

Training Needs of School Nutrition Professionals: The Perspective of Oklahoma Child Nutrition Directors

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KEYWORDS: school nutrition professional, needs assessment, training, barriers, policy

INTRODUCTION:

Modifications to the school meal requirements were mandated by the Healthy, Hunger-Free Kids Act (2010) to improve the dietary quality of school meals (U.S. Department of Agriculture, Food and Nutrition Service [USDA-FNS], 2012). The updated regulations increased the requirements for fruits, vegetables, whole grains, fat-free and low-fat fluid milk and decreased the permitted amounts for sodium, saturated fats, and trans fats (USDA-FNS, 2012). A recent study found school meals, compared to other food sources such as restaurants and grocery stores, provided the highest average diet quality for children (Liu et al., 2021), making schools the healthiest place Americans eat (Jenkins, 2021). Producing those healthy meals, however, is no easy feat for school nutrition professionals.

In preparing school meals, school nutrition programs (SNPs) face many difficulties, including compliance with changing federal regulations (Billings, 2019), professional staffing issues (Sharma et al., 2015; USDA-FNS, 2020), financial hardship (Billings, 2019; Sharma et al., 2015; USDA-FNS, 2020), and student participation (Billings, 2019; Sharma et al., 2015). In 2019, the Congressional Research Service published a report on current issues in SNPs that revealed the new requirements were difficult to execute due to challenges in procuring products that met the standards (Billings, 2019). Additionally, the updated requirements decreased student acceptance of the foods served, which impacted participation rates and food waste (Billings, 2019; School Nutrition Association, 2023). Considering child nutrition directors' (CNDs) and researchers' concerns regarding consumption, it is unlikely the intended health benefits of the Healthy, Hunger-Free Kids Act, such as reduced BMI, will be seen to the full extent since food served but not consumed has no nutritional value (Chandran et al., 2023).

To assist SNPs with meeting the modified nutrition standards, a partnership was established between the Oklahoma State Department of Education Child Nutrition Services (OSDE-CN) and Oklahoma State University in 2014. A readiness assessment (Oetting et al., 2014) was conducted with school nutrition professionals in six schools to assess readiness to incorporate new food preparation methods into existing practices and to inform program development (Hildebrand et al., 2018). These efforts resulted in the *Cooking for Kids* program, which aims to increase the capacity of school nutrition professionals to produce meals that meet nutrition standards, are acceptable to students, and improve the school meal environment. The flagship strategies included three-day, hands-on culinary skill development training led by professional chefs, one-day leadership training, and year-long chef consultation services. To extend its reach, the program later added a website and live webinars. All services are provided at no charge to the participant or the SNP and are approved for continuing education



hours. By providing relevant interventions that require varying degrees of commitment from the SNP and a website with recipes and resources, *Cooking for Kids* strives to offer accessible educational programs and resources to all Oklahoma SNPs.

Stephens and colleagues noted that the effective implementation of the updated requirements requires a comprehensive understanding of both the training needs of school nutrition professionals and the best practices for administering training to this population (2015). Since that paper was published, major world events including the COVID-19 pandemic, staffing shortages, and supply chain disruptions have negatively impacted the operation of SNPs (Institute of Child Nutrition, 2022; USDA-FNS, 2022). With that study in mind and in the wake of those events, *Cooking for Kids* conducted a needs assessment with key personnel in Oklahoma SNPs to gather statewide information on current training needs and barriers to accessing training currently offered by the program. The results of the needs assessment will be used to guide decisions as the program grows.

METHODOLOGY:

Sample

The survey was announced at the end of January 2023 to all Oklahoma SNPs via mailed flyers and *Cooking for Kids* social media posts. The function of these announcements was to prompt potential respondents to consider their needs prior to completing the survey. Recruitment occurred throughout February through posts on the OSDE-CN e-claim portal and *Cooking for Kids* social media with the survey link and a message stating the survey was to be completed by the most senior individual(s) (e.g., CND, Kitchen Manager, Head Cook) directly involved in the district's SNP.

Data Collection

Development of the survey was led by the *Cooking for Kids* Project Evaluator, with initial input from the Program Director, Project Manager, and a *Cooking for Kids* consulting chef using input previously received from CNPs. The response options for all questions were written with the capacity of the *Cooking for Kids* program in mind. As a state-funded program, the researchers were conscious of only including response choices that offered what could reasonably be provided within the program's scope of practice. The draft survey was reviewed for face and content validity using a focus group discussion with OSDE-CN Regional Program Specialists; revisions were made accordingly.

