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Operational Issues Encountered by School Nutrition Directors in School Districts with Less Than 30,000 Student Enrollment

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Please note that this study was published before the implementation of Healthy, Hunger-Free Kids Act of 2010, which went into effect during the 2012-13 school year, and its provision for Smart Snacks Nutrition Standards for Competitive Food in Schools, implemented during the 2014-15 school year. As such, certain research may not be relevant today.

ABSTRACT

Purpose
To identify operational issues and practices associated with operating school nutrition (SN) programs in school districts with less than 30,000 student enrollment.
Method
The survey was adapted from a similar study that explored operational issues in school districts with enrollments of 30,000 or more students. The survey asked SN directors to indicate their agreement with 52 operational issues and practices related to SN operations in large school districts and provide information about themselves and their SN operations. Surveys were mailed to a random sample of 700 SN directors in school districts with student enrollments of less than 30,000, stratified by United States Department of Agriculture (USDA) region. Data analysis included means, standard deviations, and frequencies of total responses.
Results
Two hundred fifty-seven (37%) SN directors completed surveys. Prior to taking their current position, 22.5% of directors had worked on SN management teams and 18.7% worked as SN directors in other school districts. Twenty seven of 52 operational issues and practice statements were rated as a mean of 3.0 or greater, (on a scale from 1-4) by SN directors, suggesting that SN directors agreed that these operational issues and practices were relevant. Operational issues with the highest mean ratings were: “I operate the SN department as a business within the school setting” (3.8 + 0.6) and “I serve as the SN representative with district administration” (3.8 +0.7). Greater than 80% of SN directors indicated that five of the operational issues and practices were performed/encountered very often.
Application to Child Nutrition Professionals
The findings of this study demonstrate that SN directors are business-minded career professionals operating the business of SN within the school setting. It appears that SN directors regardless of district size are facing similar operational issues. However, SN directors in school districts with less than 2,799 in student enrollment may be encountering unique operational issues and practices compared to SN directors in school districts of larger enrollment size.

INTRODUCTION

In the 2005-2006 school year, there were 14,199 school districts, 86,792 schools, and over 48 million students in the United States (Hoffman, 2007). Only 26 of these school districts (less than 1%) enrolled more than 100,000 students, accounting for 10.7% of all students receiving public education. The vast majority of school districts (83.6%) enrolled less than 5,000 students and 73.6% enrolled less than 3,000 students. School districts with student enrollment from 500 to 2,999

students accounted for 44.1% of all U.S. school districts, while those with fewer than 100 students accounted for 7.3% of U.S. school districts.

School districts designate school nutrition (SN) directors to oversee the federally funded SN programs for the school district (Conklin, 2008). In addition to managing the planning, production, and distribution of meals through the National School Lunch Program and School Breakfast Program, Martin (2008) posits that SN directors should function as nutrition leaders within the school community with a mission of safeguarding the health and well-being of children. The American Dietetic Association suggests that SN directors should position the SN program as an integral part of the total education program (Pilant, 2006).

In order for SN programs to achieve success with these multiple goals, SN directors must possess leadership as well as management skills. SN directors must be business-minded, with skills in finance, marketing, production, purchasing, human resources, nutrition, and technology (DeMicco et al., 1997). Increasing competition from commercial operations, influences from the media, and peer pressure affecting students' food choices highlight the need for qualified SN directors to effectively lead SN programs (Kramer-Atwood et al., 2002; Kubik, Lytle, Hannan, Perry, & Story, 2003; USDA, 2001).

Since the National Food Service Management Institute (NFSMI) was established, research to identify competencies, knowledge, and skills (CKS) needed by professionals working in SN programs has been a priority. Initial work by Gregoire and Sneed (1994a; 1994b) led to the identification of CKS for SN directors/supervisors (Carr, Cater, & Conklin, 1996). In 2001, the NFSMI CKS statements were updated to reflect current operational trends in school nutrition (Rainville & Carr, 2001). The revised CKS contained 14 functional areas, 41 competencies, and 624 knowledge and skill statements. Functional areas are defined as the broad grouping of job responsibilities that are performed by SN directors and supervisors in school districts. The functional areas for SN directors include the following: (1) customer service, (2) sanitation, food safety, and employee safety, (3) financial management and record keeping, (4) food production, (5) procurement, (6) program accountability, (7) nutrition and menu planning, (8) general management, (9) personnel management, (10) facility layout and design and equipmen selection, (11) environmental management, (12) marketing, (13) computer technology, and (14) nutrition education.

