

**School Nutrition Professionals' Perceptions
Regarding Their Role in Supporting and
Contributing to School Wellness**



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National Food Service Management Institute The University of Mississippi

Building the Future Through Child Nutrition

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PURPOSE

The purpose of NFSMI is to improve the operation of Child Nutrition Programs through research, education and training, and information dissemination. The Administrative Offices and Divisions of Information Services and Education and Training are located in Oxford. The Division of Applied Research is located at The University of Southern Mississippi in Hattiesburg.

MISSION

The mission of the NFSMI is to provide information and services that promote the continuous improvement of Child Nutrition Programs.

VISION

The vision of the NFSMI is to be the leader in providing education, research, and resources to promote excellence in Child Nutrition Programs.

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**SCHOOL NUTRITION PROFESSIONALS' PERCEPTIONS REGARDING THEIR
ROLE IN SUPPORTING AND CONTRIBUTING TO SCHOOL WELLNESS**

EXECUTIVE SUMMARY

The purpose of this study was to investigate the perceptions of school nutrition (SN) directors and managers regarding their role in supporting and contributing to the school wellness environment. In order to investigate these perceptions, a two-phase research design was employed. In the first phase of the study, an expert panel session was conducted, and the main discussion points were summarized. In the second phase of the study, the qualitative data collected from the expert panel session were used to develop a quantitative survey instrument to assess SN directors' and managers' perceptions regarding roles in school wellness and factors that would support a greater contribution to school wellness. The survey was pilot tested and revised, and the final survey was mailed to a national sample of 1,400 SN directors and managers. A total of 462 surveys were returned and used in statistical analysis, for a response rate of 33%.

The survey instrument used in the second phase of the research study, titled *School Nutrition Professionals' Opinions Regarding Their Role in School Wellness*, consisted of six sections. In the first section of the survey, participants were asked to indicate the perceived level of importance of a set of 29 roles related to school wellness. Then, participants indicated their degree of personal involvement in each of the 29 roles. In the second section of the survey, participants were asked to rate their level of agreement with 28 statements identifying factors that may promote a greater contribution to the school wellness environment. In the third and fourth sections of the survey, participants were asked to rate their level of agreement with 11

factors as important to good health and eight factors as important to a healthy weight. In the fifth section of the survey, participants were asked to rate their level of agreement with 10 statements regarding the role of SN professionals in school wellness. In the sixth and final section of the survey, participants were asked to provide information about themselves or their schools or school districts.

Results indicated that participants believed that SN professionals have an important role to play in school wellness and that they have a responsibility to model healthy behaviors to school children. Overall, participants rated roles related to food safety, availability of food choices, encouraging healthy diets in children, and modeling personal wellness as most important. Roles rated as least important included grant writing to fund wellness initiatives and assessing and evaluating wellness initiatives. In general, roles rated as most important were also roles in which participants reported the greatest level of involvement, although participants reported little involvement in many roles. Overall, factors perceived as promoting a greater contribution to school wellness included those related to financial support, time to devote to wellness activities, support from other involved parties, support for personal wellness, and adequate information and training.

In terms of role modeling, both health-related behaviors and weight status were perceived to be important, with weight being more of a negative issue with obese, but not overweight or underweight, SN professionals. Participants also agreed that wellness activities designed for SN professionals should be included in school wellness initiatives and that wellness initiatives encourage SN professionals to make positive changes in personal health behaviors. Although serving as a positive role model and personal lifestyle behaviors were perceived as important, many participants indicated that no wellness activities had been implemented for SN staff. When

available, the most commonly reported wellness activities for SN staff were nutrition promotions and programs.

In conclusion, participants considered all roles related to school wellness as important. However, they reported little to no involvement in many roles assessed, suggesting the potential for a much greater role for SN professionals in school wellness. Factors promoting a greater contribution to school wellness identified in this study will be helpful in expanding the roles of SN professionals in school wellness.

Recommendations for education and training based on study results include the development of education materials designed to increase the awareness of SN directors and managers regarding the potential roles they may play in school wellness. Training must be provided to support the expanded roles that SN professionals may play in school wellness, and expectations about the roles of SN professionals in school wellness must be adequately communicated. Education materials for state or district wellness coordinators should emphasize the factors perceived as promoting a greater contribution to school wellness identified in this study, as these should be helpful in expanding the roles of SN professionals in school wellness. Education materials should also address the importance of role modeling within the school environment as a way of promoting healthy behaviors in students. Because they are role models within the SN environment, health promotion programs for SN professionals should be developed as a part of school wellness programs in order to promote the adoption of personal healthy behaviors.

Findings from this study suggest the need for additional research in several areas. Case studies of successful programs should be conducted to illustrate innovative ways in which SN directors and managers have contributed to the school wellness environment and to identify

strategies employed to gain the acceptance and participation of these SN professionals in school wellness initiatives. Best practices for successfully engaging SN professionals in school wellness should be developed. Research is needed to assess the utilization of personal wellness programs for SN professionals, as well as outcomes associated with these programs. Research is also needed to investigate the relationship between the personal health behaviors and attitudes of SN professionals and their degree of support for and involvement in school wellness initiatives.