The resulting online survey assessed training and resource needs, the use of local foods, challenges in creating a healthy food environment, and *Cooking for Kids*' intervention activities. The survey included a consent page and 34 survey questions: 16 check-all-that-apply (CATA) questions, 12 multiple-choice questions, and six open-ended response boxes. An open-ended response box, 'other,' was offered as an answer choice for one multiple-choice question and ten CATA questions. After the consent page, none of the questions forced a response. The first survey question asked if the respondent's main role was to oversee the child nutrition operation in their school district. Participants were then asked to identify their position as *Child Nutrition*



Director, Kitchen Manager, Head Cook, Superintendent, or Other. Respondents were allowed to continue the survey so long as both questions were answered, regardless of the response options selected. For all CATA questions but one, participants were asked to 'please check all that apply.' One CATA question instructed participants to select their top three choices to allow for the identification of the most important areas. The two chef consultation questions were only shown to those who indicated their SNP was self-operated because *Cooking for Kids* does not place chefs in districts that utilize a food service management company (FSMC). The survey was available from 2/1/2023 to 2/24/2023 through the Qualtrics online survey platform (Qualtrics et al.). The survey link was sent to school districts via emails from *Cooking for Kids* and OSDE-CN and social media posts on several occasions throughout the data collection period. The survey and protocol were approved by the Oklahoma State University Institutional Review Board (IRB-HS-19-3-OFF) on 1/23/2023.

Data Analysis

The rurality of each school district was determined following data collection using the county location of the respondent's SNP and the Rural-Urban Continuum Code (U.S. Department of Agriculture, Economic Research Service [USDA-ERS], 2020). Open-ended questions were reviewed by the Project Evaluator and coded based on themes identified in the responses. When an open-ended response duplicated a checklist item selected by the respondent, the open-ended response was not included to prevent double weighting. While the purpose of asking respondents their main role and position was to discern if they were a senior individual in their SNP, the researchers decided to update that criterion due to differences in the organizational structures of SNPs. The researchers believed the responses of the individuals who selected *no* for the main role question still provided valid input based on the position they selected. Thus, a response was included so long as the position question was completed and the respondent was part of a school district. The final dataset comprised participant responses, coded open-response questions, and the district's county and rurality codes.

Survey data were analyzed using the Statistical Package for Social Sciences (version 28.0, 2022 SPSS Inc. Chicago, IL). Descriptive frequency statistics were completed for all quantitative survey items. Multivariate binary data from CATA questions were defined as multiple response sets and analyzed using multiple response frequencies. Missing items were excluded via pairwise deletion.

RESULTS AND DISCUSSION:

The survey link received 246 clicks with 222 individuals proceeding from the consent page to the survey. Two respondents did not complete any survey questions, so their cases were removed. Six responses were deleted because the school district criterion was not met either due to the response indicating they were not part of a school district (n=2) or the lack of a response (n=4). CNDs in six school districts completed the survey twice. The second response was considered a duplicate response and was removed. The remaining 208 responses, representing 34.7% of Oklahoma school districts (190 of 547), were included in the analysis. In two school districts, three individuals responded, and in 14 school districts, two individuals responded. Multiple responses from these districts were allowed because the individuals were either in different positions or in a position in which it was feasible for there to be more than one person in the position (e.g., kitchen manager).



Eighty-six percent (66 of 77) of Oklahoma counties had at least one individual respond to the survey. Figure 1 shows the distribution of respondents by county. Tulsa (metropolitan), Pottawatomie (nonmetropolitan), and Oklahoma (metropolitan) counties had the greatest number of respondents, 11, 9, and 8, respectively. Most school districts represented in the survey were from nonmetropolitan counties (64%) which closely reflects the division of the state with just over 75% of all Oklahoma counties classified as nonmetropolitan according to the Rural-Urban Continuum Code (USDA-ERS, 2020).