Nettles, Carr, Johnson, and Federico (2008) explored the uniqueness of SN programs in large school districts, (student enrollment of 30,000 or greater) by identifying the operational issues and practices SN directors encounter and describing characteristics of SN directors and the programs they operate. They found that the majority of SN directors (70.5%) had worked in SN programs for more than 15 years and more than two-thirds of SN directors (68%) recommended experience on an SN management team in a large district as a prerequisite to their position. The operational issues and practices identified as the most important by SN directors were effective staffing of management teams, serving as SN representatives with district administrations, and operating departments as businesses within the school settings.

Large school districts only account for a very small percentage of all school districts in the United States. Therefore, it is important to determine if these operational issues and practices of SN directors are common regardless of district size. No research has been done to specifically address smaller districts with student enrollments of less than 30,000. The objectives of this study were to determine the operational issues and practices SN directors encounter in school districts with student enrollment of less than 30,000 and describe characteristics of directors and the programs they operate.

METHODOLOGY

Sample

The sample for this study consisted of 700 SN directors from public school districts with less than 30,000 student enrollment. The study sample was selected from the database of school districts maintained by Market Data Retrieval, a company that specializes in the school market. The random

sample of school districts was stratified by USDA region with all states being represented and 100 SN directors selected from each of the seven USDA regions. The enrollment parameter of less than 30,000 students was established to focus the research on all but the largest public school districts in the United States. In an earlier study, Nettles and Carr (2006) defined large school districts as those public school districts with 30,000 or more student enrollment.

Survey Instrument

The survey for this study was adapted from the Nettles and Carr (2006) study that explored similar issues in school districts with enrollments of 30,000 or more students. The original survey was developed from qualitative data obtained during expert panel discussions with seven SN professionals from school districts with 30,000 or greater student enrollment, pilot tested for content validity, and administered to all SN directors in large school districts. The researchers made revisions to the original survey based on suggestions from Nettles and Carr, and to decrease the length of the survey.

SN directors were asked to indicate their agreement with 52 operational issues and practices related to SN operations. Agreement was rated on a 4-point scale, ranging from 1 (strongly disagree) to 4 (strongly agree). Participants also were asked to indicate how often each operational issue and practice was encountered or performed by use of a 4-point scale that ranged from 1 (never) to 4 (very often). In addition, participants were asked to provide information about themselves and their SN operations. The University of Southern Mississippi Institutional Review Board approved the study protocol and survey.

Data Collection

A pre-notice letter was sent to each participant in the study approximately one week before study surveys were mailed. The purpose of the pre-notice letter was to briefly describe the study and notify the study participants that they would be receiving a survey within a few days. One week later, the survey, a cover letter, and self-addressed, postage-paid envelope were mailed to the 700 SN directors in the study sample. The cover letter explained the purpose of the study, asked for their participation, assured them of the confidentiality of their responses, provided researchers' contact information for questions and concerns, and described the return instructions for the completed survey. No identifying codes were placed on the survey instruments, thus preserving the anonymity of all respondents. Participants were asked to return the completed surveys within a three week time period. A reminder postcard was sent to all study participants one week after sending the initial surveys. The post card encouraged the SN directors to complete and return their survey if they had not already done so.

Data Analysis

Survey data were analyzed using the statistical package SPSS Version 13.0 for Windows. Descriptive statistics included means, standard deviations, and frequencies of total responses. One-way ANOVA with Tukey's HSD post hoc was conducted to measure the effect of student enrollment on the operational issues statements. Tukey's HSD is a method of ensuring that the chance of finding a significant difference in any comparison (under a null model) is maintained at the alpha level of the test, preventing a type I error. Due to the number of tests run, Bonferroni Corrections were used to reduce the possibility of a type I error. Additional statistical analyses were planned. The researchers performed principal components factor analysis using the operational issues statements. No cognitive factors were derived; therefore, factor analysis is not reported.

RESULTS AND DISCUSSION

Researchers mailed surveys to the 700 SN directors in public school districts with enrollments of less than 30,000 students selected to participate in the research study. Two hundred fifty seven (37%) directors responded to the survey.