INTRODUCTION

As part of a larger effort to improve student health and reduce the prevalence of childhood obesity, the Federal Child Nutrition and Women, Infants and Children (WIC) Reauthorization Act of 2004, Section 204, required any local educational agency/school district participating in a National School Lunch Program and/or School Breakfast Program to establish a local school wellness policy by the beginning of the 2006-2007 school year (Pub. L. No. 108-265, § 204). Federal regulations require that wellness policies include goals for nutrition education, physical activity, and other school-based activities designed to promote student wellness. In addition, the wellness policies were to be developed through a process that includes parents, students, school nutrition (SN) professionals, the school board, school administrators, and the public. Aside from minimum requirements mandated by federal regulations, each local school district could choose their own specific wellness goals and decide how their wellness initiatives were implemented.

As nutrition is an integral part of any comprehensive wellness policy, SN directors and managers have a key role to play in school wellness initiatives. No published research was identified that documents how school districts have chosen to focus their new wellness policies, or the extent to which SN professionals have been involved in the planning and implementation of the wellness policies. In addition, although wellness policies must address student health, there are no guidelines requiring that the health of faculty and staff also be addressed, and school districts vary with respect to whether staff wellness has been incorporated into their policies (School Nutrition Association, 2006).

To provide guidance on the development of local school wellness policies, the National Alliance for Nutrition and Activity (NANA) convened a group of more than 50 health and

education experts, representing a large number of professional organizations, and published a set of model nutrition and physical activity policies (National Alliance for Nutrition and Activity, 2005). The NANA model wellness policies address many nutrition-related initiatives, including school meal participation, meal times and scheduling, and the foods and beverages offered and served in schools. In addition, the model policies include a staff wellness component to support staff efforts to establish and maintain a healthy lifestyle. Thus, the NANA model wellness policies promote the role of the SN program in student health and the importance of also addressing the health of school staff. The input of qualified SN professionals is an important factor in planning and implementing all of these nutrition-related initiatives.

A position statement jointly authored by the American Dietetic Association, the Society for Nutrition Education, and the American School Food Service Association also recognizes the critical role that nutrition programs and services in schools play in student health and academic performance (Briggs, Safaii, & Beall, 2003). In addition, this position statement notes the importance of the entire school environment modeling healthy choices, including school staff serving as role models for healthy lifestyle practices. A review paper by Wechsler, Devereaux, Davis, and Collins (2000) summarized a body of literature addressing the use of the school environment to shape students' dietary and physical activity behaviors. These authors suggested that role modeling is one of the most important ways that the psychosocial environment within a school influences the development of behavioral norms in students. In this context, school staff members have the potential to become powerful role models for students. No studies were identified regarding SN professionals' perceptions of their responsibility to serve as a positive role model for students within the school environment.

Guidelines published by the United States Department of Agriculture's Team Nutrition address six components necessary for improving the SN environment: a commitment to nutrition and physical activity; quality school meals; other healthy food options; pleasant eating experiences; nutrition education; and marketing (United States Department of Agriculture, 2000). There is a role for SN professionals in each of these six components that is designed to present a clear and consistent message to students regarding healthy lifestyle choices, provided that SN professionals are committed to modifying the school environment to positively impact student health, and believe that they personally play an important role in the planning and implementation of school wellness initiatives. In a Team Nutrition pilot study conducted by Levine, Olander, Lefebvre, Cusick, Biesiadecki, & McGoldrick (2002), these authors suggest that the likelihood of SN interventions being widely implemented depends in part on how much importance is placed on nutrition education and school food service by SN professionals, teachers, and administrators. Results from this pilot study indicated that SN professionals felt involved in the intervention program and thought that the intervention was effective and a positive experience for students. No other published studies addressing SN professionals' perceptions of their role in nutrition-related school interventions were identified.

The purpose of this study was to address important limitations in the body of current professional literature by conducting a national study to identify SN directors' and managers' perceptions of their roles in and responsibilities for supporting and contributing to the school wellness environment. Factors conducive to supporting and contributing to school wellness initiatives and making positive personal lifestyle changes were also addressed.

Research Objectives

The purpose of this research was to accomplish the following objectives:

- To identify the roles played by SN directors and managers (SN professionals) in the school wellness environment;
- To examine SN professionals' beliefs about their perceived role in and responsibility for supporting and contributing to the school wellness environment;
- To explore SN professionals' perceived responsibility for serving as a positive role model for students;
- To assess factors conducive to SN professionals supporting and contributing to school wellness initiatives and making positive personal lifestyle changes;
- To investigate SN professionals' perceptions of health and a healthy weight; and
- To determine if wellness activities have been implemented for SN staff as a part of school wellness initiatives.