Figure 1. Respondent Distribution Across Oklahoma Counties

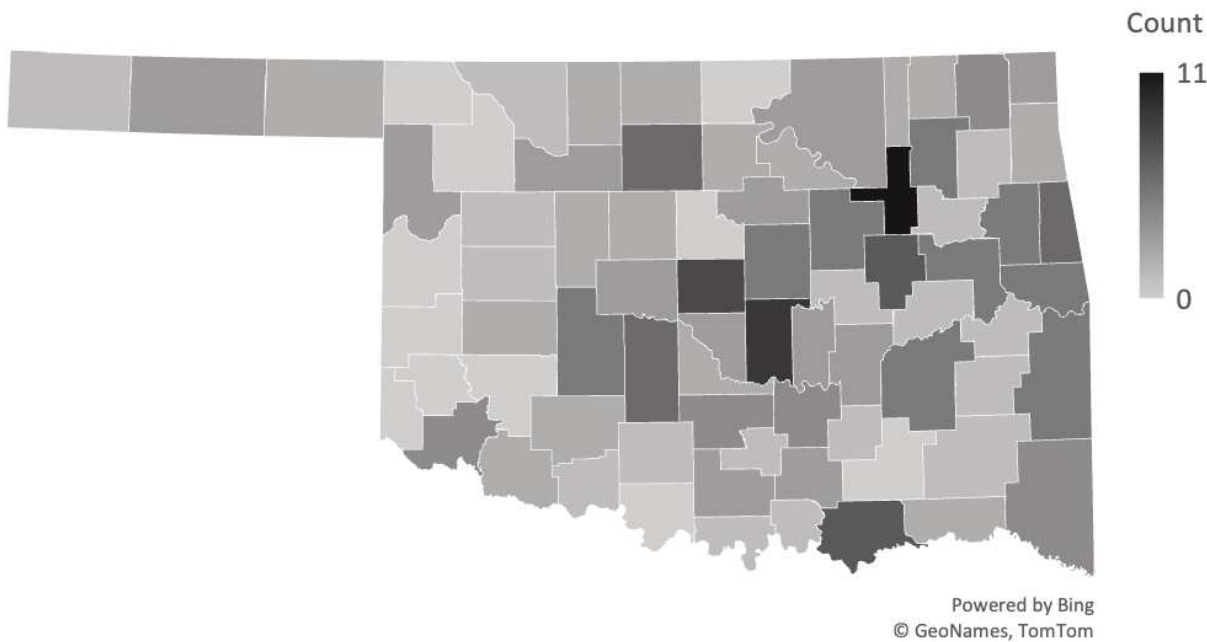


Table 1 provides a summary of the demographic information collected. Most (63.0%) respondents self-identified as *CND*, followed by *Kitchen Manager*, 18.3%, *Superintendent*, 3.8%, and *Head Cook*, 3.4%. The 'other' option was selected by 11.5% of participants. The respondents who selected 'other' named positions such as *child nutrition secretary*, *child nutrition specialist*, *child nutrition manager*, *cafeteria manager*, etc. These responses were coded into the following categories: *Child Nutrition district level position*, *Child Nutrition kitchen site position*, *Administration position*, and *'Other' selected with no text entered*. Of the 203 individuals who completed the question about their primary role, 85.7% indicated they oversaw the *SNP*. Sixty-three (30.6%) respondents marked they were currently under contract with an *FSMC*.

Respondents were asked to select all *USDA Food Programs* their school district currently participated in. The most selected programs were the *National School Lunch Program* (98.5%) and the *National School Breakfast Program* (86.9%). The *Special Milk Program* was only selected by two respondents. When asked about the need to offer training and resources in Spanish, 10.1% selected *strongly agree* or *agree*. Only 12.0% of respondents

noted they were unaware of *Cooking for Kids* before taking this survey. This percentage was likely influenced by the eight individuals who indicated they were new to their position via text-entry box later in the survey.

