

Exploring Operational Issues and Practices of School Nutrition Programs in Large School Districts

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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/Objectives

The purpose was to explore issues associated with school nutrition (SN) programs in large school districts. Specific objectives were to identify operational issues and practices SN directors encounter and describe characteristics of SN directors and their programs.

Methods

A panel of seven SN professionals from large school districts was assembled to ascertain their opinions regarding operational issues and challenges in SN programs. This information was used to develop a survey that was mailed to all SN directors in districts with 30,000 or more student enrollment (N = 232). The survey asked SN directors to indicate their agreement with 52 operational issues/practices related to SN operations in large school districts and provide information about themselves and their SN operations.

Results

Ninety-eight surveys (42%) were returned. Most respondents have worked in SN programs for 15 years or more and in their current position for less than ten years. Prior to taking the SN director position, over one-third had worked on their district's SN management team. Operational issues receiving the highest mean agreement ratings were: "putting together an effective management team is critical to the operational success of the SN department," "I serve as the SN representative with district administration," and "the SN department employs district-level professional staff to oversee site-level operations." Regardless of district size, there was strong agreement with the operational issues and practices encountered by the SN directors.

Applications to Child Nutrition Professionals

Findings suggest that education and training programs are needed to assist in preparing SN professionals to operate SN programs in large school districts. These programs should target SN professionals who work on SN management teams in large districts and SN directors from smaller school districts. The operational issues and practices identified in this study could provide the foundation for educational and training programs.

INTRODUCTION

In the 2003-04 school year, there were 17,512 public school districts, 98,213 public schools and over 49 million students in the United States and jurisdictions (Dalton, Sable, & Hoffman, 2006). The 100 largest public school districts represented 0.6% of all school districts in the United States and were responsible for educating approximately 23% of all public school students. The 500 largest districts accounted for only 3% of public school districts and served 43% of all public elementary and secondary students. In 2003-04, each of the 100 largest school districts had at least 46,594 students while 73% of all regular school districts had fewer than 2,500 students. The average school district

had 5.6 schools, and in comparison, the 100 largest school districts averaged 161.8 schools per district (Dalton et al., 2006).

The 100 largest school districts were located in 32 states and jurisdictions. Texas had 15 districts among the 100 largest, and California and Florida had 13 each. Approximately three-fourths of the 100 largest districts were located in coastal and gulf coast states. These school districts tended to be in cities or counties with large populations where the county lines denote district boundaries as well (Dalton et al., 2006).

Several authors have characterized large school systems as being different from school districts in other settings (Casserly, 2005; Education Commission of the States, 2003; Snipes, Doolittle, & Herlihy, 2002). The 100 largest school districts had more students per school than the average school district, 697 compared with 503 students (Dalton et al., 2006). Additionally, these large school districts served a demographically different student body than smaller systems (Casserly, 2005). The districts, many of which were located in urban areas, served 40% of the country's minority students and 30% of the economically disadvantaged students (Snipes et al., 2002). Over 90% of urban districts had poverty rates above their statewide averages (Education Commission of the States, 2003).

Dalton et al. (2006) reported that the 100 largest school districts have a higher percentage of students eligible for free and reduced price meals relative to all public school districts. Among schools that reported free and reduced price eligibility, 47% of students in the 100 largest school districts were eligible, compared with 37% of students in all districts. Among the 94 of the 100 largest school districts reporting, 42 districts reported over 50% of their students were eligible for free and reduced price meals (Dalton et al., 2006).

In a study of 65 large city school systems, Casserly (2005) indicated that many districts operated in political and financial environments that were more complex, contentious, and competitive than smaller systems. In a study of school board members, Hess (2002) concluded that large district school boards were fundamentally different from their smaller counterparts. In districts with 25,000 or more students, school boards were relatively political bodies, with more costly campaigns, attentive interest groups, politically oriented candidates, and hotly contested elections. In a survey of superintendents in large school districts, Fuller et al. (2003) found that the superintendents believed that the structure of the position prevented them from doing what they were hired to do, that they directed highly complex bureaucracies, and competing power centers in the school system attempted to control district agendas.

Limited research exists on school nutrition programs in large school districts. One study examined the verification process in large school districts (Burghardt, Silva, & Hulsey, 2004). Researchers found that the method of sampling, rather than the size of school district, was the reason for the differences between small and large districts. Another recent study examined school breakfast programs in 23 large urban school districts (Food Research and Action Center [FRAC], 2007). With greater concentrations of low-income students, large school districts were in good position to offer breakfast programs and enhance the health and learning potential among these students. The study profiled successful approaches and creative programs that most school districts regardless of size could utilize to increase breakfast participation.

Other articles related to the school nutrition director position included those from foodservice publications that profiled several directors operating school nutrition programs in large school districts. Recurring themes in the profiles included the following: operates a business within the school setting, implements cost controls, develops staffing formulas, introduces new technology to improve productivity, employs a district-level management team, utilizes staff training to improve skills, maintains commitment to quality food, and sustains the nutritional integrity of program (Food Management Staff, 2006; Friedland, 2005; Lefebvre, 2005).