METHOD

Research Plan

The purpose of this research study was to examine the perceptions of school nutrition (SN) professionals regarding their role in supporting and contributing to the school wellness environment. To explore these perceptions, a two-phase research design was employed. In the first phase of the study, school nutrition professionals agreed to participate in an expert panel session to identify the supporting roles of SN professionals in the school wellness environment. The main discussion points from the expert panel session were summarized and used to create the quantitative survey instrument in the second phase of the study. The quantitative survey instrument was designed to assess SN directors' and managers' perceptions regarding roles in school wellness, and factors that would support a greater contribution to school wellness. The survey was pilot tested and revised, and the final survey was mailed to a national sample of 1,400 SN directors and managers.

Phase I

Expert Panel Session

In Phase I of the research study, an expert panel session was conducted with SN professionals. Six state agency child nutrition directors representing four United States Department of Agriculture (USDA) regions were asked to provide names and contact information for state agency representatives and SN directors knowledgeable about school wellness issues to serve on the expert panel. From this pool, seven SN professionals were contacted via e-mail invitation and six agreed to attend a day and a half meeting to discuss issues related to the role of SN professionals in school wellness. The invitation explained the study and the purpose of the expert panel meeting, as well as provided the researchers' contact information

for questions and concerns. An informed consent statement further outlining details of study participation also was included with the e-mail invitation. For expert panel members who agreed to participate, confirmation letters were mailed with additional information regarding the upcoming meeting and travel arrangements.

The expert panel session took place over one and a half days at the National Food Service Management Institute, Applied Research Division (NFSMI, ARD) located at the University of Southern Mississippi Hattiesburg campus. Participants included one state agency representative (a wellness coordinator) and five SN directors. A second state agency representative (a wellness grant director) was unable to attend the expert panel session, but participated in a conference call prior to the meeting to discuss the research objectives related to school wellness and to offer input and suggestions. The agenda for the expert panel session was planned to address issues related to the research objectives so that the discussion supported the development of the survey in Phase II of this research study. Participants were asked semi-structured, open-ended questions designed to explore issues related to the role of SN professionals in supporting and contributing to school wellness. The expert panel session was facilitated by a researcher with an assistant moderator capturing the participants' comments on a flip chart. Throughout the session, the researcher used a structured approach to keep the discussion focused on the selected topics. After all questions were discussed, the researcher summarized responses, and participants were invited to verify that the summary comments were an accurate depiction of the discussion. The responses recorded during the expert panel session were then used to develop statements that were incorporated into the quantitative survey instrument.

Phase II

Survey Development

The survey instrument for Phase II of the research study was developed from qualitative data obtained from the expert panel session. The survey, titled *School Nutrition Professionals' Opinions Regarding Their Role in School Wellness*, consisted of six sections. In the first section of the survey, participants were asked to indicate the perceived level of importance of a set of 29 roles related to school wellness. The response scale was a 4-point Likert-type scale ranging from 4 (*very important*) to 1 (*not important*). Then, participants indicated their degree of personal involvement in each of the 29 roles. This response scale was a 4-point Likert-type scale ranging from 4 (*very involved*) to 1 (*not involved*). In the second section of the survey, participants were asked to rate their level of agreement with 28 statements identifying factors that may promote a greater contribution to the school wellness environment. The response scale was a 4-point Likert-type scale ranging from 4 (*strongly agree*) to 1 (*strongly disagree*). In the third and fourth sections of the survey, participants were asked to rate their level of agreement with 11 factors as important to good health and eight factors as important to a healthy weight. The response scale for both of these sections was a 4-point Likert-type scale ranging from 4 (*strongly agree*) to 1 (*strongly disagree*). In the fifth section of the survey, participants were asked to rate their level of agreement with 10 statements regarding the role of SN professionals in school wellness. Again, the response scale was a 4-point Likert-type scale ranging from 4 (*strongly agree*) to 1 (*strongly disagree*). In the sixth and final section of the survey, participants were asked to provide information about themselves or their schools or school districts. Nine questions included items concerning job title, certification status, years of experience, USDA region,

race/ethnicity, information regarding wellness activities offered for SN staff in their schools or school districts, and enrollment in their schools or school districts.

The survey instrument used in this study was produced in a scannable form, using Magenta 5.0 Forms Designer software. This program creates scannable forms which allow participants to record their responses using a number two pencil. Surveys may then be scanned using Remark Classic OMR 2.5 software and directly transferred to a statistical program for analysis.

Pilot Study

The six SN professionals who had participated in the expert panel discussion were asked to review the pilot survey instrument. Other individuals who had been identified by state agency representatives as knowledgeable about school wellness, who had not been asked to participate in the expert panel session, were also asked to review the pilot survey instrument. In addition, representatives from the committee of state agency directors representing the seven USDA regions were asked to review the survey. In total, fourteen individuals and seven state agency committee members were asked to review the pilot survey instrument. Each was e-mailed a letter explaining the pilot survey review process, a copy of the draft cover letter to accompany the survey, a copy of the draft survey, and a survey evaluation form.

