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Virginia C. Stage
East Carolina University, carrawaystagev@ecu.edu

L Suzanne Goodell
North Carolina State University, suzie_goodell@ncsu.edu

Susan Chase
North Carolina State University, sschase@ncsu.edu

Stephanie McDonald
North Carolina State University, stephanie_mcdonald@ncsu.edu

Archana V. Hegde
East Carolina University, hegdea@ecu.edu

See next page for additional authors

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Authors

Virginia C. Stage, L Suzanne Goodell, Susan Chase, Stephanie McDonald, Archana V. Hegde, Jocelyn Bayles, and Lorelei Jones

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Eating Smart and Moving More for Head Start: A Pilot Study With Head Start Teachers

Virginia C. Stage[1], Suzie L. Goodell[2], Susan Chase[3], Stephanie McDonald[3], Archana Hegde[4], Jocelyn Bayles[1], and Lorelei Jones[3]

AUTHORS: [1]Department of Nutrition Science, East Carolina University. [2]Department of Food, Bioprocessing, and Nutrition Sciences, North Carolina State University. [3]Department of Agricultural and Human Sciences, North Carolina State University. [4]Department of Human Development and Family Science, East Carolina University.

Abstract. Our study examined the relationship between improved personal health behaviors of Head Start teachers and the promotion of positive health behaviors in their classrooms. Thirty-three Head Start teachers across seven centers received six 30-min nutrition education lessons. Dietary intake, physical activity, and self-efficacy for promoting positive health behaviors in the classroom were measured at baseline and following intervention. Significant improvements were observed for dietary intake and physical activity. Self-efficacy for promoting health behaviors in the classroom did not significantly improve. Additional education is needed to improve health promotion practices. Lessons learned contributed to program refinement. Implications for Extension are discussed.

INTRODUCTION

Growing emphasis on early childhood obesity prevention highlights the need to improve the health of not only preschool children but also adults who role model health behaviors (Natale et al., 2014). Teachers can serve as role models by setting positive examples with their own dietary and physical activity (PA) patterns (Li & Hooker, 2010). Unfortunately, Head Start teachers may not be prepared to serve as positive role models for children due to their own personal health behaviors (Sharma et al., 2013). Further, early education teachers may receive limited training in creating environments that support healthful behaviors in children (Dev et al., 2014). A growing body of research suggests that effective professional development can increase teacher self-efficacy for improving one's lifestyle and can empower teachers to serve as agents of change in their classrooms and communities (Esquivel et al., 2016).

PURPOSE OF STUDY

Given the need for professional development for early education teachers, we undertook a study with the intent of adapting and evaluating the effectiveness of an evidence-based, hands-on intervention, Eating Smart and Moving More (ESMM) for Head Start, to educate Head Start teachers about their personal healthful eating and PA behaviors. We hypothesized that Head Start teachers would experience significant improvements in their personal healthful eating and PA behaviors and self-efficacy for teaching healthful eating and PA to children and families.

PROGRAM DESCRIPTION

PROGRAM DESIGN

Comprising representatives from the Expanded Food and Nutrition Education Program (EFNEP) at North Carolina State University (NCSU) and the Food-Based Early Education (FEEd) Lab in North Carolina, our author team partnered with two local Head Start organizations to adapt the existing evidence-based hands-on intervention Families Eating Smart and Moving More (FESMM). Our EFNEP team, led by Lorelei Jones, developed the original FESMM lessons following conduct of a community needs assessment regarding existing diet and PA behaviors among adults with lower incomes and limited resources living in North Carolina (Jones et al., 2016). Our EFNEP and FEEd Lab teams collaboratively developed ESMM for Head Start to feature six 30-min lessons adapted from the original 21 lessons of FESMM (Jones et al., 2018). The six lessons are described in Table 1.