This research project contributes to the research related to the operation of school nutrition programs in large school districts. The purpose of this study was to identify the unique issues associated with school nutrition programs in large school districts. The specific objectives for the

study were to determine operational issues and practices school nutrition directors encounter in large school districts and describe characteristics of directors and the programs they operate in large school districts.

METHODOLOGY

Sample

The sample for this research study consisted of school nutrition directors in large public school districts. Upon examination of USDA and the School Nutrition Association descriptions for large school districts, researchers defined large school districts for this study as those with 30,000 or more student enrollment. A listing of states in each USDA region was provided to Market Data Retrieval, a national company that specializes in the school market. The total school districts reporting student enrollment of 30,000 or greater included 232 in the seven USDA regions with 51 districts in the Western region, 17 districts in the Mountain Plains region, 17 districts in the Midwest region, 4 districts in the Northeast region, 25 districts in the Mid-Atlantic region, 71 districts in the Southeast, and 47 districts in the Southwest region. All school nutrition directors in the school districts from the Market Data Retrieval listing were included in the study sample (N = 232).

Research Design

The purpose of this research was to identify the issues associated with operating a school nutrition program in a school district with 30,000 or greater student enrollment. To accomplish this goal, the operational issues and practices encountered in school nutrition programs in large school districts were explored. An expert panel of seven school nutrition professionals representing districts with student enrollments ranging from 32,000 to 160,000 with representation from all USDA regions was convened to ascertain their opinions regarding operational issues and challenges, as well as identify training needs faced by those who operate school nutrition programs in large school districts. Facilitated discussions revolved around competencies, knowledge, and skills of school nutrition professionals, volume and complexity of operational issues, communications issues, and training practices. An emerging theme developed comparing the similarities between a school nutrition director and a chief executive officer or CEO. The expert panel suggested that characteristics and qualities related to this aspect should be included in the survey. The qualitative data gleaned from the expert panel discussions were used to develop statements that were incorporated into the survey instrument.

Data Collection

The expert panel reviewed the survey draft making some minor wording changes. The final version of the survey was mailed to the 232 school nutrition directors in the study sample with a cover letter and a self-addressed, postage-paid return envelope. School nutrition directors were asked to indicate their agreement with 52 operational issues and practices. 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/practice was encountered or performed by use of a 5-point scale that ranged from 0 (*never*) to 4 (*daily*). Additionally, participants were asked to provide information about themselves and their school nutrition operation. Approximately three weeks later, a follow-up letter was mailed to all directors encouraging them to complete and return the surveys.

The researchers followed informed consent procedures established by the Human Subjects Protection Review Committee at The University of Southern Mississippi for the research study.

Data Analysis

Surveys were analyzed using the statistical package SPSS Version 13.0 for Windows. Descriptive statistics included means, standard deviations, and frequencies of total responses. 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. Additionally, independent *t* tests were conducted to explore group differences based on school district enrollment for the operational issues statements. No significant differences were found.

RESULTS AND DISCUSSION

Researchers mailed surveys to all school nutrition directors in public school districts with student enrollments of 30,000 or greater (N = 232). One survey was returned indicating that the school district did not have a school nutrition director at this time, thus reducing the sample to 231. Ninety-eight (42%) directors responded to the survey. Two surveys were not used in the data analysis as responses on the survey indicated that they did not meet the 30,000 student enrollment criteria. An additional survey was also not used in the data analysis as it arrived too late to be included.

Sample Characteristics

Demographic data for the responding school nutrition directors are presented in Table 1. The majority of directors are female (75.8%) with a Master's degree or higher (56.8%). Respondents indicated their primary area of study to be nutrition and dietetics (27.2%), business (21.0%), food and nutrition (16.0%), or foodservice management (14.8%). When asked about their certification or credentialed status, 39.4% of school nutrition directors indicated they were credentialed as a School Nutrition Specialist (SNS), 37.2% were School Nutrition Association (SNA) certified, and 29.8% were Registered Dietitians.

The majority of respondents have worked in school nutrition programs for 15 years or more (70.5%) and in their current position for less than ten years (59.9%). Over one-third (36.6%) of directors had worked on the school nutrition management team in their current district prior to taking the director position and 19.4% worked as a school nutrition director in another large school district. Over one-third (36.9%) of respondents will be retiring in the next five years. When asked the type of education and experience they would recommend for their successor, 68.8% of directors recommended experience on the school nutrition management team in a large district followed by an undergraduate degree in nutrition (50.5%), undergraduate degree in business (48.4%), and a graduate degree (46.2%).

Two survey questions addressed directors' preferences regarding accessing school nutrition resources and continuing education formats. When seeking resources or information to assist in the operation of their program, over three-fourths (79.6%) of directors indicated that they prefer both print-based and Web-based resources. The highest rated continuing education formats reported by school nutrition directors were meeting or conference (93.6%), professional development publication/article (61.7%), and pre-conference program (42.6%).