Reviewers were asked to review the draft cover letter and survey and complete an evaluation form with 22 questions to assess the readability, clarity, and flow of the survey content. Additional space was provided on the evaluation form for reviewers to offer comments and recommendations to revise the cover letter, survey statements, and response categories. Reviewers were asked to return completed evaluation forms to the researchers via e-mail.

Fourteen review panelists returned the pilot evaluation representing four USDA regions and the state agency committee. Only minor wording changes were made to the survey instrument, based on the recommendations provided by pilot study participants.

Sample and Survey Distribution

The sample for the survey phase of the research study consisted of SN directors and managers in public school districts. A listing of states within each of the seven USDA regions was provided to Market Data Retrieval, a national school marketing company. The resulting random sample of 700 school districts was stratified by USDA region with 100 school districts from each USDA region. The resulting list identified the mailing address for the district SN directors. Survey packets were mailed to this national random sample of 700 SN directors who were asked to complete a survey, as well as distribute a survey to an SN manager in his or her district. Including the sample of 700 SN directors and 700 SN managers, a total of 1,400 surveys were distributed.

A pre-notice letter was mailed to the 700 SN directors one week before the surveys were mailed. The pre-notice letter informed SN directors that they would be receiving a survey packet within the next week, and asked for their participation in the research study. One week later, each SN director was mailed an envelope containing a cover letter and two survey packets, one for the SN director and one for the SN manager. The SN director's cover letter provided instructions on how to complete the survey based on his/her role, and to distribute the second survey packet to an SN manager in his/her district. Included in the survey packets were an instructional cover letter, the survey instrument, and a self-addressed, postage-paid envelope for returning the completed survey. The cover letter informed participants of the purpose of the study, asked for their participation, assured them of confidentiality of their responses, and

provided researchers' contact information for questions or concerns. 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.

Informed Consent

Protocol for Phase I and Phase II of the study was reviewed and approved by the Institutional Review Board at The University of Southern Mississippi.

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. Exploratory principal components factor analysis was performed on items in the first, second, and third sections of the survey instrument, to determine if each set of items could be reduced to a smaller number of factors. None of these analyses yielded a cognitively interpretable factor solution; thus, all data were analyzed using only descriptive statistics.

RESULTS AND DISCUSSION

Phase I

Expert Panel Session

An expert panel session was conducted to investigate the perceptions of school nutrition (SN) directors and managers regarding their role in supporting and contributing to the school wellness environment. Of the seven SN professionals recommended for participation in the expert panel session, all seven agreed to participate and were involved in discussions (100% participation rate). Two of the expert panel members were state agency representatives (28.5%) and five were SN directors (71.5%). Data collected during the expert panel session were collected in a systematic approach by asking semi-structured, open-ended questions, each having a distinct function in the research process. Main discussion points were recorded on a flip chart and summarized by researchers. The issues that emerged during the expert panel discussion were used in formulating items and responses for the quantitative survey instrument.

Phase II

Survey

A total of 1,400 surveys were distributed to 700 SN directors and 700 SN managers. Each potential participant received an instructional cover letter, survey, and a self-addressed, postage-paid envelope for returning the completed survey. A total of 462 surveys were returned and used in statistical analysis, for a response rate of 33%.

Program and personal characteristics of respondents are provided in Table 1. Both SN directors and managers were represented, with the majority of participants (66.2%) being SN directors. The vast majority of participants (90.5%) were Caucasian or White, with little representation from other races/ethnicities. All United States Department of Agriculture (USDA)

regions were represented, with the largest percentage of participants (18.9%) being from the Southeast region and the smallest percentage of participants (8.8%) being from the Western region. The largest percentages of participants reported working in SN programs for more than 20 years (27.4%) and being in their current positions one to five years (33.8%). The largest percentage of SN directors reported working in school districts with an enrollment of 2,799 or less (56.8%), while the largest percentage of SN managers reported working in schools with an enrollment of 301-600 (37.6%). In terms of certification status, the largest percentage of participants reported that they were not certified (37.7%), followed by those reporting School Nutrition Association (SNA) certification (36.8%). Many participants (30.3%) reported that no wellness activities had been initiated for SN staff. In cases where there were wellness activities for SN staff, nutrition promotions and programs were most commonly reported (34.2%).

Table 1

Program and Personal Characteristics of Respondents

Item	Frequency	%
Job Title (n = 423)		
SN Director	280	66.2
SN Manager	143	33.8

^a This item was only answered by SN directors.

^b This item was only answered by SN managers.

(Table 1 continues)

(Table 1 continued)

Program and Personal Characteristics of Respondents

Item	Frequency	%
Years Worked in SN Programs (n = 446)		
< 1 year	11	2.5
1-5 years	77	17.3
6-10 years	74	16.6
11-15 years	82	18.4
16-20 years	80	17.9
> 20 years	122	27.4
Years in Current Position (n = 447)		
< 1 year	36	8.1
1-5 years	151	33.8
6-10 years	78	17.4
11-15 years	90	20.1
16-20 years	36	8.1
> 20 years	56	12.5

^a This item was only answered by SN directors.

^b This item was only answered by SN managers.

