the program. [19] The largest magnitude changes were seen in 1) improvement in

child and adult low-fat dairy intake (P<0.001), 2) improvement in adult fruit and vegetable intake, 3) allowing children to decide on quantity of food to eat, and 4) reduction in availability of energy-dense snacks and fast food.[19] Dicken et al. [19] did not discuss in detail about process evaluation however, it was reported that staff and participant input were used to refine HCHF, ensure feasibility and guide implementation as the program was expanded. Further research could be implemented to discover why the program was successful and the relationship between program elements and program outcomes.[111]

A six month obesity prevention intervention completed among 121 parent child dyads used motivational interviewing during four 60-minute home visits and four 20-minute telephone calls.[111] Of the recruited participants 52% were Hispanic/Latino, 34% Black, and 14% White/Other.[111] Major components of the intervention included motivational coaching by a health educator during telephone calls and home visits, mailed educational materials, weekly text messages on adoption of household routines and strategies for behavior change.[111] Rational for testing interventions that incorporate mobile technology for the prevention of obesity in children and findings from this study reinforce the need for promotion of household routines related to family meals, sleep, and ST as an effective approach in obesity prevention among children 2-5 years of age.[111,112] Similar to the HCHF study, household routines like ST and PA were shown to be important for childhood obesity prevention.

Although there have been interventions to prevent childhood obesity, few have been conducted within existing programs such as EFNEP or use formative

research to modify an EFNEP curriculum.[113] To overcome this limitation, Cullen et al.[113] conducted a study with 100 Texas EFNEP groups to test the effectiveness of a modified EFNEP curriculum (described below) compared to a control. A total of 582 intervention and 424 comparison participants participated in the study to assess change in dietary intake.[113] Of the recruited participants 89% were Hispanic/Latino, 8% Black, and 3% White.[113]

The intervention curriculum Building Healthy Families: Step by Step, had three additional components added based on results from Thompson et al.[113] The three additional components were the addition of videos, goal setting and problem solving, and educational handouts to address parental modeling, skills and self-efficacy for healthful feeding practices, home availability of healthful food, self-regulation skills, and improved food preparation practices.[113] Fidelity, the only process evaluation method discussed, was used in 46 sessions of the 29 classes to assess class structure[113] and was found to be high (>80%) except in problem solving in the final discussion (76%).[113] Dietary improvements were observed in both the intervention and control groups. Significant BMI reduction was found at post compared to baseline for the intervention, however it was not maintained at the 4-month follow up (significant time effect $P<0.05$, significant group-by-time interaction $P<0.05$); suggesting that the change in the EFNEP curriculum had a positive short-term impact on the participants' healthy eating behavior.[113] Based on the findings from Cullen et al. further research needs to be conducted utilizing process evaluation to explore why an EFNEP curricula was or was not successful in improving participant health.

A previous non-EFNEP study conducted with Head Start (a public preschool program for disadvantaged children[114]), Eat Healthy Stay Active!, explored the implications of linking children's eating behavior to their parents.[115] The purpose of their pilot quasi-experimental study was to examine the impact of the intervention on improving diet and PA among parents, children, and staff. [115] Six Head Start agencies in Pennsylvania, Texas, Arizona, Rhode Island and New York requested to participate in the program. The intervention curriculum included lessons related to changing parental behavior and improving parental involvement, in addition to a high-intensity PA component.[115]

Evaluation of the intervention was conducted using pre-surveys, post-surveys and physical measurements of parents (n=438), children (n=112) and staff (n=496). Of the recruited participants, 24.5% were Hispanic/Latino, 45.4% White, 14.6% Black, 1.3% Pacific Islander/Asian, 6.0% Native American, and 2.5% other.[115] The intervention led to improvements in BMI in addition to increases in knowledge score. Weight changes in parents were associated with weight changes in children ($R^2 = 0.32$ $P = 0.01$, highlighting the importance of addressing behavior change in parents to promote healthy behaviors in the children). [115] The study also found that 14.4% of adult participants were classified as obese at baseline, but were no longer obese at follow-up ($p<0.001$); of children participants 38.2% of children were considered obese at baseline, but were not obese at follow-up ($p<0.001$).[115]

IV. Importance of Effective Nutrition Education

Effective Nutrition Education (process evaluation?)

Effective nutrition education is important to aid in childhood obesity prevention. One key aspect within nutrition programs is the appropriate use of educational materials, which may enhance or hinder a participants' understanding and learning experience. Growing Right Into Wellness (GROW) was an intervention designed to reduce childhood obesity through parent education materials.[116] This study conducted quality assessments for the modules of the GROW study.[116] Their systematic process was 1) expert review of core content and core materials, 2) material assessment that were graded using Suitability Assessment of Materials (SAM) and, 3) target population reviews and revisions.[116] This study's SAM process assessed the modules on content, literacy demand, graphics, layout and typography, learning stimulation and motivation and cultural appropriateness.[116] The SAM process found that the most common areas requiring revision were literacy demand, layout and typography, and learning stimulation and motivation.[116]

After the SAM process, parents of 3-5 year old children were interviewed about their opinions on the GROW educational modules to verify appropriateness of topics and ease of understanding [116] Eight themes were identified from the cognitive interviews conducted in regards to improving the health literacy in the modules: 1) clarify messages in the facilitators guide, 2) requested information found in another session, 3) reduce sweeping generalizations that may negatively implicate behaviors, 4) reduce language that seems to be overly forcing certain

behaviors, 5) reduce wordiness/ be clear and concise, 6) ensure tools included are practical, 7) add participant suggestions when relevant, and 8) clarify and remove unfamiliar terminology. [116] Solutions were found and implemented based on these eight themes.

Gathering Feedback from Target Population Prior to Intervention

Given the different ethnic populations which federal nutrition programs serve it is important that the curriculum used is appropriately tailored. [117] Thompson et al.[118] conducted a formative study to inform the modification of an existing EFNEP curriculum to better improve the dietary behaviors of participants. Nine focus groups and 149 completed client questionnaires were used to assess perceptions and assessments of the existing EFNEP classes and what education activities currently worked best.[118] Of the recruited 87% were Hispanic and 98.6% had children who were living at home.[118] Participants provided positive feedback but wanted more structure and guidance regarding ways to achieve healthy behaviors in the home.[118] Therefore, based on the participant's feedback, changes to the EFNEP curriculum were made and the class structure was revised to include other healthy eating topics. With this information, the EFNEP curriculum was modified focusing on healthy recipes, goal setting, and active learning activities. Using the findings from Thompson's formative study, Cullen et al.[113] developed an intervention; this study will be discussed in the literature review under Childhood Obesity Prevention Interventions. This

highlights the importance of conducting formative research with members of the target audience prior to curriculum modification.[118]

Another study, using longitudinal qualitative information from their target population in Australia (n=17), found that parents had specific beliefs related to their child's health. A total of 72 interviews, 12 focus groups, and 354 introspections were conducted.[117] The 7 beliefs relating to the participants' children's health were 1) It is appropriate to give children unhealthy food treats everyday; 2) It is appropriate for children to regularly eat in front of the television; 3) Food rewards are appropriate for encouraging good behavior; 4) Most children outgrow their weight problems; 5) If I do not give my children the food they want they will refuse to eat therefore it is appropriate to give them any food they will eat; 6) It is difficult to get children to eat breakfast so it is appropriate to give them any food they will eat; and 7) Cordial (a beverage made from juice, sugar and water) is an appropriate way to encourage children to drink more instead of consuming soft drinks. [117] This information can be used when addressing sub-optimal parental beliefs about nutrition.[117] Although there may be common themes across different populations, it is important to gather information from the target population through interviews, introspections or focus groups. With this information appropriate modifications can be made to existing programs.[117,118]

In RI, EFNEP serves low-income families who are at risk for obesity. Given the potential to tailor existing programs such as EFNEP, it is important to

first hear from parents who have already participated in the program. Van Asch et al.[119] conducted semi-structured interviews 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. Of the participants who participated in this study (n=22) 73% were Hispanic. [119] Participants reported wanting more information related to how to incorporate healthy habits around ST, sleep and PA.[119] These content areas can be used to modify the EFNEP curriculum.[119]

According to the participants, the RI-EFNEP curriculum may also benefit from including parenting skills and education on household routines to decrease obesity risk.[119] Therefore the goal of this project will be to pilot test a modified RI-EFNEP curriculum that incorporates education related to these behaviors. To better understand the scope of childhood obesity and the intervention and prevention efforts needed early in life among this high-risk population, this literature will describe the following areas: 1) The prevalence of childhood obesity and its consequences, 2) obesity-related (or obesogenic) behaviors (diet, ST and electronic media, PA, sleep, and parental behaviors), 3) the importance of effective nutrition education programs and, 4) current childhood obesity prevention and intervention efforts

V. Conclusion

Findings from this literature review emphasize the need to prevent childhood obesity through programs like RI-EFNEP given the high-risk population they serve. It is important to include the target population as part of formative research and include the appropriate findings from this work into nutrition education interventions.[118] Most intervention studies to date that include education components targeted at low-income populations found significant improvements in fruit and vegetable consumption [19] and decreases in BMI percentile.[113,115]Although some of these interventions have been successful in improving health behaviors among parents and children[19,113], many did not include ethnically diverse parents participating in federal nutrition education programs in the New England area and they did not discuss details on their formative or process evaluation. As previously stated, the purpose of this study will be to explore the impact of a modified RI-EFNEP curriculum to improve parent and child health behaviors that have been associated with obesity. This mixed methods, quasi-experimental, pilot study will assess the modified RI-EFNEP curriculum in decreasing ST and increasing PA, fruit and vegetable intake, and improving feeding practices among parents and children. As part of implementing this pilot, detailed process evaluation measures will be collected in order to capture intervention fidelity and to explore individual sessions.