Sample Characteristics

Demographic data for the responding SN directors are presented in Table 1. The majority of SN directors have a baccalaureate degree or higher (62.3%) with their primary areas of study identified as other (24.1%), food and nutrition (21.4%), nutrition and dietetics (20.0%), and business (15.9%). When asked about their certification or credentialed status, 39.3% of SN directors indicated they

were School Nutrition Association (SNA) certified, 34.3% were not certified, and 17.8% were State Department of Education certified.

The majority of respondents have worked in SN programs for 16 years or more (51.0%) and in their current position for ten years or less (59.5%). Less than one-fourth (22.5%) of SN directors had worked on the SN management team in a school district prior to taking the SN director position and another 18.7% had worked as an SN director in another school district. Over one-fourth (26.2%) of respondents reported that they will be retiring in the next five years. When asked the type of education and experience they would recommend for their successor, 60.5% of SN directors recommended experience on the SN management team in a school district followed by experience as an SN director in a smaller district (43.6%), undergraduate degree in nutrition (41.2%), and undergraduate degree in business (30.9%).

Two survey questions addressed SN directors' preferences regarding accessing SN resources and continuing education formats. When seeking resources or information to assist in the operation of their SN program, the majority (85.0%) of SN directors indicated that they prefer both print-based and Web-based resources. The highest rated continuing education formats reported by SN directors were meeting or conference (82.0%), professional development publication/article (42.4%), and independent study (CD ROM, Internet) (30.0%).

Table 1. Personal Characteristics of Respondents

Question	**Frequency[a]**	**%**
What is your gender?		
Female	214	85.9
Male	35	14.1
What is your highest level of education?		
High school diploma or GED	63	25.8
Associate degree	29	11.9
Baccalaureate degree	62	25.4
Some graduate credits	39	16.0
Master's degree	32	13.1
Graduate hours beyond master's degree	17	7.0
Doctoral degree	2	0.8
Other	35	24.1
Food and Nutrition	31	21.4
Nutrition/Dietetics	29	20.0
Business	23	15.9

Food Service Management	12	8.3
Hospitality Management	8	5.5
Child Nutrition and Management	6	4.1
Culinary Food Service	1	0.7
What is your certification/credentialed status?[b]		
SNA certified	95	39.3
Not certified	83	34.3
State Department of Education certified	43	17.8
SNS credentialed	42	17.4
Registered Dietitian	31	12.8
Licensed Dietitian/Nutritionist	18	7.4
How many years have you worked in SN programs?		
Less than one year	6	2.4
1 to 5 years	29	11.6
6 to 10 years	35	13.9
11 to 15 years	53	21.1
16 to 20 years	51	20.3
Greater than 20 years	77	30.7
How long have you been in your current position?		
Less than one year	17	6.9
1 to 5 years	64	25.7
6 to 10 years	67	26.9
11 to 15 years	51	20.5
16 to 20 years	27	10.8
Greater than 20 years	23	9.2
Prior to taking your current position, did you work		

Other	103	43.6
On the SN management team in a school district	53	22.5
As an SN director in a smaller school district	29	12.3
As a restaurant manager	23	9.7
As an SN director in a larger school district	15	6.4
As a healthcare foodservice director	13	5.5
Will you be retiring in the next five years?		
Yes	65	26.2
No	139	56.1
Not Sure	44	17.7
In choosing a successor for your position, would you recommend[b]		
Experience on the SN management team in a school district	147	60.5
Experience as an SN director in a smaller district	106	43.6
Undergraduate degree in nutrition	100	41.2
Undergraduate degree in business	75	30.9
Graduate degree in nutrition	41	16.9
Graduate degree in business	37	15.2
Experience in foodservice management in healthcare	28	11.5
Both	210	85.0
Print-based resources	26	10.5
Web-based resources	11	4.5
What form of continuing education do you prefer?[b]		
Meeting or conference	205	82.0
Professional development publication/article	106	42.4
Independent study (CD ROM, Internet)	75	30.0

Small study group	70	28.0
Independent study (video, manuals)	69	27.6
Online course/distance education	67	26.8
Blended learning (face-to-face and online)	63	25.2
Preconference program	61	24.4
Satellite Seminar	57	22.8
Academic course work	41	16.4
Self study program	40	16.0
Home study course	26	10.4
Interactive multimedia modules	17	6.8
Poster session	10	4.0