(Table 1 continues)

(Table 1 continued)

Program and Personal Characteristics of Respondents

Item	Frequency	%
USDA Region (n = 455)		
Southeast	86	18.9
Mountain Plains	77	16.9
Southwest	73	16.0
Mid-Atlantic	64	14.1
Northeast	58	12.7
Midwest	57	12.5
Western	40	8.8
Race/Ethnicity (n = 451)		
Caucasian or White	408	90.5
African American or Black	20	4.4
Hispanic or Latino	11	2.4
Asian or Pacific Islander	8	1.8
American Indian	3	0.7
Other	1	0.2

^a This item was only answered by SN directors.

^b This item was only answered by SN managers.

(Table 1 continues)

(Table 1 continued)

Program and Personal Characteristics of Respondents

Item	Frequency	%
School District Enrollment ^a (n = 315)		
2,799 or less	179	56.8
2,800-9,999	100	31.7
10,000-19,999	18	5.7
20,000-44,999	15	4.8
45,000-64,999	1	0.3
65,000 or greater	2	0.6
School Enrollment (n = 249) ^b		
300 or less	38	17.8
301-600	80	37.6
601-900	54	25.4
901 or greater	41	19.2
Certification Status (n = 555)		
Not certified	169	37.7
SNA certified	165	36.8
Other	68	15.2
State Department of Education certified	64	14.3
School Nutrition Specialist credentialed	42	9.4
Registered Dietitian	28	6.3
Licensed Dietitian/Nutritionist	19	4.2

^a This item was only answered by SN directors.

^b This item was only answered by SN managers.

(Table 1 continues)

(Table 1 continued)

Program and Personal Characteristics of Respondents

Item	Frequency	%
Wellness Activities for SN Staff (n = 1,122)		
Nutrition promotions and programs	150	34.2
Nutrition education programs or classes	137	31.2
No wellness activities for SN staff	133	30.3
Health screenings available	122	27.8
Walking/fitness promotions and programs	96	21.9
Fitness facilities available at worksite	93	21.2
Cooking programs or classes	81	18.5
Weight management promotions and programs	77	17.5
Free/discounted gym or fitness center memberships	75	17.1
Professional training related to school wellness	72	16.4
Opportunities to participate in physical activity during work day	40	9.1
Federal/state/local funding for staff wellness	19	4.3
Other	19	4.3
Financial incentives for participating in wellness activities	8	1.8

^a This item was only answered by SN directors.

^b This item was only answered by SN managers.

Section I: School Nutrition Professionals' Role in the School Wellness Environment

Participants were provided with 29 statements regarding potential roles that SN professionals may play in the school wellness environment and were asked to rate the level of importance of each statement to their own role in the school wellness environment, using a scale of 4 (*very important*) to 1 (*not important*). Participants were then asked to indicate their level of personal involvement in each of the roles, using a scale of 4 (*very involved*) to 1 (*not involved*). Table 2 presents the means and standard deviations for each of the 29 statements in descending order of importance, and Table 3 presents the same information in descending order of involvement.

Table 2

Importance of Roles of School Nutrition Professionals in School Wellness

Statement	n	Mean^a	SD
Addressing food safety issues	437	3.77	0.49
Making healthier menu choices available	439	3.74	0.52
Encouraging students to make healthy food choices	429	3.68	0.53
Encouraging students to try new foods	438	3.64	0.56
Limiting unhealthy food choices at school	437	3.61	0.60
Making healthier à la carte choices available	426	3.57	0.68
Assessing and modifying recipes	441	3.57	0.58
Improving personal eating habits	434	3.56	0.61
Improving personal physical activity habits	426	3.54	0.67

^aThe response scale was a 4-point Likert-type scale ranging from 4 (*very important*) to 1 (*not important*).

(Table 2 continues)

(Table 2 continued)

Importance of Roles of School Nutrition Professionals in School Wellness

Statement	n	Mean^a	SD
Modeling consumption of healthy food choices	433	3.51	0.64
Promoting a positive school wellness environment	431	3.50	0.63
Encouraging students to be physically active	416	3.49	0.72
Making healthier choices available in vending machines	432	3.48	0.79
Modeling a physically active lifestyle	431	3.45	0.68
Modeling a healthy weight status	434	3.44	0.68
Providing nutrition education to students	432	3.44	0.70
Providing training to SN staff related to wellness	439	3.38	0.73
Serving on the district/school wellness committee	444	3.36	0.78
Assisting in planning the school wellness policy	439	3.33	0.81
Participating in wellness training	434	3.29	0.72
Marketing school wellness	433	3.27	0.75
Providing nutrition education resources to teachers	424	3.24	0.82
Making healthier choices available in school stores	414	3.23	0.96
Implementing wellness activities	439	3.13	0.83
Providing training to teachers and administrators related to wellness	431	3.05	0.84
Seeking resources for implementing school wellness initiatives	432	3.00	0.88
Assessing the impact of wellness activities	440	2.98	0.80
Evaluating the implementation of wellness activities	433	2.95	0.82
Writing grants to provide funding to support wellness activities	432	2.82	1.01

^aThe response scale was a 4-point Likert-type scale ranging from 4 (*very important*) to 1 (*not important*).