EFNEP EDUCATOR TRAINING

Two trained EFNEP educators on our team delivered the ESMM for Head Start intervention to teachers in seven Head Start preschool centers in two eastern North Carolina

Table 1. Lesson Objectives for Eating Smart and Moving More for Head Start

Lesson title	Lesson objectives	Key messages
Fix It Safe	• Identifying food safety • Using kitchen safety for kids • Setting food safety goals	• Clean hands and surfaces. • Avoid cross contamination. • Chill foods promptly.
Shop the Best for Less	• Understanding nutrition labels • Learning nutrition facts, ingredients, and portion sizes	• Use labels to compare. • Use labels to determine smart portions and healthful choices.
Shop for Value—Check the Facts	• Creating a shopping list • Selecting best buy with unit pricing and coupons	• Always shop with a list. • Use unit pricing and coupons to get the most for your money.
Plan: Know What's for Dinner	• Creating favorite meal list • Planning weekly menu	• Save time/money by planning weekly meals.
Choosing More Fruits & Vegetables	• Including a variety of fruits and vegetables in diet • Saving money on fruits and vegetables	• Eat fruits and vegetables at most meals/snacks. • Eat variety of colors each day. • Make half your plate fruits and vegetables.
Choosing to Move More Throughout the Day	• Identifying importance of physical activity (PA) • Learning recommended PA • Incorporating PA each day	• Choose to be active. • Understand that PA can be done at any time. • Set small goals to increase PA.

counties. The EFNEP educators underwent New Educator Skills Training (NEST) to develop subject matter knowledge, teaching strategies, and specific skills needed to deliver the intervention. NEST consists of 23 online self-paced modules. NCSU EFNEP requires new EFNEP educators to complete NEST training within 3 months of hire. Tenured EFNEP staff, supervised by Lorelei Jones, provided training to our two ENFEP educators that included face-to-face skills development, training on how to collect 24-hr recall information using the U.S. Department of Agriculture (USDA) multiple-pass method (Conway et al., 2004), and guided observations with coaching.

METHODS

RESEARCH DESIGN

We used a mixed-methods "pre/post" design to measure the effects of ESMM for Head Start on Head Start teachers' healthful eating and PA behaviors. Teachers participated in lessons monthly (September–March). Our team provided all participating teachers with a "skill-builder" kit as incentive for participating in the study and encouragement for practicing what they learned in classes at home. The skill-builder kit included measuring cups, measuring spoons, a flexible cutting board, a shopping pad, a *Walking with Leslie Sansone* DVD, and a *Cooking with EFNEP* cookbook. The East Carolina University Institutional Review Board approved the study (UMCIRB 16-001996).

DATA COLLECTION AND TOOLS

Dietary and Physical Activity Behaviors (24-Hr Recall)

At preintervention (first session) and postintervention (last session), we assessed teachers' dietary intakes and PA levels using a 24-hr recall (https://efnepdigitalresources.org/wp-content/uploads/2020/07/EFNEP-Adult-Questionnaire.pdf) administered on a nonweekend day. Specific target outcomes for health behaviors included increased fruit and vegetable intake, decreased added fat and sugar intake, and increased daily PA. As previously noted, our trained EFNEP educators collected recall data using the USDA's multiple-pass method (Conway et al., 2004).

Teacher Self-Efficacy (CAN Teach Questionnaire)

To assess the effect of the intervention on teachers' self-efficacy for health promotion in their classrooms, we had teachers complete the validated Confidence about Activity and Nutrition (CAN) Teach Questionnaire (Derscheid et al., 2010) at preintervention (first session) and postintervention (last session). Derscheid et al. (2010) developed and validated the CAN Teach Questionnaire to measure Head Start teacher self-efficacy for performing specific teaching-related tasks for promoting healthful lifestyles important to prevention of childhood obesity. The tool features 48 questions organized in four domains: best health practices for preschoolers (nine items), curricular approaches for nutrition and large motor activity (17 items), daily activities with food and PA (13 items), and community involvement (nine items). Teachers

rated their degrees of confidence using a 7-point scale (1 = *low confidence*, 7 = *high confidence*). We analyzed the four domains separately as well as calculated an overall self-efficacy score.

In-Depth Interviews

Two trained graduate student researchers conducted in-depth semistructured interviews with 15 teachers regarding their experiences with ESMM for Head Start. Prior to data collection, Virginia Stage trained the graduate student researchers following the Goodell five-step method for training in qualitative interviews (Goodell et al., 2016). This process also served as a pilot test of the interview guide.