Note. SN = School Nutrition

[a] Total N varies based on responses for each question

[b] Total exceeds 100% since respondents could select more than one response

Characteristics of School Nutrition Programs

SN directors responded to several questions intended to describe their SN program (Table 2). Respondents were from all USDA regions, with the highest percentages from the Mountain Plains (17.9%), Southeast (15.5%), and Midwest (15.2%) regions. Almost one-half (44.4%) of SN directors were employed in districts with less than 2,799 students, while 35.9% and 19.7% of respondents work in districts ranging in size from 2,800 – 9,999 students and 10,000 – 29,999 students, respectively. Two-thirds (66.3%) of directors reported having ten or less feeding sites in their districts, while only 11.6% of respondents are serving 21 or more feedings sites. Over half (55.6%) of SN directors indicated that four or more district-level staff report directly to them and 63.0% reported that district-level SN professional staff oversee site-level operations.

When asked the percentage of total revenue budgeted for food, 31.1% of SN directors reported a range of 36% to 40% and 29.4% of directors indicated a range of 41% to 45%. SN directors also were asked the percentage of total revenue budgeted for labor; 28.4% reported a range of 41% to 45% and another 23.7% specified a range of 46% to 50%.

The majority (87.6%) of SN directors indicated the use of on-site kitchens in their districts and 46.5% reported a central warehouse was utilized for storage of food and supplies. When asked how their SN operation manages foodservice equipment maintenance issues, two-thirds (66.3%) indicate they use a combination of employing their own maintenance staff, relying on district-level maintenance staff, and contracting with an outside firm for maintenance staff. Approximately half (50.6%) of SN directors responded that their SN department relies on district-level technology staff for technology support issues, while another 44.1% use a combination of employing their own technology staff, relying on district-level technology staff, and contracting with an outside firm for technology support. The vast majority (92.5%) of SN operations are using point-of-sale software and many (56.0%) are also utilizing software to support production and other back-of-the-house activities.

Almost one-third (32.9%) of SN directors described their districts as increasing student enrollment over the last five years, while 38.9% of SN directors reported a steady enrollment, and another 28.2% reported decreasing enrollment. SN directors indicated that, in the last five years, their school

districts are renovating existing schools (86.6%), building new schools (50.9%), and closing schools (14.7%).

Table 2. Characteristics of Responding School Nutrition (SN) Programs

Question	**Frequency[a]**	**%**
In what USDA region do you work?		
Mountain Plains	45	17.9
Southeast	39	15.5
Midwest	38	15.2
Western	37	14.7
Southwest	36	14.3
Mid-Atlantic	29	11.6
Northeast	27	10.8
What is the total enrollment in your school district?		
Less than 2,799 students	110	44.4
2,800 to 9,999 students	89	35.9
10,000 to 29,999 students	49	19.7
How many feeding sites do you serve?		
5 or less	101	40.6
6 to 10 sites	64	25.7
11 to 20 sites	55	22.1
21 or 30 sites	18	7.2
31 or greater sites	11	4.4
How many district-level staff report directly to you?		
3 or less	67	27.0
4 to 5	40	16.1
6 or more	98	39.5
None	43	17.4

Yes	155	63.0
No	91	37.0
What percentage of total revenue do you budget for food?		
35% or less	20	8.5
36% to 40%	73	31.1
41% to 45%	69	29.4
46% to 50%	51	21.7
51% or greater	22	9.3
What percentage of total revenue do you budget for labor?		
35% or less	15	6.5
36% to 40%	50	21.6
41% to 45%	66	28.4
46% to 50%	55	23.7
51% or greater	46	19.8
Does your SN operation have a formalized marketing plan?		
Yes	36	63.0
No	209	37.0
Do you benchmark meals per labor hour among the schools in your district?		
Yes	151	62.9
No	89	37.1
What types of foodservice operations are used in your district?[b]		
On-site kitchens	218	87.6
Centralized kitchen serving both off-site and on-site	97	39.0
Central kitchen with no on-site service	12	4.8