Table 1. Personal Characteristics of Respondents

Question	Frequency ^a	%
What is your gender?		
Female	72	75.8
Male	23	24.2
What is your highest level of education?		
Master's degree	35	36.8
Baccalaureate degree	28	29.5
Graduate hours beyond Master's	14	14.7
Some graduate credits	8	8.4

Associate degree	5	5.3
Doctoral degree	5	5.3
What has been your primary area of study?		
Nutrition and Dietetics	22	27.2
Business	17	21.0
Food and Nutrition	13	16.0
Foodservice Management	12	14.8
Other	8	9.9
Child Nutrition and Management	6	7.4
Hospitality Management	2	2.5
Culinary Foodservice	1	1.2
What is your certification/credentialed status? ^b		
SNS credentialed	37	39.4
SNA certified	35	37.2
Registered Dietitian	28	29.8
Not certified	16	17.0
State Department of Education certified	16	17.0
Licensed Dietitian/Nutritionist	11	11.7
Other	10	10.6
How many years have you worked in school nutrition (SN) programs?		
Greater than 20 years	46	48.4
16 to 20 years	21	22.1
11 to 15 years	17	17.9
6 to 10 years	8	8.4
1 to 5 years	3	3.2
How long have you been in your current position?		

1 to 5 years	35	36.9
6 to 10 years	18	18.9
16 to 20 years	18	18.9
11 to 15 years	11	11.6
Greater than 20 years	9	9.5
Less than one year	4	4.2
Prior to taking your current position, did you work		
On the SN management team in current district	34	36.6
As a SN director in another large school district	18	19.3
Other	12	12.9
On the SN management team in another large school district	10	10.8
As a SN director in a small school district	10	10.8
As a healthcare foodservice director	7	7.5
As a restaurant manager	2	2.1
Will you be retiring in the next five years?		
No	46	48.4
Yes	35	36.9
Not Sure	14	14.7
In choosing a successor for your position, would you recommend ^b		
Experience on the SN management team in a large district	64	68.8
Undergraduate degree in nutrition	47	50.5
Undergraduate degree in business	45	48.4
Graduate degree	43	46.2
Experience on the SN management team in this district	36	38.7
Experience as a SN director in a smaller district	34	36.6
Other	9	9.7

Experience in foodservice management in healthcare	4	4.3
In seeking resources/information to assist in the operation of your SN program, do you prefer		
Both print-based and web-based resources	74	79.6
Web-based resources	12	12.9
Print-based resources	7	7.5
What form of continuing education do you prefer? ^b		
Meeting or conference	88	93.6
Professional development publication/article	58	61.7
Preconference program	40	42.6
Blended learning (face-to-face and online)	26	27.7
Online course/distance education	23	24.5
Academic course work	22	23.2
Small study group	22	23.4
Self study program	20	21.3
Independent study (CD ROM, internet)	20	21.3
Satellite Seminar	19	20.2
Independent study (video, manuals)	17	18.1
Home study course	11	11.7
Poster session	10	10.6
Interactive multimedia modules	9	9.6
Other	1	1.1

^a Total N varies based on responses for each question

^b Total exceed 100% since respondents could select more than one response

Characteristics of School Nutrition Programs

Directors responded to several questions intended to describe their districts' school nutrition programs (Table 2). Respondents were from all USDA regions, with the highest percentages from the Southeast (30.9%), Western (23.4%), and Southwest (16.0%) regions. These percentages closely mirror the percentages for the USDA regions represented in the research sample. More than one-half (55.8%) of directors were employed in districts ranging in size from 30,000 – 49,000 students while 10.5% of respondents work in districts with greater than 100,000 students. Almost two-thirds (65.8%) of directors reported serving 40 to 99 feeding sites in their districts, while another 10.5% of

directors served 150 or more sites. One-quarter (25.3%) of school nutrition directors indicated that 46 – 60% of enrolled students in their districts were approved for free meals and 7 – 8% for reduced meals.

Almost all (98.9%) directors indicated use of district-level professional staff to oversee site-level operations, with the majority (54.5%) responding that professional staff oversee 11 to 20 sites. Over one-third (35.5%) of directors reported annual school nutrition budgets of \$10,000,001 to \$15,000,000, while another 23.4% had budgets of \$20,000,001 to \$30,000,000. Almost half (46.0%) of directors indicated that the percentage of total revenue budgeted for food ranged from 36% to 40%, while 55.8% reported the percentage budgeted for labor ranged from 41% to 50%. When asked to describe the methods used to calculate meal equivalents that equate to a student reimbursable lunch, 63.4% used two breakfasts to equal one lunch, 35.7% counted three afterschool snacks to equal one lunch, and over half (52.4%) equated \$2.50 or less of non-reimbursable food sales (a la carte) to a reimbursable lunch.

Eighty-six percent of school nutrition directors indicated the use of onsite kitchens in their districts and 69.9% reported that a central warehouse was utilized for the storage of food and supplies. When asked how their operation manages foodservice equipment maintenance issues, 33.7% of the school nutrition departments employ maintenance staff to service equipment, while another 33.7% relies on district-level maintenance staff. Almost half (43.1%) of the directors responded that their department employs technology staff to handle technology support issues. Almost all (98.9%) school nutrition operations are using point-of-sale software and many (69.1%) are also utilizing software to support food production and other back-of-the-house activities.