Table 1. Respondent Distribution Across Oklahoma Counties

Responses	n	Percent
The survey respondent's main role is to oversee the child nutrition program (n=203)	174	85.7%
Respondent's Position (n=208)		
Child Nutrition Director	131	63.0%
Kitchen Manager	38	18.3%
'Other'	24	11.5%
<i>Child Nutrition district level position</i>	19	79.2%
<i>Child Nutrition kitchen site position</i>	2	8.3%
<i>Administration position</i>	2	8.3%
<i>'Other' selected with no text entered</i>	1	4.2%
Head Cook	8	3.8%
Superintendent	7	3.4%
USDA Programs the District Participates in* (n=208)		
National School Lunch Program	203	98.5%
National School Breakfast Program	179	86.9%
NSLP Afterschool Snack Program	48	23.3%
Summer Food Service Program	42	20.4%
Fresh Fruit and Vegetable Program	34	16.5%
Seamless Summer Program	30	14.6%
Child and Adult Care At-Risk Afterschool Meal Program	23	11.2%
Child and Adult Care Food Program	9	4.4%
Special Milk Program	2	1.0%
The child nutrition program for the district is self-operated (n=206)	143	69.4%
The child nutrition program has a need for training/resources in Spanish (n=207)		
Probably not	86	41.5%
Definitely not	71	34.3%
Might or might not	29	14.0%
Probably yes	12	5.8%
Definitely yes	9	4.3%
Prior to this survey, the respondent was aware of <i>Cooking for Kids</i> (n=208)	183	88.0%

* CATA question, the total percent may exceed 100%

Respondents were asked to select all items they were interested in from a list of 26 training topics, 11 resource topics, and eight personnel management topics. Table 2 summarizes the frequency with which each topic was selected. All options were selected at least once. Following each section, respondents could supply additional topics of interest via an open-response box.

The training topic most selected by the 177 respondents who completed this question was *understanding meal pattern requirements* (60.5%) followed by *food safety* (46.3%), and *standardizing recipes and recipe conversion math* (45.2%). The topic least selected was *food preservation: dehydrating, pickling, freezing* (11.3%). Twelve participants selected the open response box. Four responses were no/none. The remaining responses were:

- employee retention,
- how to get started with local growers,
- how to make a menu that meets all requirements including sodium etc.,
- how to use spices on veggies,
- appealing presentation of the lunch tray,
- time management,
- We use [FSMC], and they do a great job. But there is a disconnect between them and our school. They need help with engaging with our kids and taste. The [FSMC] seems to know what works well for them, and there is not much variety to choose from.
- developing leadership in middle management employees and those wanting to move up into those positions,
- sodium calculations & regulations.

The most selected resources were *Cooking for Kids recipes* (68.2%), *list of recipe resources* (68.2%), and *beginning and end of school year checklists* (57.6%). While *bridging the communication gap between teachers and parents* was the least selected resource, it was selected by over a quarter (28.2%) of the 170 respondents. Five individuals filled out the open-response box, four responses were no/none, one response was “building that relationship with your teacher and principal when there is pull back.” In a previous study with similar results, supervisors reported the major training needs of their staff were meal pattern requirements, reducing sodium while maintaining flavor, special dietary needs, food safety, and modifying the quantities of standardized recipes (Jones et al., 2013).

Of the 157 individuals providing feedback on personnel management topics, almost two-thirds (63.1%) selected *motivating staff* followed by *tips on how to work with a “bare bones” staff* (62.4%) and *getting staff on board with training* (53.5%). The topic least selected, *recruiting and hiring employees*, was still selected by a significant portion of the respondents (36.3%). Eight participants provided feedback in the open-response box for management topics. Respondents provided feedback as follows: no/none (6 participants), “getting parents to care about their kids’ lunches and have input,” and “how to counsel employees who are not performing or have bad attitudes.”

Table 2. Training, Resource, and Management Topics

Question Topic	Response Options	n	Percent of Cases
Training* (n=177)	Understanding meal pattern requirements	107	60.5%
	Food safety	82	46.3%
	Standardizing recipes and recipe conversion math	80	45.2%
	Use of leftovers	77	43.5%
	The why behind the nutrition regulations	75	42.4%
	Batch cooking	68	38.4%
	What constitutes a whole grain	67	37.9%
	Menu planning: forecasting commodities and using Department of Defense dollars	67	37.9%
	Getting students involved in your lunchroom	67	37.9%
	Conducting a taste test with students	64	36.2%
	Grant writing	62	35.0%
	Efficient food production: cross utilization of product	58	32.8%
	Overcoming supply chain issues	58	32.8%
	Supporting students with special diets	57	32.2%
	Using bonus commodities	53	29.9%
	Making salad bars reimbursable	52	29.4%
	Knife skills	46	26.0%
	Sustainability in your lunchroom	45	25.4%
	New equipment and recipes to utilize it	42	23.7%
	Maximizing storage space	42	23.7%
	Using local foods	33	18.6%
	Incorporating a la carte items	33	18.6%
	Promoting your in-house entrees	33	18.6%
Creating and utilizing school gardens	24	13.6%	
Implementing alternative school breakfast systems	23	13.0%	
Food Preservation: dehydrating, pickling, freezing	20	11.3%	