Interviewers contacted teachers to participate immediately following completion of the program. Interviewers conducted telephone interviews March through May. Interviews lasted approximately 30 min and were recorded in digital audio format. In all sessions, interviewers used a semistructured interview guide that included verbal scripts, questions, and probes. The primary interview questions were as follows: (a) Can you describe your overall experience with participating in the workshop series? (b) How has your experience with the workshop series affected your personal life? (c) How has your experience with the workshop series affected your job as an early childhood teacher?

DATA ANALYSIS

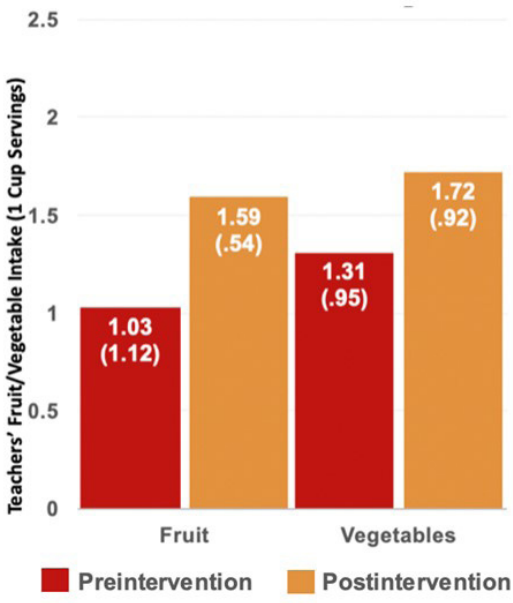
Our team analyzed health behavior data using the Web-based Nutrition Education and Evaluation Reporting System (or WebNEERS), the national EFNEP reporting system developed by the USDA National Institute of Food and Agriculture for evaluation of EFNEP offerings. We conducted additional analyses using SPSS Version 22.0. We performed basic descriptive analysis, paired-samples *t* tests, and related-samples Wilcoxon signed-ranks tests to determine differences between teachers' health behaviors and self-efficacy before and after the intervention. We considered *p* values ≤ .05 to be significant. Virginia Stage and Jocelyn Bayles analyzed qualitative data using the six steps of thematic analysis (Braun & Clarke, 2006). In Step 1, Stage and Bayles read all interview transcripts twice independently to familiarize themselves with the data set and note initial ideas. Step 2 focused on generating initial codes through open coding. The two coders met regularly to discuss initial codes and create a preliminary codebook. Next, each applied codes independently to the entire data set. The coders then discussed the application of each code line by line until 100% consensus was met for the entire data set (Creswell, 2007). Steps 3–5 focused on the development and refinement of emergent themes (Braun & Clarke, 2006).

RESULTS

Participating Head Start teachers (n = 40) were all female. Average age was 46 years (SD = 9.6). Thirty-three (82.5%) were African American, five (12.5%) were Caucasian, one (2.5%) was Hispanic, and one selected "Other." Average years teaching was 11.25 (SD = 8.0), and 54% had at least a 4-year degree. Of the 40 teachers who started the program, 33 completed all six lessons (82.5% completion rate). Of the final sample, 15 teachers participated in the in-depth semistructured interviews. Demographic background of interviewees did not significantly differ from the larger sample.