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APPENDIX B: CONCENT FORMS

Consent for Participation
THE UNIVERSITY OF RHODE ISLAND
A Research Study Observing and Testing Rhode Island EFNEP Curriculum

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 curriculum has been designed to inform and gather feedback from parents/caretakers of young children. We are asking you to participate in lessons, fill out a pre and post survey, and questions after each lesson. Your input will help develop future EFNEP programs.

What will happen if I decide to participate in the study?
If you agree to participate in this study, the following will happen:

1. You will participate eight EFNEP lessons that equal one EFNEP curriculum. Each lesson is about an hour. Five to ten parents/caretakers will be asked to participate.
2. Your group discussions and activities will be observed and notes will be taken. Any information gathered will be stored securely at the University of Rhode Island in Ranger Hall room 305.
3. In order to maintain confidentiality, please do not discuss what you hear in this group with people outside this group in any way that might identify the people you met here.
4. To further gather feedback about the curriculum you asked to participate in an informal focus group during the last class session.

What will happen if I decide to participate in a focus group?
If you agree to participate in this focus group, the following will happen:

1. You will participate in one focus group (a small informal group discussion) for about 15 minutes at the end of the last EFNEP class. You will be in a focus group with the other people in your class who wished to participate. You will discuss how you felt about the additional lessons about feeding your child, being active with your child, and how food advertisements affect your child.

2. Your group discussion 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 at the University of Rhode Island in Ranger Hall room 305.

Benefits or risks:

If you do decide to participate in this study, you will be helping research project staff to help develop programs to allow you to be a part of future nutrition education programs. There is minimal risk in participating.

Confidentiality:

Any information that is gathered from this study will be kept confidential--that is, no one else will know what was discussed or gathered. Notes will be retained for three years following the completion of the project and then destroyed. The notes will be stored at the University of Rhode Island in Ranger Hall room 305**.**

Right to quit at any time:

The decision to participate in this study is voluntary and is up to you. You can quit the study or focus group at any time, simply by telling us that you no longer want to participate. If you decide not to participate in this study or leave during the focus group, 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 student investigator Sarah Harper (301) 646-2257. You should also write or call the office of the URI Vice-President for Graduate Studies, 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. 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

Your signature below means that you understand the information and you agree to participate in the audio recorded focus group.

_____ _____

Signature of Participant Signature of Researcher

_____ _____

Typed/printed Name Typed/printed name

_____ _____

Date Date

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

APPENDIX C: LESSON PLANS AND HANDOUTS

Included in this section are the feeding your child, physical activity and screen time, and media literacy/food advertisements lessons, the corresponding handouts (screen shots) and background information, goal setting handouts (screen shots) and background information, and lesson materials and posters (screen shots).

Feeding Your Child
Text in italics is what you explain to participants

Goals:

Parents will improve their confidence when feeding their child around mealtimes.

Objectives:
Parents will discuss why feeding their child may be difficult.
Parents will identify possible ways to help make feeding their children easier.

Key Messages
1) Be a role model
2) Patience works better than pressure
3) Eat together
4) Create a healthy food home

Handouts
1) Child feeding tips

INTRODUCTION (30 seconds-1 minute)

Introduce the lesson to the class. An example of what to say:
"*Hello class! In today's lesson we will be learning and discussing the topic feeding your children."*

ANCHOR (5 minutes)
Family mealtimes are a great place to bond with your children. It's a place that you get to comfortably speak with your children and spend quality time with them.

Find a partner and discuss some of your favorite moments when feeding your children. Would anyone like to share with the class?

ADD (6 minutes)
Reference the 4 feeding practices posters: 1) Create a healthy food home, 2) You are a role model, 3) Eat together, and 4) Patience works better than pressure.

How parents feed their children can help keep them healthy. Sometimes parents think that by restricting or controlling certain foods that they are helping their children be healthy but we know that this does not really work because children end up wanting to eat the "forbidden" foods more, and meal times become a battleground instead of a place to enjoy food and time together. Children are really good at knowing when they are hungry and when they are full. As a parent, it is important to let them decide how much to eat; let them listen to their tummies. As a parent you should decide WHAT is going to be served and your child can decide HOW MUCH to eat. Remember that parents are the ones who do the grocery shopping, so it is their responsibility to provide the healthy

options. Keeping this in mind, we will now discuss some things you can do to help provide healthy food for your children.

1) Create a healthy food home: *As a parent, you can create a healthy food home. Children like easy and convenient foods, so it helps to have fruit and veggies already cut up and prepared. Want to make sure your kids reach for a healthy snack? Make sure fruit and veggies are in reach. When they come home hungry, have fruit and veggies ready to eat. Have veggies cut up and ready to eat with dip or hummus. They don't like eating whole apples or other whole fruit? Cut them up ahead of time. Parents are in charge of the food that comes into the home. Invite your kids into the kitchen to help you cook. You may be surprised at what they can do, and they will be proud to have helped make something. Also, helping to cook can get kids excited about food and make them more willing to taste new things.*

2) You are a role model: *Remember that you are a role model, your kids learn from you. Eat fruit and veggies and your kids will too.* ***Show*** *your children what you want, don't just tell them.*
3) Eat together: *Enjoy each other while enjoying family meals. Eat together as a family as often as you can. Keep meal time relaxed and help your family make stronger connections. Let your little ones select which foods to put on their plates and how much to eat from the healthy choices you provide. Cook together. Eat together. Talk together. Make mealtime a family time.*

Show of hands, how many of you already have regular family meals?

4) Patience works better than pressure: *Patience works better than pressure. Then, let them choose how much to eat. Children are more likely to enjoy healthy foods when eating them is their own choice. Sometimes new foods take time, and children don't always take to new foods right away. For example, you may have to offer new fruits and vegetables many times and served in different ways. Give your kids just a taste at first and be patient with them. Offer your children choices that are healthy, that way they feel like they are making their own decisions (e.g. would you like an apple or a banana for your snack?)*

APPLY (10 minutes)

Part 1:

Now let's discuss a typical parenting situation.

Karen is a mom of two children, who are 6 and 8. Sometimes her 8 year old son refuses to eat or doesn't want to eat what's being served. Karen has tried many things to get her son to eat when he doesn't want to and nothing seems to work.

Think about what we have discussed. Find a neighbor and discuss what you would do in Karen's situation. Would anyone like to share?

This is a situation where Karen might be tempted to pressure her son to eat or use rewards to get him to eat. Instead, Karen can offer her son some other healthy options. She can plan ahead to serve two different vegetables and let her son choose. For example, she may serve broccoli and carrots but let her son choose which of the two he would like to eat. If needed, Karen might say something like "These carrots are really yummy, would you like to try them with me?" or "Maybe if you just take one small bite?" She could say something about the foods that he is eating "did you know that carrots grow in the ground?" and/or benefits of eating "it will make you grow to be strong," "it will help make you smarter," etc. Karen can also make sure to serve at least on food that she know her son will eat. When preparing a meal, Karen can ask her son which of two vegetables he would like to eat. Karen's son knows when he is hungry or full. She can let him decide how much to eat. She can provide a variety of foods at dinner to make sure he eats something, even if he doesn't want the main course. Karen may also feel the need to punish her child for not eating. Instead, Karen can simply accept her son's refusal to eat.

Would anyone like to share what works best for them when their child doesn't want to eat?

Part 2:
We are now going to do an activity that involves what we have already discussed. Please find a partner to work with.

Randomly hand out cards to participants that have feeding descriptions (e.g. *see last page for list)

Use feeding practices posters: 1) Create a healthy food home, 2) You are a role model, 3) Eat together, and 4) Patience works better than pressure.

Let participants place their cards under each poster title. Discuss all as a class.

Do you do any of these already? What works best for you? What do you think is the most difficult? Does anyone have any other tips that they think would help?

<u>AWAY (4 minutes)</u>
Now that we have discussed some ways of feeding your child, it's time for you to come up with one goal that you would like to try over the next week related to feeding your child. Here are some examples. You can use one of these or come up with one on your own.