* CATA question, the total percent may exceed 100%

Table 2. Training, Resource, and Management Topics

Question Topic	Response Options	n	Percent of Cases
Resources* (n=170)	Cooking for Kids recipes	116	68.2%
	List of Recipe Resources	116	68.2%
	Beginning and end of school year checklists	98	57.6%
	List of grant opportunities	95	55.9%
	Recipes for specific commodities	91	53.5%
	Cleaning schedule examples and worksheet	74	43.5%
	Standard operating procedures and HACCP	67	39.4%
	Sample job descriptions	65	38.2%
	Examples of student tray lines	62	36.5%
	Equipment maintenance plan worksheet	56	32.9%
	Bridging the communication gap between teachers and parents	48	28.2%
Personnel Management* (n=157)	Motivating staff	99	63.1%
	Tips on how to work with a "bare bones" staff	98	62.4%
	Getting staff on board with training	84	53.5%
	Staff appreciation for retention	76	48.4%
	Communication	69	43.9%
	Resolving internal conflicts	68	43.3%
	Delegating	63	40.1%
Recruiting and hiring employees	57	36.3%	

* CATA question, the total percent may exceed 100%

CATA questions regarding the use of local foods, challenges in creating a healthy food environment, and questions specific to *Cooking for Kids* intervention activities are shown in Table 3. *Cooking for Kids* questions were divided by intervention (webinar, hands-on culinary skill development training, chef consultation, and website resources) and included questions such as whether a respondent had participated, changes they would recommend, and what they felt were barriers to engaging with the intervention.

Over half of the respondents (53%) indicated they would be interested in *Cooking for Kids* offering more webinars during the school year. Respondents suggested the best time to participate in live webinars was during the middle of the week (n=235, sum of Tuesday, Wednesday, and Thursday) beginning at a time between 1:00 pm and 2:00 pm (n=199, sum of 1:00, 1:30, and 2:00). The main barriers to attending live webinars were the time of the webinar (49.1%) and conflicts with work schedule (37.4%). A 2021 study on training design preferences revealed respondents preferred to receive training on Tuesdays and Thursdays (Flure et al., 2021).

Most reported they did not desire any change in the structure of the multi-day skill development training (41.1%) which is currently a 3-day long training that lasts 6 hours each day. Other respondents selected *provide training opportunities by skill level* (23.4%) and *shorten the length of each training day from 3, 6-hour days to 3, 4-hour days* (20.6%). Barriers to attending multi-day training during the summer included: *staff do not want to give up time off in the summer* (30.2%), and *distance to the in-person training sites is too far for daily travel* (27.5%). Similar themes were revealed in a survey conducted by Flure and colleagues (2021). The choice *training topics are not a priority in my organization* was only selected once. Information provided by respondents who selected the open-ended 'other' response option included staff being employed by a FSMC, summer feeding making it difficult to send employees, staffing issues, and miscommunication on how often staff could attend.

Thirty of the 143 respondents working in self-operated school districts (21.0%) reported there were no barriers to participating in the chef consult program. The greatest barriers self-operated food programs reported were simply not being aware of the opportunity (34.2%) and that a year-long intervention is too much of a commitment (12.0%). *Lack of support from administration*, and *the schools restrict visitor access* were only selected once each. Eight respondents provided information in the open response box. Two said they have chefs on staff already, two stated they were unsure due to being new, and four indicated they didn't have enough time and/or staff to participate in anything extra.

Most respondents (47.0%) marked that nothing prevents them from using the *Cooking for Kids* website. Barriers to utilizing the website included: lack of awareness of the website (22.7%) and forgetting there is a website (17.7%). Fifteen respondents selected 'other' for this question, several of whom indicated they were unsure of website usage due to a FSMC operating their program. One respondent stated kitchen staff don't have enough time and some have no interest.

Approximately 40% of respondents reported using local fruits and vegetables in their SNP (40.7% and 38.9%, respectively). Slightly more than half (50.9%) reported not using any local foods. Factors that made use of local foods difficult included: *lack of contact with local food sources* (48.8%), *inconsistency in the availability of local foods* (34.4%), and using local foods not being a priority (27.5%). *Lack of support from administration* was the least selected option (2.5%). The 'other' option was completed by 16 participants. Five respondents indicated a FSMC manages their procurement and two reported their district has a strict procurement policy. A previous study with Montana SNPs on fresh, whole food usage similarly found the inconsistent availability of these products to be a barrier (Stephens et al., 2015). Additional barriers that were only identified in the Montana study included not enough preparation time and limited storage space.