Over half (62.4%) of directors described their districts as increasing student enrollment over the last five years, with 86.3% of districts renovating existing schools and another 83.2% building new schools. Respondents were asked if the school nutrition program has contributed funds toward the new or renovated departments. Over two-thirds (68.9%) of the directors with new construction had not contributed any school nutrition funds, while 60.2% were contributing funds to purchase items such as foodservice equipment or dining furniture for renovated school nutrition departments.

Table 2. Characteristics of Respondents' School Nutrition (SN) Programs

Question	Frequency ^a	%
In what USDA region do you work?		
Southeast	29	30.8
Western	22	23.4
Southwest	15	16.0
Mid-Atlantic	11	11.7
Mountain Plains	11	11.7
Midwest	4	4.3
Northeast	2	2.1
What is the total enrollment in your school district?		
30,000 to 39,999 students	29	30.5

40,000 to 49,000 students	24	25.3
50,000 to 69,999 students	23	24.2
100,000 or greater students	10	10.5
70,000 to 99,999 students	9	9.5
How many feeding sites do you serve?		
40 to 69 sites	40	42.1
70 to 99 sites	22	23.2
20 to 39 sites	14	14.7
150 or more sites	10	10.5
100 to 149 sites	9	9.5
What percentage of enrolled students in your district is approved for free meals?		
46% - 60%	21	25.3
26% - 35%	17	20.5
36% - 45%	17	20.5
25% or less	16	19.3
61% or greater	12	14.4
What percentage of enrolled students in your district is approved for reduced meals?		
7 – 8%	21	25.3
9 – 10%	18	21.7
5 – 6%	16	19.3
15% or greater	11	13.3
11 – 14%	9	10.8
4% or less	8	9.6
How many district-level staff report directly to you?		
5 to 10	31	33.0
11 to 15	27	28.7

16 to 20	13	13.8
Greater than 20	13	13.8
Less than 5	10	10.7
Do you have district-level SN professional staff overseeing site-level operations?		
Yes	94	98.9
No	1	1.1
How many feeding sites does each SN professional staff oversee?		
16 to 20 sites	33	35.5
11 to 15 sites	27	29.0
21 or more sites	24	25.8
6 to 10 sites	6	6.5
Less than 5 sites	3	3.2
What is the approximate annual budget for your district SN program?		
\$10,000,001 to \$15,000,000	32	35.6
\$20,000,001 to \$30,000,000	21	23.4
\$15,000,001 to \$20,000,000	14	15.5
\$30,000,001 or greater	12	13.3
\$10,000,000 or less	11	12.2
What percentage of total revenue do you budget for food?		
36% to 40%	40	46.0
35% or less	16	18.4
41% to 45%	14	16.1
46% to 50%	12	13.8
51% or greater	5	5.7
What percentage of total revenue do you budget for labor?		
46% to 50%	25	29.0

41% to 45%	23	26.8
36% to 40%	15	17.4
51% or greater	14	16.3
35% or less	9	10.5
Does your SN operation have a formalized marketing plan?		
No	56	58.9
Yes	39	41.1
Do you benchmark meals per labor hour among the schools in your district?		
Yes	85	92.4
No	7	7.6
What method are you using to calculate meal equivalents that equate to a student reimbursable lunch for breakfast?		
Two breakfasts equal one lunch	52	63.4
Three breakfasts equal one lunch	15	18.3
Other	15	18.3
What method are you using to calculate meal equivalents that equate to a student reimbursable lunch for after school snacks?		
Other	17	40.5
Three snacks equal one lunch	15	35.7
Four snacks equal one lunch	10	23.8
What method are you using to calculate meal equivalents that equate to a student reimbursable lunch for non-reimbursable food sales (a la carte)?		
\$2.01 to \$2.50 equals one lunch	23	28.0
\$2.00 or less equals one lunch	20	24.4
Other	19	23.2
\$2.51 to \$3.00 equals one lunch	15	18.3
\$3.01 or greater equals one lunch	5	6.1
What types of foodservice operations are used in your district? ^b		

Onsite kitchens	80	86.0
Centralized kitchen serving both offsite and onsite	39	41.9
Central kitchen with no onsite service	15	16.1
For hot and/or cold that is prepared centrally, how is the food transported? ^b		
Cold foods delivered in bulk	39	49.4
Hot foods delivered in bulk	33	41.8
Cold foods delivered preplated/preportioned	27	34.2
Hot foods delivered preplated/preportioned	18	22.8
Hot foods delivered hot	17	21.5
Hot foods delivered cold to be rethermalized onsite	14	17.7
Is a central warehouse for storage of food and supplies used in your district?		
Yes	65	69.9
No	28	30.1
How does your SN operation manage foodservice equipment maintenance issues?		
SN department employs their own maintenance staff to service equipment	32	33.7
SN department relies on district-level maintenance staff for equipment service	32	33.7
SN department uses a combination of the three options provided on the survey	22	23.2
SN department contracts with an outside firm for equipment service	9	9.4
How does your SN operation handle technology support issues?		
SN employs their own technology staff	41	43.1
SN department uses a combination of the three options provided on the survey	29	30.5
SN department relies on district-level technology staff for support	24	25.3
SN department contracts with an outside firm for technology support	1	1.1