1) I will be a role model by eating a GO vegetable at 2 meals with my children this week.
2) During a family meal, I will let my children serve themselves by offering healthy choices.

3) When my child says he/she is full, I will listen to them.
4) I will have a vegetable and dip ready for my children when they come home, at least once.

References

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List for APPLY Part 2

- have fresh fruit in a bowl on the counter
- make sure fruit and veggies are in reach
- get grilled chicken on a salad at a fast food restaurant
- make mealtime family time
- give your children a taste of new foods
- let your child decide how much food to take
- prepare cut up vegetables and dip ahead of time
- eat a GO vegetable at every meal
- let your child make the healthy choice
- cook together and have a family meal
- you are in charge of what food is served in the home
- serve two vegetables and let your child decide which to take
- eat fruits and vegetables with your children

CHILD FEEDING TIPS

<u>Create A Healthy Food Home</u>
- Keep healthy snacks available
- Make finger foods ahead of time
- Involve the children

<u>You Are A Role Model</u>
- Your children learn from you
- Eat fruit and veggies and your children will too
- Show your children what you want, don't just tell them

<u>Eat Together</u>
- Set a regular schedule for meal times
- Eat with your children
- Keep mealtime relaxed and help your family make strong connections
- Cook together, eat together, talk together, make mealtime a family time

<u>Patience Works Better Than Pressure</u>
- Let your child decide how much to eat
- Offer new fruit and veggies many times, served different ways.
- Respect your child when he/she says they are full

Feeding Your Children
Background Information

Parents have a strong influence on children's food intake because they control the availability of foods, family meal routines, and household rules. They determine when eating occurs, the extent to which feeding occurs in response to hunger, the context in which eating occurs, and the foods and portions that are available. Key strategies for effective parenting around mealtimes focuses on being a role model, not pressuring children to eat, creating a healthy food environment, and offering healthy choices.

When feeding children, new healthy foods should be encouraged, and parents may have to offer them many times. For example: children may refuse new healthy foods, act out about the taste of new healthy foods, etc. Parents will have to offer new healthy foods many times. Getting kids involved in food is a way to get them excited about eating healthfully. Parents can have their kids help them in the kitchen or have them help shop for groceries. Children can help select fruit or vegetables for the week. Children can help in the kitchen by wiping down counters, cleaning fruit or vegetables, opening jars, etc.

Children tend to be very good at determining how much food to eat. Let the child decide when and how much food to eat. Offer healthy choices, and then let your child determine what he/she would like to eat. Remember that parents control what is going to be served, but the child should determine how much to eat. When children act out or refuse to eat, it may be a sign of the child wanting attention. It is important for parents to respect their child and make them feel good about themselves. To get kids to try new fruit or vegetables, have them pick a new fruit or vegetable in the grocery store to try. Remember, meals shouldn't be a struggle. Make mealtimes positive. Meals can be a great time for you to enjoy your time with your family.

Trust the child's appetite. Parents can help preserve their children's innate ability to self-regulate or restore it if has diminished already. The dinner table can become the happiest spot in your house, children will to be there and are happy to be included in family meals. Meals can also be a time for parents to ask their children about things that happened during the day; non-meal related.

To get kids to eat more fruit and vegetables, parents can offer them as snacks. Kids may be afraid to eat whole fruit or vegetables. One

solution is to cut them up ahead of time and serve them with dip. Have them ready when the children come home from school or childcare. Children like C.A.N. foods (Convenient, Attractive, and Normal). Fruit and vegetables that are cut up and ready to eat are Convenient. Colorful fruit and vegetables are Attractive. If parents act as role models and eat their fruit and veggies too, the children will see that it is Normal.

Childhood is a critical age for feeding. Children will develop habits that may follow them throughout their lifetime, so it is important for parents to help guide their children to make healthy choices at a young age.

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Physical Activity and Screen-time
Text in italics is what you explain to participants

Goals
- Increase weekly hours of family physical activity.
- Decrease daily family screen-time.

Objectives
- Parents will suggest an activity that can be used in place of screen-time.
- Parents will set one goal in order to increase family physical activity.

Key Messages
1) Be active every day
2) Limit screen time

Handouts
1) Ideas for activities to do as a family

Other Materials
1) Charades cards
2) Physical activity and screen time poster
3) Which one of these benefits of being active is important to you?

INTRODUCTION (30 seconds-1 minute)

Introduce the lesson to the class. An example of what to say:
"Hello class! In today's lesson we will be learning and discussing the topic being active with your children."

ANCHOR (4 minutes)

Being active is something that helps keep us healthy and maintain our weight. It helps you feel better, makes you smarter, sleep better, and can help make you happier. Children that are active get better grades in school.

Find a partner and discuss some daily activities you like to do to stay active. Discuss some things your kids do to stay active too! Remember, being active is any type of movement. Would anyone like to share with the group?

Write them down on the board.

ADD (5 minutes)

Refer to the poster about physical activity and screen time.
Now we will discuss some ways to help you and your children stay and play actively.

1) *Be active every day: Like we discussed a few minutes ago, being active is good for you in many ways; feel better, sleep better, smarter, healthy, maintain weight, happier. Not being active puts us at risk for many diseases, like heart disease and diabetes. A good way to get kids to be active is to limit their time playing video*

games or watching TV. Another good way is to do active things together, as a family, which is good for everyone's health.

2) <u>*Limit screen time:*</u> *Most kids would rather play than sit and watch TV, and watching TV too much can become habit. Help your child find other things to do, like playing, reading, doing art, or being with friends. Setting rules that reduce screen time by limiting the amount of time children spend on the computer, watching TV, and playing video games can encourage your children to spend time being active. One simple way to limit screen time is keep your child's bedroom TV free. This will help limit the amount of time your child watches TV at night, and it can help them sleep better.*

<u>APPLY (10 minutes)</u>

Now we are going to play an acting game (Charades) to think about other ways to be physically active each day. Please come pick a card from this bowl. The card will have a form of activity or movement described on it. Your job will be to act out the activity, without saying any words. When someone guesses correctly, the that person gets a turn.

Activities for the cards

- Climbing stairs
- Dancing
- Vacuuming
- Sweeping
- Mopping
- Folding laundry
- Playing catch
- Playing basketball
- Doing hopscotch
- Jump roping
- Pushing a stroller
- Shoveling snow
- Walking with family and friends
- Washing windows
- Build a snowman or have a snowball fight with your family
- Carrying grocery bags
- Playing soccer
- Pushing kids on swings

1. ***Did you realize all of these were ways to be active?***
2. ***How do your children like to be active?***
3. ***Which of these benefits of being active are important to you?***

Have participants raise hands as you read off list the poster titled:
<u>Which of these benefits of being active are important to you?</u>

- Be healthier
- Live longer

- Feel better about myself
- Lower chance of depression
- Sleep better
- Be in shape
- Be strong
- Be with friends and family or meet new people
- Have fun with your kids!
- Better grades in school

Are there any others that you would like to add?

AWAY (4 minutes)
Think about ways you could you reduce screen time and increase physical activity or outdoor play for your child(ren).

Would anyone like to share?

Now that we have discussed several ways to be active and ways to reduce screen time, set a goal for physical activity or screen time for the week using the goal-setting form. Here are a few examples. You can use one of these or make up your own.

1) I will make sure the TV is off during mealtimes.
2) I will encourage my child to play rather than watch TV after school.
3) I will play a game outside with my children at least once this week.
4) I will make a rule to limit screen time for my child

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GET MOVING!

Children should be active for at least 1 hour each day.

Limit Screen Time

- Keep the TV out of the bedroom.
- Be a role model and limit your screen time too.
- Reward your child for time spent away from the TV—give them stickers and create a sticker chart to see who can rack up the most stickers.
- Tell your child ahead of time that you are going to set a rule around screen time, and then plan something special for the change.

Be Active Every Day

- Take the stairs
- Walk around the block after a meal
- Make a new house rule: "no sitting during TV commercials
- Spend time together with a family park day, swim day, or bike day
- Involve the family in household chores

Here are some more ideas you can use to stay active!

- Play tag, hide and seek, hopscotch, follow the leader, swim, play catch, jump rope, hula-hoop, dance to music or even play a dancing video game. It doesn't have to be sports—just get your family moving!
- Walk the dog, go for a jog, go on a bike ride, take the stairs or head to the park and let kids run around for a while.
- Make a scavenger hunt for your children.

Physical Activity and Screen Time
Background Information

Being active every day is good for your health and can protect against many diseases, such as diabetes, heart disease, and cancer. It is recommended that children and adults be active every day. Being active doesn't just include exercise, it can include outdoor play and recreational activities too.

Screen time goes along with physical activity because time spent watching TV, playing video games, or playing on the computer, tablet, and phone can be better spent being active. It is recommended that children do some type of physical activity for 1 hour each day.