In the section regarding factors influencing the creation of healthier food environments, the top 3 responses were: *limited staffing* (63.9%), *concern for student satisfaction* (58.1%), and *time management* (50.3%). The option least selected was *lack of support from administration* (0.6%). The open-response 'other' box was selected 11 times. Additional challenges listed included working with an FSMC, cost, procurement difficulties, and lack of support from kitchen staff.

Table 3. Barriers to Participating in Program Interventions

Question Topic	Responses	n	Percent of Cases
Viewing live webinars* (n=171)	Time of the live webinar	84	49.1%
	Too busy to watch	64	37.4%
	'Other'	46	26.9%
	Day of the week live webinars are on	14	8.2%
	Not interested in the topics	2	1.2%
	Haven't found previous webinars helpful	2	1.2%
	Don't have the technology to view it	1	0.6%
Attending multi-day training during summer months* (n=182)	Staff do not want to give up their time off in the summer	55	30.2%
	Distance to the in-person training sites is too far for daily travel	50	27.5%
	Nothing makes it difficult, we attend when needed	46	25.3%
	Did not know about training opportunity	33	18.1%
	Many staff members are employed elsewhere during the summer and are unavailable	31	17.0%
	Hourly staff are not compensated for attendance at training	27	14.8%
	Approval is required for hourly staff to receive compensation during the summer	21	11.5%
	Attendance at training is not required by your district	16	8.8%
	'Other'	15	8.2%
	Training sessions last too many days	13	7.1%
	Training dates are not convenient	13	7.1%
	Staff are not excited about training opportunities	7	3.8%
	Training sessions are too many hours each day	5	2.7%
	Training is only offered in English. My staff would prefer training offered in:	3	1.6%
	<i>Spanish</i>	2	66.6%
<i>Language other than Spanish</i>	1	33.3%	
Training topics are not a priority in my organization	1	0.5%	

* CATA question, the total percent may exceed 100%

Table 3. Barriers to Participating in Program Interventions

Question Topic	Responses	n	Percent of Cases
Participating in year-long one-on-one chef consultations* (n=117)	Not aware of this opportunity	40	34.2%
	Nothing prevents us from applying, our district has participated in a Chef Consult	30	25.6%
	'Other'	15	12.6%
	A year-long program is too much of a commitment	14	12.0%
	Staff is not interested in making changes	10	8.5%
	My staff is weary of a chef coming in to make changes	9	7.7%
	Forget to apply when the application opens	8	6.8%
	There is too much staff turnover	6	5.1%
	I am not interested in making changes	5	4.3%
	I don't think this would be beneficial	4	3.4%
	My school district doesn't need additional help	3	2.6%
	I am weary of a chef coming in to make changes	2	1.7%
	Lack of support from administration	1	0.9%
The district restricts visitor access	1	0.9%	
Utilizing the program's website* (n=181)	Nothing prevents us from using the website, we utilize it when needed	85	47.0%
	Unaware of the website prior to this survey	41	22.7%
	Forget there is a website	32	17.7%
	Limited computer access in the kitchen	19	10.5%
	'Other'	15	8.3%
	Website doesn't contain helpful information	3	1.7%
Website isn't up to date with information	0	0.0%	

* CATA question, the total percent may exceed 100%

Table 3. Barriers to Participating in Program Interventions

Question Topic	Responses	n	Percent of Cases
Barriers to Purchasing and Using Local Foods* (n=160)	Lack of contact with local food sources	78	48.8%
	Inconsistency in the availability of local foods	55	34.4%
	This is not a priority for us right now	44	27.5%
	Price	32	20.0%
	Uncertainty in the quality of local foods they would receive	32	20.0%
	The hassle of ordering from multiple vendors	29	18.1%
	'Other'	25	15.6%
	Extra time needed to wash, cut, and prepare local foods	16	10.0%
	Lack of support from administration	4	1.2%
Challenges in Creating a Healthier Food Environment* (n=155)	Limited staffing	99	63.9%
	Concern for student satisfaction	90	58.1%
	Time management	78	50.3%
	Limited knowledge/skills of child nutrition professionals	43	27.7%
	Time to update menus	37	23.9%
	Need for additional equipment to support scratch/ fast scratch cooking	37	23.9%
	Lack of funds	37	23.9%
	Lack of support from teachers and support staff	29	18.7%
	Lack of support from parents	21	13.5%
	Existing equipment is not working or is insufficient	15	9.7%
	'Other'	11	7.1%
	Lack of support from administration	1	0.6%