For hot and/or cold food that is prepared centrally, how is the food transported?[b]		
Not applicable in my district	105	45.9
Cold foods delivered in bulk	93	40.6
Hot foods delivered in bulk	85	37.1
Hot foods delivered hot	85	37.1
Cold foods delivered preplated/preportioned	40	17.5
Hot foods delivered preplated/preportioned	26	11.4
Hot foods delivered cold to be rethermalized onsite	22	9.6
Yes	114	46.5
No	131	53.5
How does your SN operation manage foodservice equipment maintenance issues?		
A combination of the choices provided	155	66.3
SN department relies on district-level maintenance staff for equipment service	53	22.6
SN department contracts with an outside firm for equipment service	20	8.5
SN department employs their own maintenance staff to service equipment	6	2.6
How does your SN operation handle technology support issues?		
SN department relies on district-level technology staff for support	124	50.6
A combination of the choices provided	108	44.1
SN department employs their own technology staff	9	3.7
SN department contracts with an outside firm for technology support	4	1.6
Is your SN operation using point-of-sale software?		

Yes	234	92.5
No	19	7.5
Yes	141	56.0
No	111	44.0
Yes	61	24.2
No	191	75.8
How would you describe your school district over the last five years?		
Enrollment steady	98	38.9
Increasing enrollment	83	32.9
Decreasing enrollment	71	28.2
In the last five years, is your school district[b]		
Renovating existing schools	194	86.6
Building new schools	114	50.9
Closing schools	33	14.7
Is the management of your district SN program		
Self-operated	239	95.2
Contracted by a food service management company	12	4.8

[a] Total N varies based on responses for each question
[b] Total exceed 100% since respondents could select more than one response

Operational Issues and Practices

Respondents were provided 52 statements regarding operational issues and practices related to SN operations and were asked to indicate their agreement with each statement using a scale ranging from 1 (strongly disagree) to 4 (strongly agree). Table 3 presents the means and standard deviations for the 52 statements in descending order of agreement. Twenty-seven of the 52 statements had a mean rating of 3.01 or greater. Of these 27 statements, 11 statements had a mean rating of 3.61 or greater suggesting that SN directors strongly agreed with these operational issues.

Operational issues with the highest mean ratings were: “I operate the SN department as a business within the school setting” (3.79 + 0.62), “I serve as the SN representative with district administration” (3.77 + 0.67), and “I view my leadership skills as impacting the success of the SN program” (3.77 + 0.46). Operational issues with the lowest mean ratings were: “The SN department utilizes a temp agency for site-level substitute staff” (1.22 + 0.71), “Oversight is required to ensure that the temp

agency complies with district Human Resources policies" (1.34 + 0.87), and "The SN department performs human resource functions for other district departments" (1.54 + 0.88).

When one-way ANOVA with Tukey's HSD post hoc with Bonferroni correction was applied to measure the effect of student enrollment on operational issues and practices, the following five statements demonstrated significance (P<.002): (1)"The SN department employs district-level professional staff to oversee site-level operations," (2)"Putting together an effective management team is critical to the operational success of the SN department," (3)"I serve as the SN representative with district administration," (4)"The school district has a district-wide technology infrastructure," and (5)"My work schedule is greater than 40 hours per week." With the first four of these statements, SN directors in school districts with enrollment of less than 2,799, had lower agreement scores compared to SN directors in schools districts with larger enrollment (2,800-29,999). With the fifth statement "My work schedule is greater than 40 hours per week," SN directors in school districts with less than 2,799 in student enrollment had lower agreement compared to SN directors in school districts with student enrollment between 10,000 and 29,999.

Table 3. Mean Agreement Ratings and Standard Deviations for Operational Issues and Practices Encountered by School Nutrition (SN) Directors

Statement	**N**	**Mean[a]**	**SD**
Operate the SN department as a business within the school setting.	222	3.8	0.6
I serve as the SN representative with district administration.	217	3.8	0.7
I view my leadership skills as impacting the success of the SN program.	228	3.8	0.5
I view the SN department as a business within the school setting.	231	3.8	0.6
I have supervisory responsibilities with site-level employees.	222	3.8	0.6
Menus are standardized throughout the district.	228	3.7	0.6
	219	3.7	0.6
Menus are developed by district level SN professional staff.	228	3.7	0.9
The cost of technology for SN programs continues to increase.	218	3.7	0.5
The school district has a district-wide technology infrastructure.	213	3.6	0.7
Menus are planned to meet the needs of a diverse student body.	223	3.6	0.6
SN department is current with technology practices.	227	3.5	0.7
I directly supervise district-level SN professional staff.	229	3.5	1.0
The SN employs district-level professional staff to oversee site-evel operations.	221	3.4	1.0
	221	3.4	1.0