Physical activity helps control weight, builds lean muscle, reduces fat, promotes strong bone and joint development, improves academic performance, and decreases the risk of obesity. Children need 1 hour of play or physical activity every day to grow up to a healthy weight. Only about a third of children are meeting the recommendations. Parents can help their child stay active. Below are some examples:

- Be a **role model** by leading an active lifestyle yourself.
- Make physical activity part of your family's daily routine by taking family walks or playing active games together.
- Take young people to places where they can be active, such as public parks, community baseball fields or basketball courts.
- Be positive about the physical activities in which your child participates and encourage them to be interested in new activities.
- Make physical activity fun. Fun activities can be anything your child enjoys, either structured or non-structured. Activities can range from team sports or individual sports to recreational activities such as walking, running, skating, bicycling, swimming, playground activities or free-time play.
- Instead of watching television after dinner, encourage your child to find fun activities to do on their own or with friends and family, such as walking, playing tag or riding bikes.

Because screen time and physical activity are related, it's important to discuss how to reduce screen time. Too much screen time can make it difficult for your child to sleep at night, can raise your child's risk of attention problems, anxiety, and depression, and can cause weight gain due to a lack of physical activity. Incredibly, children are spending upwards of 7 hours a day using some type of screen. It is recommended

that parents limit children's screen time to 2 hours or less per day except for homework.

Some ways to limit screen time are

- Remove the TV from bedrooms
- Shut of the TV during meals
- Set rules around screen time (and enforce them).

Parents are role models and can help reduce their child's screen time by also reducing theirs.

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Food Advertisements and Media Literacy
Text in italics is what you explain to participants

Goal

- Improve parents' media awareness around unhealthy food advertisements.

Objectives

- Parents' will discuss ways in which food is advertised in order for them to become aware of unhealthy food marketing.

Handout

1) Facts about TV

Other Materials:

1) 2 media literacy posters
2) Bag of food advertisements

INTRODUCTION (30 seconds-1 minute)

Introduce the lesson to the class. An example of what to say:

"Hello class! In today's lesson we will be learning and discussing the topic how food advertisements influence your children's health."

ANCHOR (5 minutes)

Advertisements try and get people to buy certain products. Billions of dollars are spent on food advertising and consumers help pay for this by buying those foods. Famous brands cost more than store brands that are not advertised. Most people are likely to buy foods in fancy, eye-catching packages. Find a partner and discuss the following questions.

Has your child ever asked for certain foods because it had some sort of advertising on it (e.g. Fruit Loops, McDonald's, GoGurt, etc)? Maybe your child has asked for a specific food because it had one of their favorite cartoon characters on it (Shrek, Dora, Elmo, etc). If yes, where do you think your child learned about these foods? Discuss your thoughts with a partner.

Would anyone like to share what you just discussed?

ADD I (5 minutes)

Food advertising is very important when thinking about your children because most children under the age of 6 cannot tell the difference between TV shows and TV commercials. Children can recognize brands after just a single food advertisement. Most ads targeted to children are for unhealthy foods. Think about what we discussed a few minutes ago; who noticed that the food your child requests is because of a TV commercial? Companies often use popular cartoon characters to advertise foods to children, which makes it even more difficult for children to tell the difference between a TV show and commercial.

During a single hour of TV, children see an average of 11 food commercials. All these commercials make children choose and ask for more

unhealthy foods. Children who watch more TV drink more soda and more fast food. This is one reason why the more time children spend watching TV, the more weight they might put on.

APPLY I (8 minutes)

Companies are not allowed to advertise tobacco to kids. Some people think that food companies should not be allowed to advertise junk foods to kids.

With a partner, discuss your thoughts on this. Do you think food companies should be allowed to advertise unhealthy foods to kids? Why or why not? Would anyone like to share?

Keep the group in pairs and give each group a couple of food ads. Have them discuss how the ad makes them feel and if they are interested in the product. Ask the following questions:

(Use the poster with the 5 questions as a visual aid for participants.)

5 Media Questions:

1. *Who created this message?*
2. *What creative techniques are used to attract my attention?*
3. *How might different people understand this message differently?*
4. *What values, lifestyles, and points of view are represented in, or left out of, this message?*
5. *Why is this message being sent?*

After some time has passed and the groups seem to be finished discussing amongst themselves, ask

Let's highlight two ads. Who would like to share?
Facilitator will lead the group through discussing both ads, one at a time.

Does any group have an ad for fruits or vegetables?
Fruit and vegetable growers do not have as much money to advertise as big foods companies, that's why we don't see ads for fresh fruit and vegetables.

ADD II (2 minutes)

It is important to help your children understand food advertisements. To do this, parents can talk to their children about food advertisements. Letting your child know why something was advertised may help him/her make healthy choices easier.

APPLY II (5 minutes)

With a partner discuss what you would do when your child asks for something because it has his/her favorite character on it. Write down some ideas that you would like to share with the group. Who would like to share?

Some ways you can talk to your child are:

- *If your child asks for something specific, say "Well, why do you want that?" This may prompt the conversation.*
- *You may also ask, "Where did you hear about it?" If it is a result of a commercial, you can explain to your child why it was advertised: "Well, they want you to want it, they're trying to sell you that." Then offer your child something else (e.g. fresh fruit).*
- *For older children, you can explain the idea that companies use characters and cartoons to advertise. For this, you might say "they're using the cartoon to trick you into wanting it."*
- *Offering a healthy alternative to something your child is asking for as a result of advertising is a good way to say NO to the unhealthy food item. Just be sure to offer more than one alternative and let your child choose.*

<u>AWAY (4 minutes)</u>

Have the questions "when thinking about brands ask yourself" poster displayed for participants.

Ads can also help us learn about different products, but we do not want to be talked into buying things we do not need, are not healthy, or that we cannot afford.

When thinking about brands ask yourself:

1. *Is there a less expensive product that is similar?*
2. *Am I buying it because I like the package?*
3. *Do I really need it?*
4. *Can I afford it?*
5. *Is this product healthier than a similar product?*

Use your goal setting form to write down a goal. You can make up your own or use one of the ones provided.

1) I will pay more attention to the way foods are advertised in the supermarket.
2) During TV commercials, I will mute the television.
3) I will pay more attention to what foods are advertised on TV.

Facts About TV

A lot of food and drink advertising is aimed at children

- Fast food restaurants spend billions of dollars on ads targeting children.

Young children see lots of ads for foods

- Half of all TV ads during children's TV shows is for food.
- During an hour of screen time, children see 11 ads.

Most ads aimed at children are for unhealthy foods

- Over a third of food ads are for snacks and candy.

Young children are more affected by ads than adults

- Most children under the age of 6 cannot tell the difference between the TV show and a TV ad.

Food and drink ads influence what children eat

- Children who watch more TV drink more soft drinks and eat more fast-food than children who watch less TV.

Media Literacy
Background Information

Television food advertising is one of the most influential factors affecting children's food choices and patterns. Children under the age of 6 cannot tell the difference between the TV show and advertisements. Children can even begin to recognize brands after a single advertisement. Children ages 2 – 17 see many advertisements on television each day ranging from an average of 38 ads to 79 ads per day. On average, children ages 2 – 17 years see between 12 – 21 food advertisements per day. Children do not always understand the intent of food advertising, therefore, they easily believe the information provided in advertisements. Interestingly, half of all TV advertisements children see are for food and most advertisements are for unhealthy food. Provided is the breakdown of food advertisements:

- 34% for candy and snacks
- 29% for sugary cereal
- 10% for fast-food
- 4% for dairy products
- 1% for fruit juices/juice cocktails
- NONE for fresh fruit or vegetables

The way foods are marketed to children should be noted. Most food ads target children using appeals of taste or fun. Only 2% of food ads to children use the appeal of health or nutrition. In addition, children see little about nutrition or physical activity on TV. Children see, on average, only 1 ad regarding nutrition or physical activity every 2 – 7 days.

Advertising using cartoon characters or celebrities is a strategy used by many companies to market to children. In addition, many companies use toys to market to children (e.g. prizes in cereal boxes, a toy included with children's meals). Children frequently request that their parents buy specific foods that they remembered from certain advertisements. On top of this, when children see more food advertisements, they request specific foods more often.

Exposure to food advertisements affects the amount children eat. Children who watch more TV, drink more soft drinks and eat more fast-food than children who watch less TV.

On a typical day, a child between 2 – 8 years will see:

- 5 ads for candy and snacks

- 4 ads for fast-food
- 4 ads for sodas or soft drinks
- 3 ads for sugary cereal
- 2 ads for restaurants
- 1 ad for prepared foods

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Goal Setting

Goal Setting
Feeding Your Child

Please select a goal for the week from the following options.