* CATA question, the total percent may exceed 100%

CONCLUSIONS AND APPLICATIONS:

The environment in which SNPs operate is always evolving which means supporting entities such as *Cooking for Kids* must remain in touch to ensure training and resources are up-to-date and applicable (Ralston et al., 2008; USDA-FNS, 2023). Due to the geographical distance between SNPs and the data collection timeframe, the researchers determined an online needs assessment survey was most efficient in gaining insight from SNPs across the state. The recruitment process was effective in reaching the target audience. About two-thirds (63%) of respondents reported being a CND and 85% of respondents indicated their main role was to oversee the SNP at the district or academic unit level within their SNP. This disparity between title and role can likely be explained by the organizational structure of some SNPs. In larger school districts, it is required for the CND to hold a certain level of education (USDA-FNS, 2015). Due to the rurality of most Oklahoma school districts, employment of a person who meets the education requirements may not be feasible. For example, an individual with the title of 'Kitchen Manager,' may perform job duties that are more similar to those of a CND in a larger district. The individuals who did not indicate their primary role was to oversee the SNP held positions such as superintendent, child nutrition secretary, child nutrition specialist, child nutrition coordinator, and nutrition manager which the researchers felt could provide valuable feedback and were included.

The most selected personnel management topic was *motivating staff* which aligns with *the why behind the nutrition regulations* being one of the top five training topics selected. Without a well-understood "why," adults are more likely to be under-motivated in performing their jobs (Hildebrand et al., 2018; Thoms, 2001). *Cooking for Kids* seeks to address that "why" in its trainings however, respondents indicated several barriers to attending in-person training. These challenges included unwillingness to attend in the summer, not being compensated for attending, and being employed elsewhere during the summer months. Respondents suggested adaptations such as shorter in-person trainings, short-term on-site chef consultations, and more live webinars would help them engage with *Cooking for Kids*. If the program is more accessible, its "why" can then reach a larger audience. Plans are in place to incorporate these SNP-generated recommendations in the 2023-2024 school year. Three-day summer training sessions will be shortened to two days, online webinars will be offered monthly instead of every other month, and a one-day, on-site chef consultation over a specific training need will be introduced.

Long Term Implications

It has been documented that improvements from interventions are rarely sustainable without proper support and resources from entities at higher levels within the social-ecological model of school nutrition (Hirsch et al., 2016; Stephens et al., 2015; Townsend & Foster, 2013). Prior to the child nutrition reauthorization process that occurs every five years, advocacy by stakeholders for improving the child nutrition environment is encouraged (Food Research Action Center, n.d.). While it is important for the regulations governing SNPs to improve the standards for child nourishment, it is prudent that the capacity of those operating SNPs is considered. This paper contributes to the literature regarding the capacity of SNPs to operate effectively within the regulations. These results can help to inform school administrators, professional organizations, governing agencies, and policymakers of the support SNPs need to continue serving healthy school meals.



There has been extensive policy work aimed at improving the dietary quality of school meals. The next phase of policy should consider supporting school nutrition personnel who plan, prepare, and serve the meals. One respondent commented they needed assistance motivating staff who feel the administration doesn't appreciate their work. In a profession that has long been disregarded as a key component of the educational process, investing in SNPs through wage promotion, paid training and staff development, and the provision of applicable resources can only help to bolster those who feed this nation's children (Billings et al., 2022; Gaddis, 2021). This could be best achieved by policy aimed at increased federal and state funding that would support higher wages and paid training that fosters the production of healthier meals in schools. Higher wages may minimize bare-bones staff and improve SNP's ability to recruit and hire individuals with culinary experience. Higher wages may also increase motivation if it allows personnel to only have one job. The state of California is investing in its SNPs through equipment improvements and competitive wages (School Meals for All, 2022). A national survey of SNP managers found only 37% had a budget for staff training and development (The Pew Charitable Trusts & Robert Wood Johnson Foundation, 2015). Nearly three-quarters of respondents in this study indicated their state child nutrition agencies did not provide the required training hours, thus their SNPs either had to pay for training from a budget, which less than 40% indicated they had, or search for free training resources. These researchers recommended funds for training be made consistently available through policy.