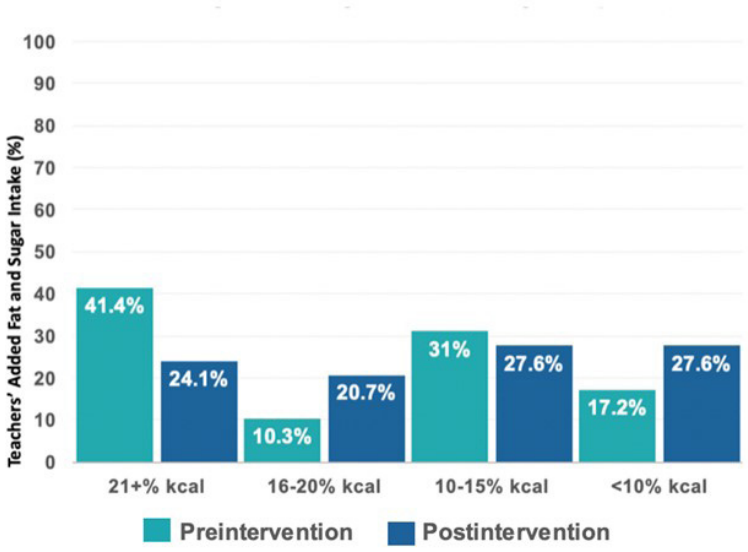
QUANTITATIVE

Figures 1–3 illustrate changes in teachers' dietary and PA behaviors, such as improvements in fruit intake (z = 171; p = .001, r = .45), vegetable intake (z = 78; p = .001, r = .45), fat/sugar intake (z = 55; p = .002, r = .42) and PA (z = 153; p = .000, r = .54). Combined fruit and vegetable consumption increased by 0.41 servings. Approximately 55% of teachers reported obtaining 15% or less of their calories from added fats and sugars following the intervention, compared to 48% at baseline. Additionally, 72% of teachers reported participating in moderate to vigorous PA for at least 30 min per day following the intervention, compared to 28% at baseline. Remarkably, 14% of teachers reported that they participated in 60-plus min of PA per day following the intervention, compared to 0% at baseline.



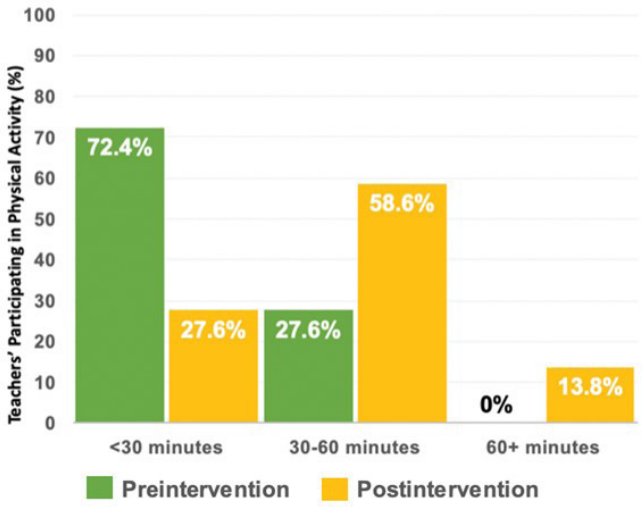
Note. n = 33. Fruit: z = 171; p = .001, r = .45. Vegetable: z = 78; p = .001, r = .45.

Figure 1. Changes in teachers' fruit and vegetable intakes (1-cup servings) from before to after intervention.



Note. $n = 33$. $z = 55$; $p = .002$, $r = .42$.

Figure 2. Changes in teachers' added fat and sugar intake (%) from before to after intervention.



Note. $n = 33$. $z = 153$; $p = .000$, $r = .54$.

Figure 3. Changes in teachers' physical activity behaviors from before to after intervention.

Table 2. Changes in Average Teacher Responses for Domains on the Confidence about Activity and Nutrition (CAN) Teach Questionnaire

Domain	Preintervention *M* (*SD*)	Postintervention *M* (*SD*)	*t*(*df*)	*p* value [a]	Cohen's *d*
Total average score	5.46±0.75	5.54±0.91	$t(16) = -0.42$	.62	0.10
Health practices	5.54±0.88	5.65±0.93	$t(20) = -0.53$	.60	0.10
Curricular approaches	5.83±0.97	6.04±0.93	$t(27) = -0.97$	.34	0.12
Daily activities	5.94±0.63	6.06±0.94	$t(25) = -0.80$	.43	0.16
Community involvement	5.31±0.96	5.57±0.94	$t(26) = -1.4$	.18	0.27

Note. $n = 30$. Teachers ranked degree of confidence using a 7-point scale: 1 = low confidence, 7 = high confidence.

[a] p values ≤ .05 were considered significant.

Teacher-reported overall self-efficacy scores for promoting positive health behaviors in the classroom did not significantly improve, $t(16) = -0.42$, $p = .62$, $d = 0.10$. Total average and combined scores in each of the four domains are reported in Table 2.

QUALITATIVE

From qualitative interviews with Head Start teachers, we identified four emergent themes and 12 subthemes relative to the teachers' common experiences with the intervention.