- ❑ I will be a role model by eating a GO vegetable at 2 meals with my children this week.
- ❑ During a family meal, I will let my children serve themselves by offering healthy choices.
- ❑ When my child says he/she is full, I will listen to them.
- ❑ I will have a vegetable and dip ready for my children when they come home, at least once

or create your own

- ❑ _____
  _____
  _____
  _____
  _____

Goal Setting
Physical Activity and Screen Time

Please select a goal for the week from the following options.

- ❑ I will make sure the TV is off during mealtimes.
- ❑ I will encourage my child to play rather than watch TV after school.
- ❑ I will play a game outside with my children at least once this week.
- ❑ I will make a screen time rule for my child.

or create your own

- ❑ _____
  _____
  _____
  _____
  _____

Goal Setting
Food Advertising

Please select a goal for the week from the following options.

- ❑ I will pay more attention to the way foods are advertised in the supermarket.
- ❑ During TV commercials, I will mute the television.
- ❑ I will pay more attention to what foods are advertised on TV.

or create your own

- ❑ _____
  _____
  _____
  _____
  _____

Goal Setting
Background Information

Goal setting is a key part of behavior change. It is important to actually write down goals and track progress. When developing goals, remember that they should always be SMART.

Specific: goals must identify exactly what you want to accomplish (I will walk for 15 minutes for 5 days this week).

Measurable: you should be able to objectively measure the goal (e.g. I will walk for 15 minutes for 5 days this week).

Achievable/Attainable: goals need to be realistic. Keep them simple.

Relevant: make sure that the goal matters to the person making the goal. This can best be done by letting them choose their own goals.

Time-bound/**T**imely: the goal should indicate when you want the goal to be accomplished (e.g. I will walk for 15 minutes for 5 days this week).

Each week, there will be example goals that participants can choose from; they can also make their own. Remember, if they make their own goal, please help them create a goal that is SMART.

Each goal should focus on ONE behavior. For example: "This week, I will have my children select two new fresh fruits to try." A goal with two behaviors would look like this "This week, I will have my children select two new fresh fruits to try and I will walk for 15 minutes each day." Goals with two behaviors become challenging. It is much easier when you focus on one.

Because participants are goal setting each week, it would be helpful to ask them how they are doing with their goals. Give positive feedback and encourage participants. If they are struggling with a goal, help them through it; possibly give them some ideas to overcome the challenges they may be having.

References

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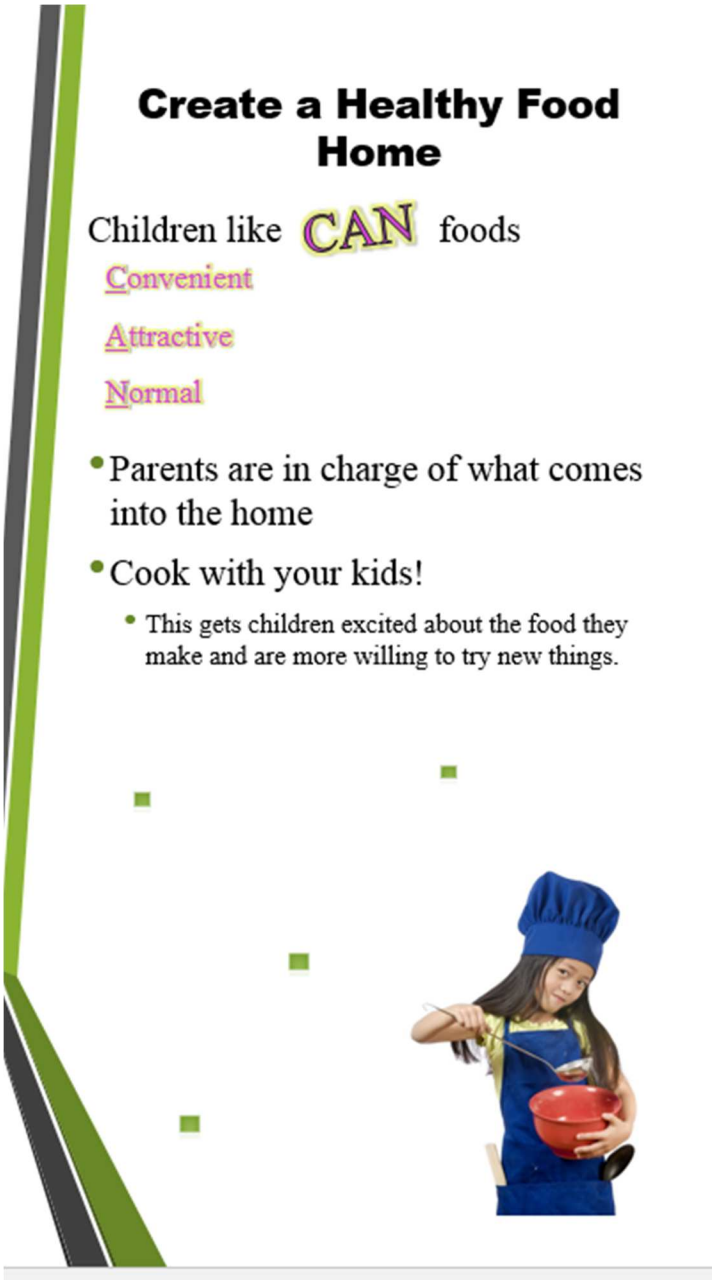
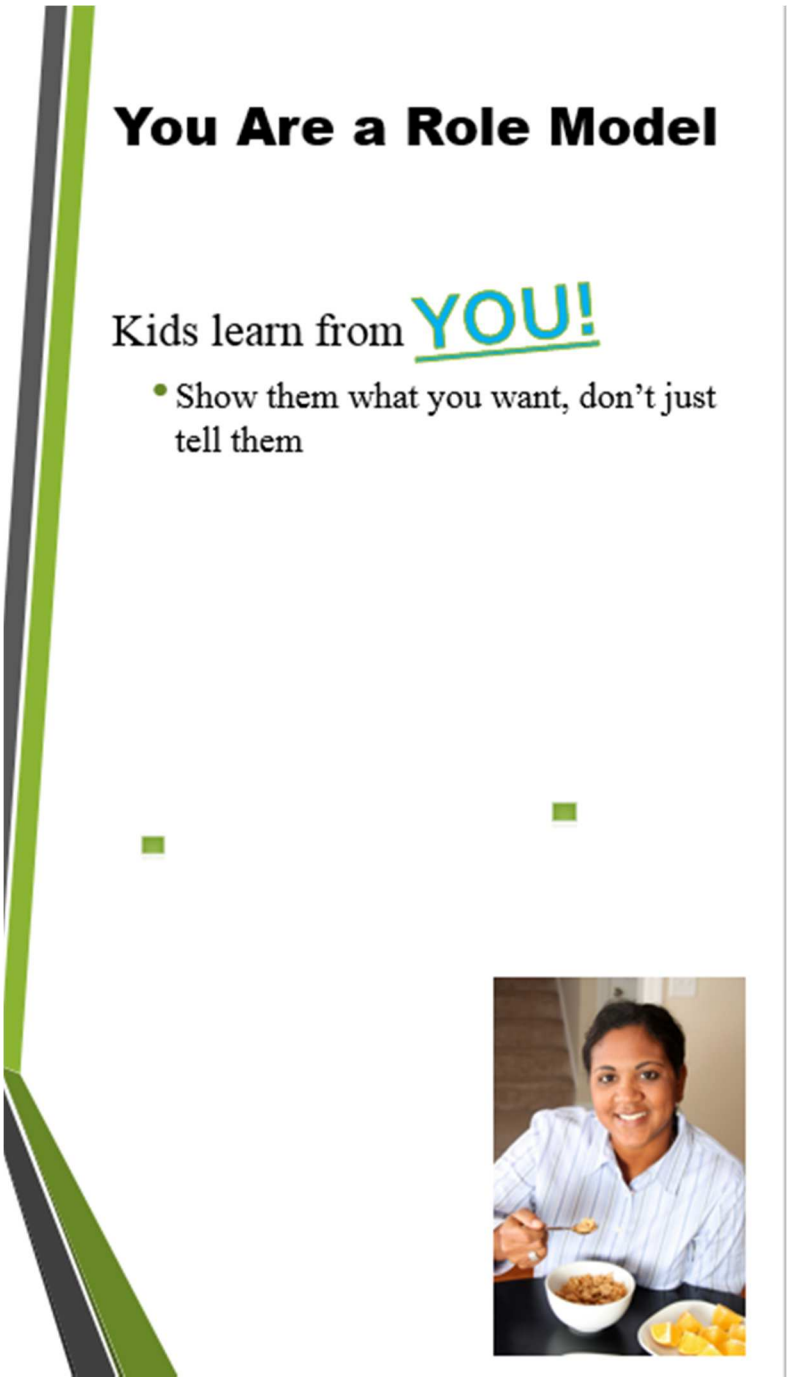
Feeding your child lesson materials
Velcro cards for poster:

- have fresh fruit in a bowl on the counter
- make sure fruit and veggies are in reach
- prepare cut up vegetables and dip ahead of time
- you are in charge of what food is served in the home



Velcro cards for poster:

- get grilled chicken on a salad at a fast food restaurant
- Eat fruits and vegetables with your children



Velcro for posters:

- make mealtime family time
- eat a GO vegetable at every meal
- cook together and have a family meal

Velcro for posters:

- give your children a taste of new foods
- let your child decide how much food to take
- let your child make the healthy choice
- serve two vegetables and let your child decide which to take

Physical activity and screen time lesson materials

Charades cards

- Climbing stairs
- Dancing
- Vacuuming
- Sweeping
- Mopping
- Folding laundry
- Playing catch
- Playing basketball
- Doing hopscotch
- Jump roping
- Pushing a stroller
- Shoveling snow
- Walking with family and friends
- Washing windows
- Build a snowman or have a snowball fight with your family
- Carrying grocery bags
- Playing soccer
- Pushing kids on swings

Physical Activity and Screen Time

Screen time is time spent using a devise such as a computer, television, game console, tablet or smart phone.