Is your SN operation using point-of-sale software?		
Yes	94	98.9
No	1	1.1
Is the point-of-sale software a		
Pre-developed SN software package	85	92.4
Custom-designed software package for your SN operation	5	5.4
Combination of pre-developed and custom-designed software	2	2.2
Is your SN operation using software to support production and other back-of-the-house activities?		
Yes	65	69.1
No	29	30.9
Is the back-of-the-house software a		
Pre-developed SN software package	49	76.6
Custom-designed software package for your SN operation	11	17.2
Combination of pre-developed and custom-designed software	4	6.2
Considering the ethnic diversity of today's labor pool, do you have employees who speak little or no English?		
Yes	78	83.9
No	15	16.1
Approximately what percentage does this comprise of labor force?		
Less than 4%	19	25.7
5 – 9%	18	24.3
10 – 19%	16	21.6
Greater than 40%	12	16.2
20 – 39%	9	12.2
How would you describe your school district over the last five years?		
Increasing enrollment	58	62.4

Enrollment steady	20	21.5
Decreasing enrollment	15	16.1
In the last five years, is your school district ^b		
Renovating existing schools	82	86.3
Building new schools	79	83.2
Closing schools	14	14.9
If your school district is building schools, is the SN program contributing funds toward the new SN department in the schools (i.e., equipment, dining furniture, etc)?		
No	62	68.9
Yes	28	31.1
If your school district is renovating schools, is the SN program contributing funds toward the renovated SN department in the schools (i.e., equipment, dining furniture, etc)?		
Yes	56	60.2
No	37	39.8
Is the management of your district SN program		
Self-operated	88	94.6
Contracted by a foodservice management company	5	5.4

^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 with 52 statements regarding operational issues and practices related to school nutrition operations in large school districts 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. Eighteen of the 52 statements had mean ratings greater than 3.5 and another nine statements had mean ratings greater than 3.0 suggesting that school nutrition directors agreed with these operational issues.

Operational issues with the highest mean ratings were: “putting together an effective management team is critical to the operational success of the school nutrition department” (4.0 ± 0.1); “I serve as the school nutrition representative with district administration” (3.9 ± 0.3); “I operate the school nutrition department as a business within the school setting” (3.9 ± 0.3); and “the school nutrition department employs district-level professional staff to oversee site-level operations” (3.9 ± 0.4). Operational issues with the lowest mean ratings were: “the school nutrition department performs human resource functions for other district departments” (1.6 ± 0.8), “the school nutrition department utilizes a temp agency for site-level substitute staff” (1.8 ± 1.1), “oversight is required to ensure that the temp agency complies with district Human Resource policies” (1.9 ± 1.2), and “I face operational challenges with inadequate food preparation facilities” (2.2 ± 1.0).

Table 3. Mean Agreement Ratings and Standard Deviations for Operational Issues/Practices Encountered by School Nutrition Directors in Large School Districts

Statement	N	Mean^a	SD
Putting together an effective management team is critical to the operational success of the SN department.	95	4.0	0.1
I serve as the SN representative with district administration.	94	3.9	0.3
I operate the SN department as a business within the school setting.	94	3.9	0.3
The SN department employs district-level professional staff to oversee site-level operations.	94	3.9	0.4
Menus are standardized throughout the district.	92	3.8	0.4
I view the SN department as a business within the school setting.	95	3.8	0.4
Menus are developed by district-level SN professional staff.	95	3.8	0.5
I view my leadership skills as impacting the success of the SN program.	95	3.8	0.5
The cost of technology for SN programs continues to increase.	94	3.8	0.5
The school district has a district-wide technology infrastructure.	95	3.8	0.5
I directly supervise district-level SN professional staff.	92	3.7	0.7
I consider my SN job responsibilities similar to those of a Chief Executive Officer (CEO).	93	3.6	0.5
I seek professional development opportunities beyond what my school district provides to improve my leadership skills.	94	3.6	0.6
The SN department performs human resource functions for SN employees.	94	3.6	0.06
My work schedule is greater than 40 hours per week.	95	3.6	0.7
I value the importance of implementing a marketing plan for my SN operation.	95	3.6	0.5
District-level SN coordinators/supervisors review site-level employee records and document work performance, training, attendance, etc.	93	3.6	0.6
Menus are planned to meet the needs of a diverse student body.	95	3.6	0.5
SN department is current with technology practices.	94	3.3	0.7