Theme 1—Teacher Perceptions of Intervention

One theme we identified was perceptions of the intervention, which we organized into the subthemes of lesson content and approaches to learning (Table 3). In discussing their positive perceptions of the intervention, teachers frequently described the knowledge and skills taught in the lessons, including those surrounding food safety, label reading, meal planning, budgeting, cooking for a family, and understanding portion sizes. The most frequently mentioned lesson was Fix it Safe. Teachers also noted aspects of the intervention related to their approaches to learning. For example, they indicated that visual experiments made concepts easy to understand and remember for later application. They also noted the importance of having opportunities to try new foods and learn about new recipes. Many teachers reported using the incentives received to try the recipes presented during the lessons at home with their families.

Theme 2—Application to Professional Practice

Teachers also discussed application of the lessons learned through the intervention in their professional practice; we organized this theme into the subthemes of helplessness to help and classroom application (Table 4). In general, some teachers were confident about their ability to promote healthful eating and PA in their classrooms, whereas others were not. Many teachers identified feeling helpless to help, reporting that they saw no connection between the lesson series and their classroom practices. These teachers also often stated that they did not feel they could influence children's behaviors in the classroom due to barriers related to parents and age appropriateness of the content. Other teachers found creative options for classroom application of what they had learned. They discussed incorporating lessons learned from

Table 3. Head Start Teacher Quotations Supporting the Theme of Teacher Perceptions of Intervention and Corresponding Subthemes

Subtheme	Representative quote
Lesson content	"It's important to plan your meals so you're already prepared for what you're going to cook for the week. It makes it that much easier. [Also, it is] imperative to go to the grocery store with a list. And always try to stick to your list. When you plan your meals ahead a time, you can go ahead and make that grocery list. And you can pick up the things that's on your list. It saves time, and it also saves money because you already know what you're going to cook. And when you go in with a list, you're not just throwing things in your basket. You're getting what's on your list and sticking to it."
Approaches to learning	"[The instructor] did experiments. She showed us one bean—it's the normal germs or whatever that the chicken will have on them. After sitting out for a while, it multiplied. I didn't really know that." "I got to experience different foods that I wouldn't have tried on my own. Like she made a black bean salad, mango, and quinoa. And I [had] heard of quinoa before but [had] never seen it or actually tasted it. So that was a new experience for me."

Note. $n = 15$.

Table 4. Head Start Teacher Quotations Supporting the Theme of Application to Professional Practice and Corresponding Subthemes

Subtheme	Representative quote
Helplessness to help	"Well, it's like I said, I can't so much change what these other children are doing in their house[s]. I can speak to parents. At the end of the day, I'm not cooking for them."
Classroom application	"They don't like water. Now they see me with my bottle of water every day. So, they're drinking water now. They say, 'Can I have some more water?' Sure! So that has helped a lot, just having the information handy that we need to make sure that they are eating healthy."

Note. $n = 15$.

Table 5. Head Start Teacher Quotations Supporting the Theme of Application to Personal Health and Corresponding Subthemes

Subtheme	Representative quote
Health behavior changes	"When I am hungry, I go home and cook instead [of eating away from home]. I go see if I do not have the food that I want and go to the grocery store and get it instead of going to [get] fast food."
Sharing of information learned with family	"It's not just me eating well, but my whole entire family are eating well now. And [I am] also slowly losing weight a little bit, you know, cutting out the greasy food and the food that's high in sodium."

Note. $n = 15$.

Table 6. Head Start Teacher Quotations Supporting the Theme of Perceived Barriers and Motivators to Health Behavior Changes and Corresponding Subthemes

Subtheme	Representative quote
Barriers	
Limited resources	"I started off with walking when I [started attending the EFNEP classes]. Because I didn't have a babysitter, [I wasn't able to exercise as much]. But I did start with a few exercises."
Center policy restrictions	"We're not allowed to bring food. We can request food. But we're not allowed to bring food. If we wanted to bring fresh apples and oranges, we can't do it."
Motivators	
Financial savings	"It has helped me save money."
Personal health benefits	"And with the program that was introduced this year, lost 20 pounds so far. It increased my health inside of the class. I really enjoyed the program; it really helped me."
Eating Smart and Moving More for Head Start intervention	"I didn't even think I would enjoy [the EFNEP classes]. [By] Week 2 of [the] whole process, I would say by the second class I was like, 'Okay, it's time to make the changes.'"