- Limit screen time to less than 2 hours a day
- Set rules that reduce screen time

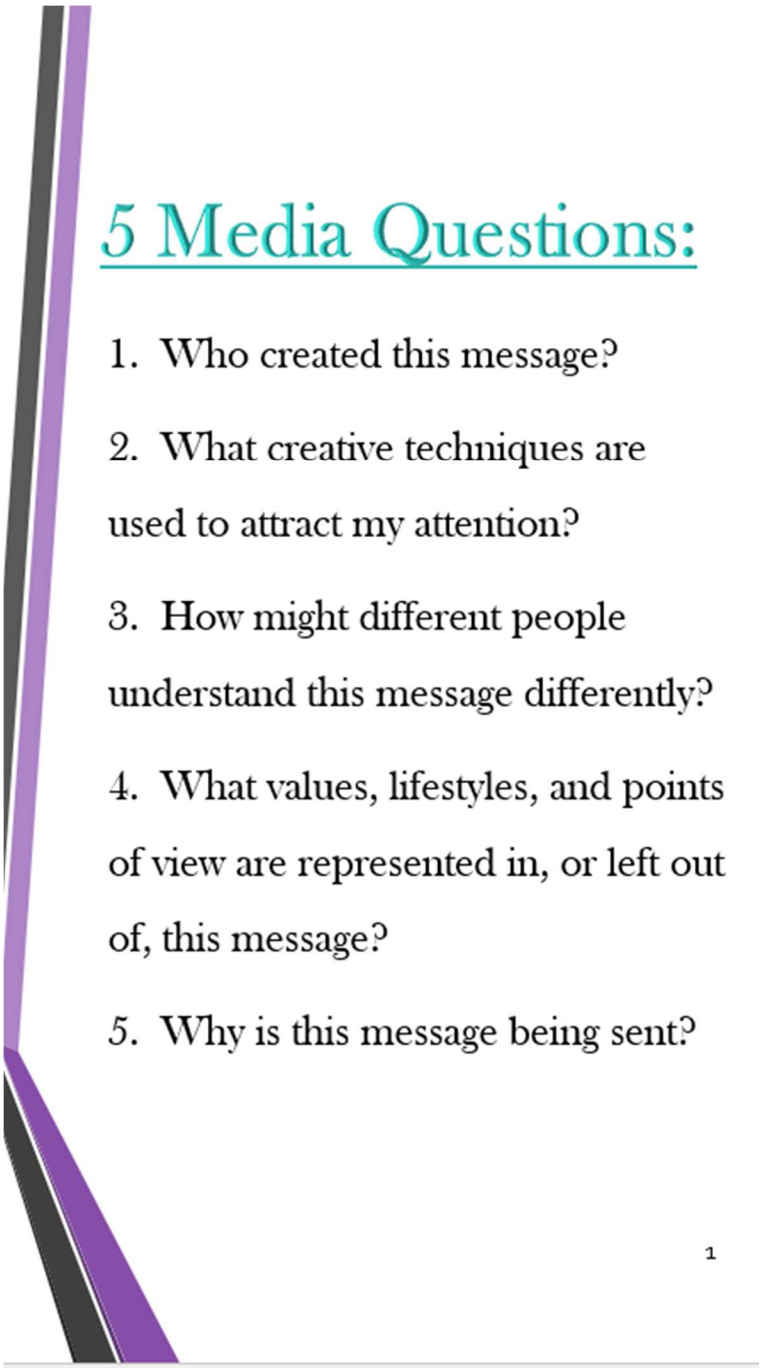
- Be active everyday
- Being active is good for you
- Exercise together

Which one of these are important to you?

- Be healthier
- Live longer
- Feel better about myself
- Lower chance of depression
- Sleep better
- Be in shape
- Be strong
- Be with friends and family or meet new people
- Have fun with your kids!
- Better grades in school

Media Literacy/Food Advertisement lesson materials

Also used in this lesson but not included in the appendix are the child geared advertisement examples on yogurt cups, macaroni and cheese boxes, cereal boxes, gummy snacks, and soup cans.



When thinking about brands ask Yourself:

1. Is there a less expensive product that is similar?
2. Am I buying it because I like the package?
3. Do I really need it?
4. Can I afford it?
5. Is this product healthier than a similar product?

2

APPENDIX D: PROCESS EVALAUTION MATERIALS

Fidelity and observational checklist

Feeding Practices Check Off List

Group_____
Paraprofessional_____

Number of Participants_____ Observed by:

_____

_____Males
_____Females

Date_____

Please use the following scale for fidelity testing**:**
0=didn't cover; 1=covered
Participant observation instructions:
_____(#) means input number of participants.
When completing questions that have Yes No DK (don't know) and pertain to the entire group, the majority (5/7, 4/6, 4/5, 3/4, 2/3, 2/2) of parents/participants should exhibit the behavior. (Circle appropriate one.)

ANCHOR

1. _____ Introduced the concept of family meals
2. _____ Introduced this is a place to spend quality time with the children.
3. _____Facilitated partner activity to discuss favorite moments when feeding their children.
4. _____Facilitated discussion about sharing favorite moments when feeding their children.

Participant Observation:

1. Groups discussed favorite moments when feeding their children. Yes No DK
2. Two participants shared their moments with the class. Yes No DK
3. _____(#) participant(s) shared with the class.

Additional observations:

ADD

Introduction

1. _____Discussed how if parents feed their children it can help keep children at a healthy weight.

2. _____Discussed how restricting foods is not a good feeding strategy.
3. _____Discussed children's ability to know when they are full, and how much to eat.
4. _____Discussed that parents are in charge of what is brought into the home
5. _____Discussed how parents can provide healthy options for their children.

Create a healthy food home

5. _____Discussed that children often like having convenient foods.
6. _____Provided examples of having fruits and vegetables in reach within their homes.
7. _____Discussed ways to make fruits and vegetables easier to eat like having veggies and fruit already cut up ready
8. _____Reiterated that parents are in-charge of what food comes into the home.
9. _____Discussed the importance of involving children in food preparation (i.e-cooking)

You are a role model

10. _____ Introduced the concept that children learn from their parents. (Parents are a role model).
11. _____ Emphasized that showing healthy behaviors and not telling children has more impact

Eat together

12. _____Discussed how to enjoy family meals with their children.
13. _____Discussed that they should try and eat together as often as they can
14. _____Emphasized keeping meals relaxed.
15. _____Discussed allowing little ones to select foods to put on their plates.
16. _____Reiterated allowing children to choose how much of healthy foods to eat.
17. _____Emphasized making meal time family time.
18. _____Facilitated a show of hands on how many participants already have regular family meals?

Patience works better then pressure

19. _____Discussed that children should choose how much to eat.
20. _____Discussed that children are more likely to choose healthy foods when it is their choice.
21. _____Discussed that being patient is important because sometimes learning to like a new foods take time.
22. _____Provided the example that sometimes you must offer new fruits and vegetables many times and in different ways before they start liking it.
23. _____Discussed the importance of offering healthy choices so children feel they are making their own decision.

Additional observations about fidelity and participant observation:

APPLY

Part 1

1. _____Discussed parenting situation.
2. _____Group work: Facilitated a group discussion based on the parenting situation
4. _____ Participants came up with solutions to parenting situation
5. _____Facilitated a discussion of what works best for the participants when their child doesn't want to eat.

Part 2

6. _____Facilitated work in partners.
7. _____Set up posters are set up around the room.
8. _____Handed cards out to participants.
9. _____Participants placed cards on posters.
10. _____Facilitated a discussion of the cards and poster placement.
11. _____(all)Questions asked: _____ Do you do any of these already?_____ What works best?_____ What is most difficult? _____Does anyone have any tips that they think would help?