The volume and the complexity of meeting the special nutrition needs of children is a challenge.	95	3.3	0.7
District-level SN professional staff assures consistency in implementing the marketing plan for all school sites.	95	3.3	0.7
Recruiting and retaining qualified SN site-level staff is difficult.	95	3.2	0.7
The cost of maintaining current software and hardware in all feeding sites is a financial challenge.	94	3.2	0.7
I have supervisory responsibilities with site-level employees.	92	3.1	0.1
District administrators support the contribution provided by the SN department.	94	3.1	0.7
Recruiting and retaining qualified SN professional staff is difficult.	94	3.0	0.8
District administrators view the SN department as a business within the school setting.	95	3.0	0.9
I am faced with financial challenges to support marketing activities.	94	2.9	0.8
I am faced with district political challenges in operating the SN program.	95	2.8	0.8
I am faced with communication challenges due to the numerous organizational layers in the school district.	94	2.8	0.7
My school district provides professional development opportunities that support my leadership growth.	95	2.8	0.9
I face operational challenges with inadequate cafeteria dining facilities.	95	2.8	0.9
The installation of current software for all feeding sites is a time management challenge.	95	2.8	0.8
I am faced with SN staff challenges to implement a successful marketing plan.	94	2.8	0.7
I encounter funding challenges related to the food production/transport systems used in my district.	93	2.8	0.9
I am faced with community political challenges in operating the SN program.	95	2.8	0.9
Retaining competent maintenance staff is a challenge.	88	2.7	0.9
The SN department encounters challenges when trying to utilize SN software with the district-level technology.	94	2.6	0.8

Lack of understanding of SN program needs by district-level technology staff presents challenges.	95	2.6	0.8
Dealing with labor unions presents challenges.	88	2.6	1.0
I often encounter challenges with district-level support when trying to address disciplinary issues with employees.	93	2.6	0.9
Understanding the financial aspect of operating the SN program is a challenge.	95	2.5	0.9
Frequent turnover in district-level administration presents challenges.	95	2.5	0.9
I am faced with communication challenges due to the numerous organizational layers in the SN program.	95	2.5	0.8
Retaining competent technology staff is a challenge.	93	2.5	0.9
I am challenged with employee issues due to lack of support from Human Resources.	94	2.4	1.0
I face operational challenges with inadequate foodservice equipment.	95	2.3	0.9
I face operational challenges with inadequate food preparation facilities.	94	2.2	1.0
Oversight is required to ensure that the temp agency complies with district Human Resource policies.	81	1.9	1.2
The SN department utilizes a temp agency for site-level substitute staff.	92	1.8	1.1
The SN department performs human resource functions for other district departments.	95	1.6	0.8

^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 0 (*never*) to 4 (*daily*). Table 4 depicts how often each operational issue or practice is encountered by the responding school nutrition directors. The majority of directors are performing or encountering the following issues on a daily basis: “I operate the school nutrition department as a business within the school setting” (96.6%); “I directly supervise district-level school nutrition professional staff” (93.8%), “the school nutrition department employs district-level professional staff to oversee site-level operations” (89.1%); “I view the SN department as a business within the school setting (88.0%), “the school district has a district-wide technology infrastructure” (87.3%), and “putting together an effective management team is critical to the operational success of the school nutrition department” (86.9%). Most directors indicate that they are never encountering the following issues: “the school nutrition department performs human resource functions for other district departments” (84.8%); “the school nutrition department utilizes a temp agency for site-level substitute staff” (75.9%); and “oversight is required to ensure that the temp agency complies with district Human Resource policies” (73.7%).

Table 4. Frequency of Performance of Operational Issues/Practices

Statement^a	Daily^{ab}	Weekly	Monthly	Occasionally	Never
I operate the SN department as a business within the school setting.	96.6 ^c (85)	2.3 (2)		1.1 (1)	
I directly supervise district-level SN professional staff.	93.8 (75)	1.2 (1)	1.2 (1)	2.5 (2)	1.3 (1)
The SN department employs district-level professional staff to oversee site-level operations.	89.1 (82)	3.3 (3)	3.3 (3)	4.3 (4)	
I view the SN department as a business within the school setting.	88.0 (73)	4.8 (4)	4.8 (4)	2.4 (2)	
The school district has a district-wide technology infrastructure.	87.3 (69)	5.1 (4)	3.8 (3)	3.8 (3)	
Putting together an effective management team is critical to the operational success of the SN department.	86.9 (73)	7.1 (6)	1.2 (1)	4.8 (4)	
I view my leadership skills as impacting the success of the SN program.	86.6 ^c (71)	7.3 (6)	1.2 (1)	4.9 (4)	
I consider my SN job responsibilities similar to those of a Chief Executive Officer (CEO).	85.4 (70)	4.8 (4)	3.7 (3)	4.9 (4)	1.2 (1)
I serve as the SN representative with district administration.	81.8 (72)	11.4 (10)	5.7 (5)	1.1 (1)	
Menus are standardized throughout the district.	69.8 (60)	7.0 (6)	20.9 (18)	2.3 (2)	
The SN department performs human resource functions for SN employees.	65.6 (61)	19.4 (18)	11.8 (11)	3.2 (3)	
SN department is current with technology practices.	65.0 (52)	12.5 (10)	11.3 (9)	11.2 (9)	
My work schedule is greater than 40 hours per week.	60.5 (49)	21.0 (17)	7.4 (6)	9.9 (8)	1.2 (1)