Participants considered almost all roles to be important, with 26 of 29 statements having a mean importance rating of 3.00 or higher. Overall, SN professionals rated roles related to food safety, availability of food choices, and encouraging healthy diets for children as most important. This is illustrated by the fact that the highest rated roles were “addressing food safety issues” (3.77 ± 0.49), “making healthier menu choices available” (3.74 ± 0.52), “encouraging students to make healthy food choices” (3.68 ± 0.53), “encouraging students to try new foods” (3.64 ± 0.56), and “limiting unhealthy food choices at school” (3.61 ± 0.60). Roles related to modeling personal wellness also were considered important, with “improving personal eating habits” (3.56 ± 0.61), “improving personal physical activity habits” (3.54 ± 0.67), and “modeling consumption of healthy food choices” (3.51 ± 0.64) having mean importance ratings greater than 3.50. Roles rated as least important included “assessing the impact of wellness activities” (2.98 ± 0.80), “evaluating the implementation of wellness activities” (2.95 ± 0.82), and “writing grants to provide funding to support wellness activities” (2.82 ± 1.01), although each of these roles was still considered important.

Table 3

Involvement of School Nutrition Professionals in Roles Related to School Wellness

Statement	n	Mean^a	SD
Addressing food safety issues	444	3.52	0.79
Making healthier menu choices available	443	3.43	0.85
Encouraging students to try new foods	443	3.27	0.83
Limiting unhealthy food choices at school	439	3.22	0.89
Encouraging students to make healthy food choices	439	3.19	0.81
Improving personal eating habits	442	3.16	0.83

^aThe response scale was a 4-point Likert-type scale ranging from 4 (*very involved*) to 1 (*not involved*).

(Table 3 continues)

(Table 3 continued)

Involvement of School Nutrition Professionals in Roles Related to School Wellness

Statement	n	Mean^a	SD
Making healthier à la carte choices available	441	3.13	1.08
Assessing and modifying recipes	440	3.10	0.99
Modeling consumption of healthy food choices	438	3.02	0.89
Improving personal physical activity habits	442	2.90	1.04
Modeling a healthy weight status	442	2.80	0.98
Serving on the district/school wellness committee	445	2.74	1.18
Modeling a physically active lifestyle	443	2.72	0.99
Providing training to SN staff related to wellness	439	2.66	1.08
Assisting in planning the school wellness policy	445	2.66	1.21
Promoting a positive school wellness environment	439	2.59	1.00
Participating in wellness training	438	2.43	1.04
Marketing school wellness	442	2.42	1.01
Implementing wellness activities	438	2.20	1.08
Providing nutrition education to students	446	2.16	0.96
Making healthier choices available in vending machines	442	2.13	1.24
Encouraging students to be physically active	445	2.07	1.04
Assessing the impact of wellness activities	438	1.92	0.98
Evaluating the implementation of wellness activities	442	1.86	0.98
Providing nutrition education resources to teachers	444	1.83	0.94
Seeking resources for implementing school wellness initiatives	439	1.79	0.95
Providing training to teachers and administrators related to wellness	445	1.66	0.91
Making healthier choices available in school stores	431	1.60	1.02
Writing grants to provide funding to support wellness activities	445	1.37	0.77

^aThe response scale was a 4-point Likert-type scale ranging from 4 (*very involved*) to 1 (*not involved*).

In general, the roles rated as most important were also the roles in which participants reported the greatest level of involvement, with the greatest level of personal involvement in “addressing food safety issues” (3.52 ± 0.79), “making healthier menu choices available” (3.43 ± 0.85), “encouraging students to try new foods” (3.27 ± 0.83), “limiting unhealthy food choices at school” (3.22 ± 0.89), and “encouraging students to make healthy food choices” (3.19 ± 0.81). Participants reported being involved in modeling dietary behaviors, with “improving personal eating habits” (3.16 ± 0.83) and “modeling consumption of healthy food choices” (3.02 ± 0.89) also being rated above 3.00. Overall, participants reported little involvement in many roles, as evidenced by the fact that only nine of the 29 statements had a mean involvement rating of 3.02 or greater.

Section II: Contributing to a School Wellness Environment

Participants were provided with 28 statements regarding factors that may promote a greater contribution to the school wellness environment and were asked to rate their level of agreement using a scale of 4 (*strongly agree*) to 1 (*strongly disagree*). Table 4 presents the means and standard deviations for each of the 28 statements in descending order of agreement. The greatest levels of agreement were reported for “financial support for school wellness initiatives” (3.40 ± 0.66), “time to devote to wellness initiatives” (3.34 ± 0.65), “support from parents” (3.32 ± 0.68), “support from school administration and teachers” (3.31 ± 0.73), and “employment benefits and incentives for personal wellness” (3.25 ± 0.72). Factors most perceived as promoting a greater contribution to school wellness included those related to financial support, time, and support from other involved parties.