Participant observation:

1. The group discussed Karen's situation. Yes No DK
2. _____(#) participants shared and discussed Karen's situation.
3. _____(#) participants shared what works best for them when their child doesn't want to eat.

Additional observations:

AWAY

1 ._____ Feeding Your Child goal worksheet was passed out
2._____ Participants come up with one goal to try over the next week relating to feeding their child.
3._____ examples of goals were covered.

Participant Observation:

1. The group set goals related to feeding their child. Yes No DK

Additional observations:

PARTICIPANT BEHAVIOR:

1. At least one participant expressed a belief about feeding practices during the lesson.
   Yes No DK
2. Participants demonstrated a sense of understanding of the lesson. Yes No DK
3. Participants articulate self-efficacy related to feeding their child during the group discussions.
   (example: I feel that I can…because…) Yes No DK

4. At least one participant discussed his or her own barriers related to feeding practices. (example "I sometimes drink soda in front of my child but deny it to them.") Yes No DK
5. The participants as a whole **do not** appear bored vs. not bored. Yes No DK
6. Participants are attentive to the paraprofessionals. Yes No DK
7. Participants are open and comfortable during discussion. Yes No DK
8. Participants are respectful of one another. Yes No DK
9. The participants articulate alternative actions/strategies Yes No DK
   to problems presented to them.

Physical Activity and Screen Time Check Off List

Group_____ Paraprofessional_____

Number of Participants_____

Observed by:_____ _____ Males _____Females

Date_____

Please use the following scale**:**
0=didn't cover; 1=covered.
Participant observation instructions for fidelity testing:
_____(#) means input number of participants.
When completing questions that have Yes No DK (don't know) and pertain to the entire group, the majority (5/7, 4/6, 4/5, 3/4, 2/3, 2/2) of parents/participants should exhibit the behavior. (Circle appropriate one.)

ANCHOR

1. _____Discussed that being active keeps people healthy.
2. _____Shared with participants that active children get better grades in school.
3. _____(Asked participants to get into partners) partner activity; _____discussed some things participants do to stay active,_____ and their kids do to stay active.
4. _____Asked groups to share.
5. _____Paraprofessional wrote down ideas on the board.

Participant Observation:

1. Participants engaged in group discussion of their daily activities to stay active.

   Yes No DK

2. Two participants shared their moment with the class.

   Yes No DK

Additional observations:

ADD

1. _____Introduced discussion on ways to help themselves and their children stay active.

Be active everyday:

2. _____Reiterated that being active every day is good for you in many ways, feel better, sleep better, smarter, healthy, and maintain weight
3. _____Discussed risk of disease, heart disease, diabetes if you are too sedentary
4. _____Discussed an example on how to get children active by reducing video games/watching TV, or doing activities together as a family.

Limit Screen Time

5. _____ Emphasized how watching too much TV can become habit.
6. _____Discussed helping children find other activities to do like; playing, reading, doing art, or being with friends.
7. _____Discussed setting rules to reduce screen time: i.e limiting the amount spent on the computer, watching TV, playing video games
8. _____ Introduced the idea that a simple way to reduce screen time is to remove the TV from the child's bedroom.
9. _____Explained that removing the TV from the child's bedroom can limit the amount of time the child watches TV at night and can help the child sleep better.

Additional comments about fidelity and participant observations:

APPLY

1. _____Introduced the acting game called Charades.
2. _____Paraprofessionals were able to have participants engaged in charades game.
3. After the Charades activity paraprofessional asked about: "Did you realize these were ways to be active?" _____"How do your children like to be active?"_____
4. _____Paraprofessional noted and discussed the benefits of being active based on previously discussed activities.
5. _____Asked if there were any others the participants would like to add.

Participant Observation:

1. The group participated in the charades game.
   Yes No DK
2. The participants answered the questions asked about physical activity.

   Yes No DK
3. Participants participated (raised hands) in "which one of these benefits of being active is important to you" activity.

   Yes No DK

Additional observations:

AWAY

1. _____Passed out the Physical activity and screen time goal setting worksheet.
2. _____Asked participants to make a SMART goal about physical activity and screen time.
3. _____Read off examples of SMART goals.

Participant Observation:

1. The group set goals related to physical activity and screen time.
   Yes No DK

Additional Observations:

PARTICIPANT BEHAVIOR:

1. At least one participant expressed a belief about physical activity and/or screen time during the lesson.
   Yes No DK
2. Participants demonstrated a sense of understanding of the lesson.
   Yes No DK
3. Participants articulate self-efficacy related to physical activity and screen time and children in the group discussions.
   (example: I feel that I can…because…)
   Yes No DK

4. At least one participant discussed his or her own barriers related to physical activity and screen time. (example: "I watch a lot of TV with my children.") Yes No DK
5. The participants as a whole do not appear bored vs. not bored.
   Yes No DK
6. Participants are attentive to the paraprofessionals.
   Yes No DK
7. Participants are open and comfortable during discussion.
   Yes No DK
8. Participants are respectful of one another.
   Yes No DK
9. The participants articulate alternative actions/strategies
   Yes No DK
   to problems presented to them.

Food Advertisements and Media Literacy Paraprofessional Check Off List

Group_____
Paraprofessional_____

Number of Participants_____ Observed by:

_____

_____Males
_____Females
Date_____

Please use the following scale for fidelity testing**:**
0=didn't cover; 1=covered.
_____(#) means input number of participants.
When completing questions that have Yes No DK (don't know) and pertain to the entire group, the majority (5/7, 4/6, 4/5, 3/4, 2/3, 2/2) of parents/participants should exhibit the behavior. (Circle appropriate one.)

ANCHOR

1. _____Paraprofessional provided an overview of what advertising is and how famous brands (over store brands) can persuade people to buy their products
2. _____Paraprofessional asked participants to find a partner and discuss the proposed questions: *Has your child ever asked for certain foods because it had some sort of advertising on it (e.g. Fruit Loops, McDonald's, GoGurt, etc)? Maybe your child has asked for a specific food because it had one of their favorite cartoon characters on it (Shrek, Dora, Elmo, etc). If yes, where do you think your child learned about these foods? Discuss your thoughts with a partner.*
3. _____Paraprofessional asked participants to discuss the questions with the group.

Participant Observation:

1. Groups discussed question about food advertisement. Yes No DK
2. Two participants shared their opinions with the class. Yes No DK
3. _____(#) participants shared with the class.

Additional Observations:

ADD I

1. _____Discussed that food advertising is very important because children under the age of 6 cannot tell the difference between TV shows and TV commercials.
2. _____Discussed that children can recognize brands after just a single food advertisement and most ads targeted to children are for unhealthy foods.

3. _____Engaged participants in discussion about food advertising and their children _____ Discussed how companies advertise (i.e- popular cartoon characters) and explained that it makes it even more difficult for children to tell the difference between a TV show and commercial
4. _____Told parents that during a single hour of TV, children see an average of 11 food commercials and that all these commercials make children choose and ask for more unhealthy foods.
5. _____ Discussed that children who watch more TV drink more soda and more fast food.

Additional comments about fidelity and participant observations:

APPLY I

1. _____Discussed that companies are not allowed to advertise tobacco to kids and some people think that food companies should not be allowed to advertise junk foods to kids.
2. _____Facilitated groups to get into partners and discuss the questions: *Do you think food companies should be allowed to advertise unhealthy foods to kids? Why or why not? Would anyone like to share?*
3. _____Provided food ads to pairs.
4. _____Facilitated discussion on how the ad makes them feel and if they are interested in to product.
5. _____Asked the 5 media questions: *Who created this message? What creative techniques are used to attract my attention? How might different people understand this message differently? What values, lifestyles, and points of view are represented in, or left out of, this message? Why is this message being sent?*
6. _____Used the laminated card with 5 questions as a visual aid for participants.
7. _____Facilitated discussion about the two highlighted ads.
8. _____Asked if anyone had a fruit or vegetable. Then, explained fruit and vegetable growers do not have as much money to advertise as big foods companies, that's why we don't see ads for fresh fruit and vegetables.

Participant Observation:

1. The groups discussed thoughts about food companies. Yes No DK
2. _____(#) participants shared and discussed their opinions.
3. The groups discuss the food ads, how they make them feel and the 5 questions proposed. Yes No DK
4. Groups discussed ad's relating to fruits and vegetables (no fruits or vegetable ad's provided in this activity)

Yes No DK

Additional Observations:

ADD II

1. _____Discussed the importance of helping their children understand food ads.
2. _____Discussed how the parents can help their children understand food ads.