Note. $n = 15$.

the intervention into their classrooms, such as by exposing children to healthful foods (e.g., swapping regular pasta with whole-wheat pasta).

A third theme we identified was application to personal health, comprising the subthemes of health behavior changes and sharing of information learned with family members at home (Table 5). Teachers often mentioned making changes to their eating and PA behaviors, such as by incorporating whole-wheat pasta into their diets and exercising more. Teachers also frequently discussed sharing new information learned with their families and/or children at home.

Theme 4—Perceived Barriers and Motivators to Health Behavior Changes

Finally, we identified the theme of barriers and motivators to teachers' ability to make healthful behavior changes in and outside the classroom; subthemes were the barriers of limited resources and center policy restrictions and the motivators of financial savings, personal health benefits, and participation in the intervention (Table 6). Teachers often identified limited resources (e.g., money) as a personal barrier to exercising. They also perceived center policies as potential barriers to implementing classroom practices (e.g., policies prohibiting outside foods interfering with conducting taste-testing activities with healthful foods). Teachers also described motivators, such as learning to save money through meal planning, seeing personal health benefits, and appreciating the ENFEP educators.

DISCUSSION

Teachers who participated in ESMM for Head Start demonstrated significant improvements in dietary and PA behavior, but few changes were observed regarding teachers' self-efficacy for health promotion in their classrooms. Regardless of improvements in our participants, Head Start teachers may not be meeting recommendations for dietary and PA behaviors. Prior to receiving the intervention, teachers consumed approximately two servings of fruits and vegetables daily, and less than 30% participated in more than 30 min of PA per day. Similar findings of poor health behaviors among Head Start teachers have been

observed (Sharma et al., 2013). Potentially related, high rates of overweight and obesity also have been reported among Head Start teachers (Dev et al., 2014). Findings from our study support the recommendation that intervention efforts in preschool settings should continue to aim to improve teachers' health behaviors.

What remains unclear is the effect teachers' health behavior changes may have had on child health outcomes; further research is required on this matter. To our knowledge, only one study is available to demonstrate this type of effect. Halloran and colleagues theorized that higher fruit and vegetable intake among teachers would be associated with more optimal mealtime behaviors among children, likely due to modeling of healthful behaviors. However, study findings did not support their hypothesis, suggesting that teacher fruit and vegetable intake may be independent of health promotion practices in the classroom (Halloran et al., 2017). These findings combined with ours support examining teachers' health behaviors in relation to children's health behaviors as a future area of research.

Although helping teachers make positive personal changes was a goal of the program, we anticipated that doing so also would result in increased self-efficacy for promoting positive health behaviors in the classroom (Derscheid et al., 2010; Lanigan, 2011). Teachers' self-efficacy total scores and domain-specific scores did not significantly improve; however, self-efficacy scores among teachers were already fairly high at baseline, leaving little room for significant improvements. With teachers reporting high levels of advocacy at the beginning of the intervention, more research may be needed to determine which aspects of advocacy are most challenging for teachers.

Limitations to our study include the small sample size and limited geographic region. Additionally, we assessed short-term health behavior outcomes as measured by self-report. Future studies should include larger samples representing greater geographic diversity and incorporation of more objective and longer term measures of health behavior (e.g., skin carotenoids).

CONCLUSION, IMPLICATIONS, RECOMMENDATIONS

Availability of freely accessible materials through the face-to-face programming delivered by EFNEP educators will enable other Head Start teachers to obtain needed professional development in this area. Lessons learned from our pilot study also were used for developing a teaching guide for EFNEP educators to aid implementation (Stage et al., 2018). Extension researchers and/or practitioners working in the early childhood setting may need to be purposeful when designing educational experiences for teachers that are intended to change their personal behaviors as well as promote healthful eating and PA among children in their classrooms (Niemeier et al., 2010). For example, while educating teachers about their own health behaviors, Extension staff can support teacher efforts to advocate for positive health by also teaching them strategies for encouraging children to try healthful foods.

REFERENCES

Bandura, A. (1997). *Self-efficacy: The exercise of control*. W. H. Freeman.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Conway, J. M., Ingwersen, L. A., & Moshfegh, A. J. (2004). Accuracy of dietary recall using the USDA five-step multiple-pass method in men: An observational validation study. *Journal of the Academy of Nutrition and Dietetics*, *104*(4), 595–603. https://doi.org/10.1016/j.jada.2004.01.007

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Sage Publications, Inc.