Strengths and Limitations

The relationship between OSDE-CN and *Cooking for Kids* was a strength in the development and distribution of the survey. The informal focus group with OSDE-CN aided in the creation of a stronger survey by providing an additional perspective on the content of the topics and answer choices included in the survey. OSDE-CN was also involved in the distribution of the survey, which extended its reach. Another strength of this needs assessment was the use of partially closed questions. Many of the answer choices were formatted as multiple choice or CATA choices with an 'other' option available for participants to provide a typed response. This question format helped to reduce participant burden by allowing them to select a provided option or enter a short response rather than writing a multi-sentence response (Dillman, 2011).

Limitations of this needs assessment included survey distribution, not limiting responses to one individual per district, low completion of text-entry questions, and the restraints of the *Cooking for Kids* program. The research team experienced slight difficulties with the distribution of a functioning link, leading researchers to extend the survey period by ten days. Urban districts with a larger child nutrition staff had the opportunity to be overrepresented because districts were permitted to have multiple respondents. Many of the text-entry options were not widely completed which can be seen as both a strength and a weakness. The low number of text-entry responses may indicate the answer options provided were adequate or that participants did not overcome the burden of responding to an open-entry field. *Cooking for Kids* acknowledges there were areas of training and barriers that were not addressed in the survey. The program decided to limit the answer choice options provided in the survey based on the ability to incorporate the options into program operations and design.

Areas of Future Research

While this survey was designed specifically for Oklahoma SNPs through the lens of the *Cooking for Kids* program, the results may help states with similar demographic backgrounds focus on the training, resources, and barriers respondents indicated were most pressing. This study could also act as inspiration for other entities that support SNPs to conduct their own assessment regarding training needs and challenges faced as the needs of SNPs will vary by region and circumstance. As more data becomes available on the support needs of school nutrition professionals and their capacity to meet the current meal pattern requirements, advocates will be able to share this important research with policymakers.

ACKNOWLEDGEMENTS:

This work was funded by a grant from the Oklahoma State Department of Education Child Nutrition Services. The Department's Child Nutrition Regional Program Specialists assisted in developing and reviewing the needs assessment survey to ensure it reflected the actual practices of Oklahoma school nutrition professionals. Melina Rooks, *Cooking for Kids* Graduate Research Assistant, assisted with reviewing and editing the manuscript.

ABSTRACT

PURPOSE/OBJECTIVES

Cooking for Kids, a culinary training program, conducted a needs assessment with key personnel in Oklahoma school nutrition programs to better understand the current training and resource needs of this population. Additionally, the needs assessment assessed barriers to accessing current training interventions offered by the program.

METHODS

The online needs assessment survey was completed by the most senior individual directly involved in the school district's child nutrition program (e.g., Child Nutrition Director, Kitchen Manager, Head Cook). Descriptive frequency statistics were used to analyze multiple-choice and multiple-response questions. Missing items were excluded via pairwise deletion. Open-response questions were coded by theme and included in the analysis.

RESULTS

The survey received 208 valid responses, with the majority of respondents (64%) located in nonmetropolitan counties. Sixty-three percent self-identified as their district's Child Nutrition Director, and approximately one-third marked they were currently under contract with a food service management company. The most selected training topic was *understanding meal pattern*



requirements (60.5%); needed resources included *Cooking for Kids recipes* (68.2%); and the leading personnel management training topic was *motivating staff* (63.1%). Barriers to attending training included time, compensation, and location. The top 3 responses when asked what challenges are faced in creating a healthier food environment were *limited staffing* (63.9%), *concern for student satisfaction* (58.1%), and *time management* (50.3%).

APPLICATIONS TO CHILD NUTRITION PROFESSIONALS

It is prudent that the capacity of child nutrition programs be considered when changes are made to the governing regulations. These results can help to inform school administrators, professional organizations, governing agencies, and policymakers of the support these programs need to continue serving healthy school meals. Supporting entities must communicate with these programs to ensure training and resources remain relevant in the ever-changing environment of school nutrition.

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