District-level SN professional staff assures consistency in implementing the marketing plan for all school sites.	54.3 (44)	12.3 (10)	19.8 (16)	13.6 (11)	
I value the importance of implementing a marketing plan for my SN operation.	50.6 ^c (42)	11.9 (10)	28.9 (24)	8.4 (7)	
District-level SN coordinators/ supervisors review site-level employee records and document work performance, training, attendance, etc.	48.8 (42)	15.1 (13)	27.9 (24)	7.0 (6)	1.2 (1)
District administrators view the SN department as a business within the school setting.	46.9 (38)	3.7 (3)	16.0 (13)	27.2 (22)	6.2 (5)
The volume and the complexity of meeting the special nutrition needs of children is a challenge.	45.7 (37)	16.0 (13)	13.6 (11)	24.7 (20)	
Recruiting and retaining qualified SN site-level staff is difficult.	45.7 (37)	13.6 (11)	13.5 (11)	27.2 (22)	
I have supervisory responsibilities with site-level employees.	42.2 (35)	9.6 (8)	7.2 (6)	29.0 (24)	12.0 (10)
Menus are planned to meet the needs of a diverse student body.	40.5 ^c (34)	4.7 (4)	48.8 (41)	6.0 (5)	
District administrators support the contribution provided by the SN department.	39.5 (32)	17.3 (14)	19.7 (16)	23.5 (19)	
Recruiting and retaining qualified SN professional staff is difficult.	38.0 (30)	16.4 (13)	11.4 (9)	30.4 (24)	3.8 (3)
The cost of technology for SN programs continues to increase.	36.7 (29)	2.5 (2)	25.3 (20)	34.2 (27)	1.3 (1)

Menus are developed by district-level SN professional staff.	36.4 (32)	6.8 (6)	54.6 (48)	1.1 (1)	1.1 (1)
The cost of maintaining current software and hardware in all feeding sites is a financial challenge.	33.3 (27)	8.7 (7)	16.0 (13)	32.1 (26)	9.9 (8)
I face operational challenges with inadequate cafeteria dining facilities.	32.9 (27)	4.9 (4)	9.8 (8)	36.5 (30)	15.9 (13)
I encounter funding challenges related to the food production/transport systems used in my district.	26.8 ^c (22)	3.7 (3)	13.4 (11)	41.5 (34)	14.6 (12)
Understanding the financial aspect of operating the SN program is a challenge.	25.6 (20)	3.9 (3)	11.5 (9)	37.2 (29)	21.8 (17)
I am faced with financial challenges to support marketing activities.	25.3 (20)	7.6 (6)	17.7 (14)	40.5 (32)	8.9 (7)
I face operational challenges with inadequate food preparation facilities.	25.0 (20)	3.7 (3)	5.0 (4)	42.5 (34)	23.8 (19)
I am faced with district political challenges in operating the SN program.	23.2 (19)	8.5 (7)	12.2 (10)	43.9 (36)	12.2 (10)
I am faced with SN staff challenges to implement a successful marketing plan.	22.6 (19)	10.7 (9)	21.4 (18)	39.3 (33)	6.0 (5)
I seek professional development opportunities beyond what my school district provides to improve my leadership skills.	22.6 ^c (19)	6.0 (5)	36.9 (31)	33.3 (28)	1.2 (1)
The installation of current software for all feeding sites is a time management challenge.	22.5 (18)	8.7 (7)	12.5 (10)	46.3 (37)	10.0 (8)
I am faced with community political challenges in operating the SN program.	19.8 (17)	8.1 (7)	9.3 (8)	47.7 (41)	15.1 (13)

I am faced with communication challenges due to the numerous organizational layers in the school district.	18.8 (16)	14.1 (12)	17.7 (15)	44.7 (38)	4.7 (4)
I am challenged with employee issues due to lack of support from Human Resources.	18.3 (15)	17.1 (14)	6.1 (5)	39.0 (32)	19.5 (16)
Retaining competent technology staff is a challenge.	17.6 (13)	5.4 (4)	9.4 (7)	51.4 (38)	16.2 (12)
I face operational challenges with inadequate foodservice equipment.	17.5 ^c (14)	7.5 (6)	3.7 (3)	47.5 (38)	23.8 (19)
Retaining competent maintenance staff is a challenge	17.3 (13)	6.7 (5)	14.7 (11)	46.6 (35)	14.7 (11)
Dealing with labor unions presents challenges.	15.0 (12)	12.5 (10)	12.5 (10)	28.7 (23)	31.3 (25)
The SN department utilizes a temp agency for site-level substitute staff.	14.9 (13)	3.4 (3)	2.4 (2)	3.4 (3)	75.9 (66)
Oversight is required to ensure that the temp agency complies with district Human Resource policies.	14.5 (11)	2.6 (2)		9.2 (7)	73.7 (56)
My school district provides professional development opportunities that support my leadership growth.	14.3 (12)	6.0 (5)	13.1 (11)	57.1 (48)	9.5 (8)
The SN department encounters challenges when trying to utilize SN software with the district-level technology.	12.9 (11)	4.7 (4)	14.1 (12)	54.2 (46)	14.1 (12)
Frequent turnover in district-level administration presents challenges.	12.2 ^c (10)	1.2 (1)	7.3 (6)	64.7 (53)	14.6 (12)
I am faced with communication challenges due to the numerous	11.1 (9)	7.4 (6)	9.9 (8)	58.0 (47)	13.6 (11)