Derscheid, L. E., Umoren, J., Kim, S., Henry, B. W., & Zittel, L. L. (2010). Early childhood teachers' and staff members' perceptions of nutrition and physical activity practices for preschoolers. *Journal of Research in Childhood Education*, *24*(3), 248–265. https://doi.org/10.1080/02568543.2010.487405

Dev, D., Spiers, K., McBride, B., McBride, B. A., Donovan, S. M., & Chapman-Novakofski, K. (2014). Head Start and child care providers' motivators, barriers, and facilitators to practicing family style meal service. *Early Child Research Quarterly*, *29*(4), 649–659. https://doi.org/10.1016/j.ecresq.2014.07.004

Esquivel, M. K., Nigg, C. R., Fialkowski, M. K., Braun, K. L., Li, F., & Novotny, R. (2016). Influence of teachers' personal health behaviors on operationalizing obesity prevention policy in Head Start preschools: A project of the Children's Health Living Program (CHL). *Journal of Nutrition Education and Behavior*, *48*(5), 318–325. https://doi.org/10.1016/j.jneb.2016.02.007

Goodell, S., Stage, V. C., & Cooke, N. K. (2016). Practical qualitative research strategies: Training interviewers and coders. *Journal of Nutrition Education and Behavior*, *48*(8), 578–585. https://doi.org/10.1016/j.jneb.2016.06.001Get rights and content

Halloran, K. M., Gorman, K., Fallon, M., & Tovar, A. (2017). Nutrition knowledge, attitudes, and fruit and vegetable intake as predictors of Head Start teachers' classroom mealtime behaviors. *Journal of Nutrition Education and Behavior*, *50*(4), 340–348. https://doi.org/10.1016/j.jneb.2017.10.015

Jones, L., Dunn, C., Foley, E., Burghardt, M. A., Rhew, L., vanRijn, S., Cialone, J., Andersen, K., & Vodicka, S. (2016). *Families eating smart and moving more* (3rd ed.). North Carolina State Extension Expanded Food and Nutrition Education Program.

Jones, L., McDonald, S., & Stage, V. C. (2018). *Eating Smart and Moving More for Head Start.* North Carolina State Extension Expanded Food and Nutrition Education Program.

Lanigan, J. D. (2011). The relationship between practices and child care providers' beliefs related to child feeding and obesity prevention. *Journal of Nutrition Education and Behavior*, *44*(6), 521–529. https://doi.org/10.1016/j.jneb.2011.07.008

Li, J., & Hooker, N. H. (2010). Childhood obesity and schools: Evidence from the National Survey of Children's Health. *Journal of School Health*, *80*(2), 96–103. https://doi.org/10.1111/j.1746-1561.2009.00471.x

Natale, R. A., Messiah, S. E., Asfour, L., Uhlhorn, S. B., Delamater, A., & Arheart, K. L. (2014). Role modeling as an early childhood obesity prevention strategy: Effect of parents and teachers on preschool children's healthy lifestyle habits. *Journal of Developmental & Behavioral Pediatrics*, *35*(6), 378–387. https://doi.org/10.1097/DBP.0000000000000074

Niemeier, B. S., Tande, D. L., Hwang, J., Stastny, S., & Hektner, J. M. (2010). Using education, exposure, and environments to increase preschool children's knowledge about fruit and vegetables. *Journal of Extension*, *48*(1), Article v48-1iw6. http://www.joe.org/joe/2010february/iw6.php

Sharma, S., Dortch, K. S., Byrd-Williams, C., Truxillio, J. B., Rahman, G. A., Bonsu, P., & Hoelscher, D. (2013). Nutrition-related knowledge, attitudes, and dietary behaviors among Head Start teachers in Texas: A cross-sectional study. *Journal of the Academy of Nutrition and Dietetics*, *113*(4), 558–562. https://doi.org/10.1016/j.jand.2013.01.003

Stage, V. C., Godwin, K., Chase, S., McDonald, S., & Jones, L. (2018). *Eating Smart and Moving More for Head Start: A guide for nutrition educators.* North Carolina State Extension Expanded Food and Nutrition Education Program.