My work schedule is greater than 40 hours per week.	234	3.3	0.9
I consider my SN job responsibilities similar to those of a Chief Executive Officer.	222	3.3	0.8
	235	3.3	0.8
District administrators support the contribution provided by the SN department.	226	3.3	0.7
Recruiting and retaining qualified SN professional staff is difficult.	229	3.2	0.8
The SN department performs human resource functions for SN employees.	225	3.2	0.9
	234	3.2	0.7
I value the importance of implementing a marketing plan for my SN operation.	217	3.2	0.7
	231	3.2	0.9
	231	3.1	0.8
I am faced with financial challenges to support marketing activities.	234	3.1	0.9
Recruiting and retaining qualified SN site-level staff is difficult.	234	3.0	0.8
	233	2.9	1.0
I am faced with SN staff challenges to implement a successful marketing plan.	226	2.9	0.9
Retaining competent maintenance staff is a challenge.	231	2.9	1.0
	231	2.9	1.0
	220	2.8	1.0
	227	2.8	0.9
	216	2.7	1.1
	235	2.7	1.9
I face operational challenges with inadequate cafeteria dining facilities.	230	2.6	1.0
	222	2.6	0.9

	219	2.6	0.9
	225	2.6	0.9
I face operational challenges with inadequate food preparation facilities.	223	2.5	1.0
I face operational challenges with inadequate foodservice equipment.	234	2.5	1.0
I am faced with community political challenges in operating the SN program.	234	2.5	1.0
I am faced with district political challenges in operating the SN program.	231	2.5	1.0
I am not involved in day-to-day operations at site-level facilities.	220	2.4	1.1
Retaining competent technology staff is a challenge.	225	2.4	2.0
Frequent turnover in district-level administration presents challenges.	235	2.4	0.9
	230	2.3	0.9
	229	2.2	0.8
Dealing with labor unions presents challenges.	215	2.0	1.1
	227	1.5	0.9
	194	1.3	0.9
The SN department utilizes a temp agency for site-level substitute staff.	226	1.2	0.7

[a] Scale = 1, strongly disagree to 4, strongly agree

Directors were also asked to indicate how often they encounter or perform each operational issue using a scale ranging from 1 (never) to 4 (very often). Table 4 depicts the frequency of performance or how often each operational issue or practice is encountered by the responding SN directors. The majority of directors are performing or encountering the following issues very often: “I serve as the SN representative with district administration” (87.6%), “I operate the SN department as a business within the school setting” (86.9%), “Menus are developed by district level SN professional staff” (83.3%), and “I have supervisory responsibilities with site-level employees” (82.4%). Most SN directors indicate that they never encounter the following issues: “The SN department utilizes a temp agency for site-level substitute staff” (89.4%), “Oversight is required to ensure that the temp agency complies with district Human Resource policies” (85.6%), and “The SN department performs human resource functions for other district departments” (67.4%).

Table 4. Frequency of Performance of Operational Issues and Practices

Statement	**Very Often[a,b]**	**Sometimes**	**Rarely**	**Never**

	190[c,d] (87.6)	13 (6.0)	6 (2.7)	8 (3.7)
	193 (86.9)	19 (8.6)	3 (1.4)	7 (3.2)
	190 (83.3)	18 (7.9)	1 (0.4)	19 (8.3)
	183 (82.4)	28 (12.6)	6 (2.7)	5 (2.3)
	189 (81.8)	34 (14.7)	3 (1.3)	5 (2.2)
	182 (79.8)	32 (14.0)	11 (4.8)	3 (1.4)
	179 (78.5)	45 (19.7)	4 (1.8)	0 (0.0)
Putting together an effective management team is critical to the operational success of the SN department.	164 (74.9)	45 (20.5)	5 (2.3)	5 (2.3)
	167 (72.9)	26 (11.4)	11 (4.8)	25 (10.9)
	153 (71.8)	44 (20.7)	13 (6.1)	3 (1.4)