Additional comments on fidelity and participant observations:

APPLY II

1. _____Facilitated partner discussion on *what you would do when your child asks for something because it has his/her favorite character on it.*
2. _____Facilitated the partners to write down some ideas that they would like to share and facilitated discussion.
3. Discussed that some ways the parents can talk to their child would be: (fill in 1 or 0 in each blank)

a. _____ If your child asks for something specific, say "Well, why do you want that?" This may prompt the conversation.
b. _____You may also ask, "Where did you hear about it?" If it is a result of a commercial, you can explain to your child why it was advertised: "Well, they want you to want it, they're trying to sell you that." Then offer your child something else (e.g. fresh fruit).
c. _____For older children, you can explain the idea that companies use characters and cartoons to advertise. For this, you might say "they're using the cartoon to trick you into wanting it."
d. _____ Offering a healthy alternative to something your child is asking for as a result of advertising is a good way to say NO to the unhealthy food item. Just be sure to offer more than one alternative and let your child choose.

Participant Observation:

1. Partners discuss/write down what they would do if their child asks for something because it has his/her favorite character on it.

Yes No DK

2. _____(#) participants shared with the group.

Additional Observations:

AWAY

1. _____Discussed that ads can help learn about different products but we do not want to be talked into buying things we do not need, are not healthy, or that we cannot afford.

2. _____Discussed questions to ask when buying branded products such as Is there a less expensive product that is similar? Am I buying it because I like the package? Do I really need it? Can I afford it? Is this product healthier than a similar product?
3. _____ Food Advertisements goal worksheet was passed out
4. _____ Participants come up with one goal to try over the next week relating to food advertisements.
5. _____ Examples of goals were covered.

Participant Observation:

1. The group set goals related to food advertisements and media literacy.
   Yes No DK

Additional Observations:

PARTICIPANT BEHAVIOR:

1. At least one participant expressed a belief about food advertisements during the lesson.
   Yes No DK
2. Participants demonstrated a sense of understanding of the lesson.
   Yes No DK
3. Participants articulate self-efficacy related to food advertisements and their children during the group discussions.
   (example: I feel that I can…because…)
   Yes No DK

4. At least one participant discussed his or her own barriers related to food advertisements and their children. (example: "I bribe my children with Dora fruit snacks.") Yes No DK
5. The participants as a whole do not appear bored vs. not bored.
   Yes No DK
6. Participants are attentive to the paraprofessionals.
   Yes No DK
7. Participants are open and comfortable during discussion.
   Yes No DK
8. Participants are respectful of one another.
   Yes No DK
9. The participants articulate alternative actions/strategies
   Yes No DK
   to problems presented to them.

Post lesson surveys

ID # _____

Feeding Your Children Survey

I learned new information on feeding my child from this lesson.

☐ *Yes, I learned a lot*
☐ *Yes, I learned a little*
☐ *No, I did not learn anything*

I plan to put something new I learned about feeding today into practice with my child/children.

☐ *Yes, I plan to do something new*
☐ *I might plan to do something new*
☐ *No, I do not plan on doing anything new*

1. What did you like most about this lesson? Please write below.

2. Is there anything else you would like to learn about feeding your child/children that we did not cover and think we should try and include?

3. Please write any other comments you may have about the lesson below.

ID #_____

Being active with your children survey

I learned new information about being active with my child from this lesson.

☐ *Yes, I learned a lot*
☐ *Yes, I learned a little*
☐ *No, I did not learn anything*

I plan to put something new I learned about being active into practice with my child/children.

☐ *Yes, I plan to do something new*
☐ *I might plan to do something new*
☐ *No, I do not plan on doing anything new*

1. What did you like most about this lesson? Please write below.

2. Is there anything else you would like to learn about physical activity and screen time that we did not cover and think we should try and include?

3. Please write any other comments you may have about the lesson below.

ID #_____

Food advertisements and your children survey

I learned new information about how food advertisements can influence what my child wants to eat from this lesson.

☐ *Yes, I learned a lot*
☐ *Yes, I learned a little*
☐ *No, I did not learn anything*

I plan to put something new I learned about food advertisements today with my child/children.

☐ *Yes, I plan to do something new*
☐ *I might plan to do something new*
☐ *No, I do not plan on doing anything new*

1. What did you like most about this lesson? Please write below.

2. Is there anything else you would like to learn about food advertisements that we did not cover and think we should try and include?

3. Please write any other comments you may have about the lesson below.

Focus group moderator guide

Focus Group Observations

Group_____
Paraprofessional_____

Number of Participants_____ Observed by:
_____
_____Males
_____Females
Date_____

Hello everyone, my name is (Sarah Harper/Noereem Mena). Thank you for taking the time to participate in this group discussion so that I can get some feedback from you on the EFNEP curriculum. As I explained at the beginning before you began this EFNEP program, I am completing my master's thesis so that we can improve future programs to help keep you and your family healthy. As part of this project which you have just participated in, we added some additional lessons about feeding your children, being active with your children, and learning about how food is marketed to kids. We would like to get some feedback about these new lessons and any other feedback you may have on the overall EFNEP curriculum. I will be asking a few questions but really want to hear your honest thoughts and opinions. I will be taking some notes and recording during your discussion so that I can accurately capture your opinions. Does anyone have any questions?

Question about feeding:

1. *What did you like most about the lesson on feeding your children? What didn't you like?*

a. **Probe:** *was there anything in particular that you liked, that stood out to you?*

Key messages of the lesson:

i. Be a role model
ii. Patience works better than pressure
iii. Eat together
iv. Create a healthy food home

Question about physical activity:

2. *What did you like most about the lesson on being active with your children? What didn't you like?*

a. **Probe:** *was there anything in particular that you liked, that stood out to you?*

Key messages of the lesson:

iii. Be active everyday
iv. Limit screen time

Question about food advertisements:

3. *What did you like most about the lesson on how food is marketed to kids? What didn't you like?*

a. **Probe***: was there anything in particular that you liked, that stood out to you?*

Key messages of the lesson:

ii. Understanding why and how big food advertisers market to children
iii. Explaining food advertisements to your children and why it is important

Final Question:

4. *In what way were the classes most helpful to you and your family?*

a. **Probe:** *could you describe how the lessons influenced any changes that you made relating to:*
b. *…..feeding your child,*
c. *.....being active with your child*
d. *.....how food is marketed to kids?*

APPENDIX E: OUTCOME EVALAUTION 16-ITEM CHECKLIST

Healthy Children, Healthy Families: Parents making a difference! __Entry __Exit

Tell me about what you usually do!

Educator:_____ ID:_____

Name: _____ **Date**: _____

1)	How many days each week do you usually eat fruit (including fresh, dried, frozen, and canned)?	Once in a while	1-2 days each week	3-4 days each week	5-6 days each week	Every day
2)	How many days each week do you usually eat vegetables (including fresh, frozen, and canned)?	Once in a while	1-2 days each week	3-4 days each week	5-6 days each week	Every day
3)	How often do you drink regular (NOT diet) soda?	Almost never	1-3 days each week	4-6 days each week	Once each day	2 or more times each day
4)	How often do you use 1% milk, skim milk, or low-fat yogurt?	Never	Once in a while	Once each day	Twice each day	3 or more times each day
5)	How often are you physically active for at least 30 minutes a day – active enough that you breathe a little harder or your heart beats faster? This includes brisk walking, dancing, and playing actively with kids.	Once in a while	1-2 days each week	3-4 days each week	5-6 days each week	Every day
6)	How many days each week do your children usually eat vegetables (including fresh, frozen, and canned)?	Once in a while	1-2 days each week	3-4 days each week	5-6 days each week	Every day
7)	How often do your children drink regular (NOT diet) soda?	Almost never	1-3 days each week	4-6 days each week	Once each day	2 or more times each day
8)	How often do your children have 1% milk, skim milk, or low-fat yogurt?	Never	Once in a while	Once each day	Twice each day	3 or more times each day

9)	In a typical week, how often do you let your children decide how much food to eat?	Almost never	Less than half the time	Half the time	More than half the time	Almost always
10)	How much time do your children spend watching TV, using the computer, or playing video games?	Less than 1 hour each day	1-2 hours each day	3-4 hours each day	5-6 hours each day	7 or more hours each day
11)	How often do your children play actively for at least 60 minutes a day -- actively enough that they breathe a little harder or their hearts beat faster?	Once in a while	1-2 days each week	3-4 days each week	5-6 days each week	Every day
12)	How often do your children usually eat take out, delivery, or fast foods (such as burgers, fried chicken, pizza, Chinese food)?	Once in a while	1-2 days each week	3-4 days each week	5-6 days each week	Every day
13)	How often do you eat together with your children at least one meal a day?	Almost never	1-2 days each week	3-4 days each week	5-6 days each week	Every day
14)	In a typical month, how often are high-fat or high-sugar snacks available at home for your children to eat? This includes chips, candy, cookies, and sweets.	Almost never	Less than half the time	Half the time	More than half the time	Almost always
15)	In a typical month, how often are fruits available at home for your children to eat?	Almost never	Less than half the time	Half the time	More than half the time	Almost always
16)	How many days each week do your children usually eat fruit (including fresh, dried, frozen, and canned)?	Once in a while	1-2 days each week	3-4 days each week	5-6 days each week	Every day