Table 4

Factors Associated with a Greater Contribution to School Wellness

Statement	n	Mean^a	SD
Financial support for school wellness initiatives	444	3.40	0.66
Time to devote to wellness initiatives	445	3.34	0.65
Support from parents	456	3.32	0.68
Support from school administration and teachers	452	3.31	0.73
Employment benefits and incentives for personal wellness	443	3.25	0.72
Support from the community	451	3.23	0.66
Wellness activities/programs provided in the work place	440	3.17	0.70
Support from the state agency on wellness resources	454	3.14	0.73
Information for measuring SN outcomes	453	3.09	0.67
Training related to nutrition and wellness	438	3.08	0.80
Information regarding expectation of my role	449	3.08	0.76
Access to varied wellness resources	450	3.04	0.65
Financial resources dedicated to personal wellness	442	3.03	0.82
Knowledge about nutrition	453	3.02	0.74
Time to devote to personal lifestyle changes	443	3.00	0.83
Training related to healthy cooking techniques	452	2.99	0.81
Leadership skills to implement school wellness initiatives	450	2.98	0.79

^aThe response scale was a 4-point Likert-type scale ranging from 4 (*strongly agree*) to 1 (*strongly disagree*).

(Table 4 continues)

(Table 4 continued)

Factors Associated with a Greater Contribution to School Wellness

Statement	n	Mean^a	SD
Involvement in school wellness initiatives	447	2.97	0.76
Support from local SN staff	445	2.96	0.82
Knowledge about school wellness policies and goals	460	2.93	0.71
Information on weight management	439	2.93	0.79
Information on personal fitness activities	439	2.92	0.78
Knowledge about the benefits of physical activity	452	2.88	0.75
Motivation to make personal lifestyle changes	441	2.85	0.84
Access to health care services for personal wellness	439	2.81	0.80
Desire to model healthy behaviors to the school community	438	2.76	0.78
Personal interest in school wellness initiatives	442	2.76	0.82
Support from family and friends to improve personal wellness	441	2.71	0.83

^aThe response scale was a 4-point Likert-type scale ranging from 4 (*strongly agree*) to 1 (*strongly disagree*).

Section III: Opinions of Health

Participants were provided with 11 statements regarding factors important to good health and were asked to rate their level of agreement that each is important to health using a scale of 4 (*strongly agree*) to 1 (*strongly disagree*). Table 5 presents the means and standard deviations for each of the 11 statements related to health in descending order of agreement. Almost all of the factors were seen as being important to health, with ten of the 11 statements receiving a mean rating of 3.04 or greater. Nutrition was perceived as most important to health, with “eating a

variety of nutritious foods” being the highest rated statement (3.55 ± 0.56). Participants also perceived a holistic view of health as being important, with “being mentally, physically, socially, and spiritually healthy” receiving the next highest mean rating (3.53 ± 0.52). “Not missing work or school due to illness” (2.92 ± 0.88) was rated as least important to health.

Table 5

Opinions of Health

Statement	n	Mean ^a	SD
Eating a variety of nutritious foods	423	3.55	0.56
Being mentally, physically, socially, and spiritually healthy	433	3.53	0.52
Maintaining a healthy home environment	438	3.47	0.54
Managing health conditions	429	3.45	0.55
Having a good self image	418	3.43	0.59
Maintaining a healthy weight	429	3.41	0.55
Participating in physical activity on a routine basis	426	3.39	0.55
Not having any addictions	428	3.35	0.73
Participating in normal daily activities without difficulty	430	3.33	0.56
Not having any diseases	448	3.04	0.80
Not missing work or school due to illness	438	2.92	0.88

^aThe response scale was a 4-point Likert-type scale ranging from 4 (*strongly agree*) to 1 (*strongly disagree*).

Section IV: Opinions of Healthy Weight

Participants were provided with eight statements regarding factors important to a healthy weight status and were asked to rate their level of agreement that each is important to a healthy

weight status by using a scale of 4 (*strongly agree*) to 1 (*strongly disagree*). Table 6 presents the means and standard deviations for each of the eight statements related to a healthy weight status in descending order of agreement. All of the factors were seen as being important to a healthy weight status, with all eight statements receiving a mean rating of 3.00 or higher. Obesity was perceived more negatively than being overweight or underweight, with “not being obese” rated as most important to a healthy weight status (3.55 ± 0.58), and “not being overweight” (3.20 ± 0.63) and “not being underweight” (3.13 ± 0.63) rated as least important.

Table 6

Opinions of Healthy Weight

Statement	n	Mean^a	SD
Not being obese	427	3.55	0.58
Having a positive body image	425	3.29	0.61
Being in good physical health, even if underweight or overweight/obese	439	3.29	0.64
Being physically active, even if underweight or overweight/obese	433	3.25	0.66
Being at a weight that is appropriate for height	452	3.23	0.61
Eating a healthy diet, even if underweight or overweight/obese	442	3.23	0.69
Not being overweight	422	3.20	0.63
Not being underweight	427	3.13	0.63

^aThe response scale was a 4-point Likert-type scale ranging from 4 (*strongly agree*) to 1 (*strongly disagree*).