The SN department employs district-level professional staff to oversee site-level operations.	158 (71.5)	26 (11.8)	13 (5.9)	24 (10.8)
	153 (70.2)	58 (26.6)	5 (2.3)	2 (0.9)
	153 (68.6)	56 (25.1)	12 (5.4)	2 (0.9)
District-level SN coordinators and supervisors review site-level employee records and document work performance, training, attendance, etc.	143 (64.7)	37 (16.7)	22 (10.0)	19 (8.6)
	128 (56.4)	84 (37.0)	12 (5.3)	3 (1.3)
	132 (56.4)	58 (24.8)	31 (13.2)	13 (5.6)
	112 (50.5)	78 (35.0)	21 (9.5)	11 (5.0)
	105 (46.7)	83 (36.9)	18 (8.0)	19 (8.4)
I seek professional development opportunities beyond what my school district provides to improve my leadership skills.	106 (45.1)	101 (43.0)	22 (9.4)	6 (2.5)
	96 (41.9)	93 (40.6)	34 (14.9)	6 (2.6)

District administrators view the SN department as a business within the school setting.	95 (41.1)	94 (40.7)	30 (13.0)	12 (5.2)
	94 (40.2)	84 (35.9)	40 (17.1)	16 (6.8)
District administrators support the contribution provided by the SN department.	90 (39.8)	110 (48.7)	23 (10.2)	3 (1.3)
The cost of maintaining current software and hardware in all feeding sites is a financial challenge.	88 (38.1)	95 (41.1)	38 (16.5)	10 (4.3)
	76 (35.0)	110 (50.7)	26 (12.0)	5 (2.3)
The volume and complexity of meeting the special nutrition needs of children is a challenge.	81 (34.6)	120 (51.3)	32 (13.7)	1 (0.4)
	78 (33.7)	72 (31.2)	57 (24.7)	24 (10.4)
	74 (31.6)	98 (41.9)	52 (22.2)	10 (4.3)
District-level SN professional staff assures consistency iin implementing the marketing plan for all school sites.	73 (31.3)	92 (39.5)	45 (19.3)	23 (9.9)
The installation of current software in all feeding sites is a time management challenge.	68 (29.4)	83 (35.9)	59 (25.5)	21 (9.2)

My school district provides professional development opportunities that support my leadership growth.	65 (29.5)	79 (35.9)	50 (22.8)	26 (11.8)
	56 (24.3)	68 (29.6)	70 (30.4)	36 (15.7)
	56 (24.8)	109 (48.2)	44 (19.5)	17 (7.5)
	54 (23.8)	98 (43.1)	49 (21.6)	26 (11.5)
	51 (23.1)	60 (27.2)	44 (20.0)	65 (29.5)
Lack of understanding of SN program needs by district-level technology staff presents challenges.	47 (20.0)	84 (35.7)	81 (34.5)	23 (9.8)
	44 (19.8)	69 (30.9)	71 (31.8)	39 (17.5)
	44 (18.8)	67 (28.6)	89 (38.1)	34 (14.5)
	41 (18.5)	82 (36.9)	70 (31.5)	29 (13.1)
	43 (18.4)	71 (30.3)	86 (36.8)	34 (14.5)

	39 (16.9)	72 (31.2)	75 (32.5)	45 (19.5)
The SN department encounters challenges when trying to utilize SN software with the district-level technology.	36 (16.4)	84 (38.4)	69 (31.5)	30 (13.7)
I am faced with communication challenges due to the numerous organizational layers in the school district.	32 (14.2)	92 (40.9)	74 (32.9)	27 (12.0)
	29 (12.8)	80 (35.6)	63 (28.0)	53 (23.6)
I often encounter challenges with district-level support when trying to address disciplinary issues with employees.	27 (11.7)	64 (27.8)	91 (39.6)	48 (20.9)
	27 (11.5)	60 (25.5)	117 (49.8)	31 (13.2)
	24 (11.2)	51 (23.7)	31 (14.4)	109 (50.7)
I encounter funding challenges related to the food production/transport systems used in my district.	16 (8.2)	6 (3.1)	6 (3.1)	166 (85.6)
Oversight is required to ensure that the temp agency complies with district Human Resource policies.	16 (8.2)	6 (3.1)	6 (3.1)	166 (85.6)
	11 (4.9)	4 (1.7)	9 (4.0)	202 (89.4)

I am faced with communication challenges due to the numerous organizational layers in the SN program.	11 (4.8)	63 (27.5)	106 (46.3)	49 (21.4)
	11 (4.8)	26 (11.5)	37 (16.3)	153 (67.4)