organizational layers in the SN program.					
Lack of understanding of SN program needs by district-level technology staff presents challenges.	11.0 (9)	11.0 (9)	12.2 (10)	53.6 (44)	12.2 (10)
I often encounter challenges with district-level support when trying to address disciplinary issues with employees.	9.8 (8)	4.8 (4)	12.2 (10)	57.3 (47)	15.9 (13)
The SN department performs human resource functions for other district departments.	6.3 (5)		1.3 (1)	7.6 (6)	84.8 (67)

^a Items are reported in descending order based on the daily percentages

^b Responses were made using the scale, 0 = never; 1 = occasionally; 2 = monthly; 3 = weekly, 4 = daily

^c Percentage (number responding)

CONCLUSIONS AND APPLICATIONS

The largest public school districts in the United States are responsible for educating a high percentage of all public school students in the nation; therefore, school nutrition programs in these districts have the greatest potential of influencing the nutritional health and wellbeing of children nationwide. Previous research has indicated that large school districts serve a demographically different student body, have a greater percentage of economically disadvantaged students, and operate in complex political and financial environments than smaller school districts (Cassery, 2005; Snipes et al., 2002). Findings of this research study suggest that the leadership of school nutrition operations in these large school districts is critical to program success.

The school nutrition directors responding to this survey were from all seven USDA regions and represented districts with various student enrollments ranging from 30,000 to over 100,000 students and with 20 to over 150 feeding sites. Regardless of the size of school district, there was strong agreement in respect to the operational issues and practices encountered by directors in large school districts. The results also indicate that the school nutrition directors illustrate similarities in their approach to operating a multi-million dollar business within the school district.

Most of the directors responding to this survey have worked in school nutrition programs for 15 years or more and have been in their current position for less than ten years. In addition, prior to taking the position of school nutrition director, respondents most often worked on the school nutrition management team in their current district or as a director in another large school district. These results suggest that the school nutrition director position in a large school district is generally not an entry-level management position and that those district administrators who hire school nutrition directors value prior management experience in large school districts. When asked about their primary area of study, directors primarily reported the areas of nutrition and dietetics, business, food and nutrition, and foodservice management. These results reflect the diversity of school nutrition directors' responsibilities and suggest that educational backgrounds in nutrition, foodservice management, and business are all valuable to their positions as directors.

When asked about their certification or credentialed status, only 17% of directors were not certified. The certification or credential statuses mentioned most frequently were SNS credential, SNA

certification, Registered Dietitian, and State Department of Education certified. This suggests that school nutrition directors recognize the need for lifelong learning and the value of certification or credentialing. The highest rated continuing education formats reported by these directors were meeting or conference, professional development publication/article, and pre-conference program. These responses imply that directors are self-directed to seek continuing education based on their interest in the issue or the value to their operations. These results also suggest that when these SN directors are at work, they are focusing on work-related responsibilities and therefore, they participate in continuing education activities away from work.

Almost all of the directors indicated the use of district-level professional staff to oversee site-level operations in their districts. Directors also confirmed the importance of the school nutrition management team in large school districts by their strong agreement with two statements: “putting together an effective management team is critical to the operational success of the school nutrition department” and “the school nutrition department employs district-level professional staff to oversee site-level operations.” These findings acknowledge the necessity of professional staff in large school nutrition operations and the directors’ respect for a well-trained knowledgeable management team.

Findings from this research indicate that there may be the impending retirement of 50% or more of current directors of large school nutrition programs within the next five years. When asked the type of education and experience they would recommend for their successor, directors recommended experience on the school nutrition management team in a large school district, followed by an undergraduate degree in nutrition, undergraduate degree in business, and a graduate degree. Current directors recognize that experience on a school nutrition management team appears to be a logical and frequent career path for becoming a director in a large school district. Given these impending retirements, there is a need to prepare middle management professionals and others to lead school nutrition programs in large school districts.

Initially, research may be needed to identify educational opportunities that are currently available for school nutrition professionals interested in operating school nutrition programs in large school districts. The operational issues and practices identified in this research study could provide the foundation for education and training programs that would further prepare school nutrition professionals to assume a role in upper management for a large school nutrition program. These programs could target professionals who work on management teams in large school nutrition programs as well as school nutrition directors from smaller school districts.

No significant differences based on school district enrollment for the operational issues statements were found in this research study. Additional research is also needed to explore whether the findings in this research are unique to large school districts or are common to school nutrition directors regardless of school district enrollment.

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the information contained herein, and any state or federal policy that governs the associated Child Nutrition Program. For more information on the federal Child Nutrition Programs please visit www.fns.usda.gov/cnd.

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