Note. SN = School Nutrition
[a] Items are reported in descending order based on the "very often" percentages
[b] Responses were made using the scale, 1 = never; 2 = rarely; 3 = sometimes; 4 = very often
[c] Number responding (percentage)
[d] Total N varies based on responses for each question

CONCLUSIONS AND APPLICATIONS

The results of this study provide insight into the positions of school nutrition (SN) directors in schools with less than 30,000 in student enrollment. The majority (51.0%) of SN directors responding to this study had worked in school nutrition programs for more than 16 years, and most (59.5%) had been in their current position for 10 years or less. Prior to taking their current position, 22.5% of these SN directors had worked on SN management teams and 18.7% had worked as SN directors in other school districts. These results suggest that the position of SN director in school districts is often not an entry-level management position.

SN directors reported that their primary areas of study in college were food and nutrition (21.4%), nutrition and dietetics (20.0%), and business (15.9%). When asked to identify criteria for choosing a successor to their current position, 60.5% of these SN directors recommended experience on an SN management team, 43.6% recommended experience as an SN director in a smaller district, 41.2% recommended an undergraduate degree in nutrition, and 30.9% recommended an undergraduate degree in business. These results suggest that a baccalaureate degree in a food, nutrition, or business combined with managerial experience in school nutrition is a desirable background for an individual pursuing an SN director position.

When SN directors were asked about their certification or credentialed status, 39.3% indicated they were SNA certified, 17.8% indicated they were state department of education certified, 17.4% were SNS credentialed, and 12.8% were registered dietitians. When the same SN directors were asked their preferences regarding information to assist them in the operation of their SN program, 85% indicated they preferred both print-based and Web-based resources. When asked about preferred continuing education formats, 82% of SN directors selected meeting or conference, while 42.4% selected professional development publication/article, and 30.0% selected independent study with CD ROM or the Internet. These results suggest that many SN directors recognize the need for lifelong learning and value certification or credentialing. Also, many SN directors are self-directed in seeking continuing education, and most SN directors participate in continuing education activities away from work.

Respondents to this study represented the seven USDA regions with school enrollment size ranging from less than 2,799 to 29,999 and number of feeding sites ranging from less than five to 31 or greater. Within these study parameters it was observed that there was a strong agreement between operational issues and practices encountered by SN directors with the exception of SN directors in school districts with 2,799 or less student enrollment. SN directors in these smallest school districts demonstrated significantly less agreement with SN directors in the larger school districts on five operational issue and practice statements: "The SN department employs district-level professional staff to oversee site-level operations" ($p<.002$), "Putting together an effective management team is

critical to the operational success of the SN department" (p<.002), "I serve as the SN representative with district administration" (p<.002), "The school district has a district-wide technology infrastructure" (p<.002), and "My work schedule is greater than 40 hours per week" (p<.002). Some of these differences may be related to the size of these school districts and related resources of the SN program.

When results from this study were reviewed with results of the previous study by Nettles and Carr (2006) investigating SN directors in districts with 30,000 or greater student enrollment, several items were noted. Twenty-six percent of SN directors in school districts with less than 30,000 student enrollment reported they would be retiring in the next five years compared to 36.9% of SN directors in school districts with 30,000 or greater student enrollment. This suggests a growing need to develop new leaders to replace those SN directors that will be retiring in the near future.

SN directors in this and the Nettles and Carr (2006) study had similar agreement levels with operational issues and practices encountered. When the mean agreement ratings for the operational issues and practices faced by SN directors were visually compared, it was observed that SN directors in all size school districts rated nine of the same operational issues and practices within the top ten. This result suggests that SN directors in most school districts, regardless of size, encounter similar operational issues and practices.

As noted earlier, several differences were observed between SN directors in the smallest school districts (less than 2,799) and SN directors in the larger school districts (30,000 or greater). Furthermore, almost one half of SN directors responding to this study (44.9%) were from school districts with less than 2,799 students and 73.6% (reported by Hoffman, 2007) of all school districts enroll less than 3,000 students. This clearly demonstrates that SN directors in the smaller school districts make-up a significant amount of all SN directors, yet the operational issues and practices they encounter appear to be somewhat different from that of the larger school districts captured in this study. Therefore, further research may be needed in school districts with less than 2,799 in student enrollment to determine the specific issues and practices encountered by these SN directors.

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