Section V: Opinions Regarding Roles in School Wellness

Participants were provided with ten statements regarding the role of SN professionals in school wellness and were asked to rate their level of agreement with each statement using a scale of 4 (*strongly agree*) to 1 (*strongly disagree*). Table 7 presents the means and standard deviations for each of the ten statements in descending order of agreement. Participants agreed that “SN professionals play an important role in school wellness” (3.46 ± 0.57) and that “SN professionals have a responsibility to model healthy behaviors to school children” (3.37 ± 0.58). Participants also agreed that “wellness activities designed for SN professionals should be included in school wellness initiatives” (3.06 ± 0.66) and that “local wellness policies and initiatives encourage SN professionals to make positive changes in personal health behaviors” (2.84 ± 0.73). Participants believed that modeling healthy behaviors and weight status are equally important (2.93 ± 0.67), and that “modeling healthy behaviors is more important than weight status” (2.91 ± 0.72). Although health behaviors and weight are both judged to be important, behavior appears to be perceived as more important than weight. In terms of the weight status of SN professionals, participants believed that underweight (2.77 ± 0.71) and overweight (2.64 ± 0.75), but not obese (2.34 ± 0.82), SN professionals can model healthy behaviors to school children. Weight appears to be more relevant in terms of modeling if an SN professional is overweight enough to be classified as obese.

Table 7

Opinions Regarding the Role of School Nutrition Professionals in School Wellness

Statement	n	Mean^a	SD
SN professionals play an important role in school wellness	451	3.46	0.57
SN professionals have a responsibility to model healthy behaviors to school children	437	3.37	0.58
Wellness activities designed for SN professionals should be included in school wellness initiatives	431	3.06	0.66
Modeling healthy behaviors and weight status are equally important	431	2.93	0.67
Modeling healthy behaviors is more important than weight status	435	2.91	0.72
Local wellness policies and initiatives encourage SN professionals to make positive changes in personal health behaviors	439	2.84	0.73
Underweight SN professionals can model healthy behaviors to school children	427	2.77	0.71
Overweight SN professionals can model healthy behaviors to school children	430	2.64	0.75
Obese SN professionals can model healthy behaviors to school children	429	2.34	0.82
Neither modeling healthy behaviors nor weight status are important	443	1.67	0.69

^aThe response scale was a 4-point Likert-type scale ranging from 4 (*strongly agree*) to 1 (*strongly disagree*).

CONCLUSIONS AND RECOMMENDATIONS

Limitations to the Research Study

One limitation to this research study was the overall response rate to the mailed survey instrument. At 33%, the response rate was lower than desired. In addition, the participant sample was primarily Caucasian or White (90.5%). Finally, only 33.8% of the respondents who provided information on their current job position were school nutrition (SN) managers. The low response rate for SN managers may be due to SN directors not distributing survey packets to managers, or due to SN directors not following up on survey packets that were distributed. All of these issues may cause concern for the ability to generalize the results.

Research Study Conclusions

The results of this study indicate that participants believe that SN professionals have an important role to play in school wellness, and that they have a responsibility to model healthy behaviors to school children. Overall, participants rated roles related to food safety, availability of food choices, encouraging healthy diets in children, and modeling personal wellness as most important. Roles rated as least important include grant writing to fund wellness initiatives and assessing and evaluating wellness initiatives. In general, the roles rated as most important were roles in which participants reported the greatest level of involvement, although participants reported little involvement in many roles. Overall, factors perceived as promoting a greater contribution to school wellness included those related to financial support, time to devote to wellness activities, support from other involved parties, support for personal wellness, and adequate information and training.

In terms of modeling, both health-related behaviors and weight status were perceived to be important, with weight being more of a negative issue with obese, but not overweight or

underweight, SN professionals. Participants also agreed that wellness activities designed for SN professionals should be included in school wellness initiatives, and that wellness initiatives encourage SN professionals to make positive changes in personal health behaviors. Although serving as a positive role model and personal lifestyle behaviors were perceived as important, many participants indicated that no wellness activities had been implemented for SN staff. When available, the most commonly reported wellness activities for SN staff were nutrition promotions and programs.

In conclusion, participants considered all roles related to school wellness important. However, they reported little to no involvement in many roles assessed, suggesting the potential for a much greater role for SN professionals in school wellness. Factors promoting a greater contribution to school wellness identified in this study will be helpful in expanding the roles of SN professionals in school wellness.

Education and Training Implications

Findings from this research suggest the following implications for education and training:

- Education materials are needed to increase the awareness of SN directors and managers regarding the many potential ways in which they may play an important role in school wellness. Education materials should illustrate the important contributions of SN directors and managers in model districts/schools.
- Training must be provided to support the expanded roles that SN professionals may play in school wellness, to ensure that these professionals have the knowledge and skills necessary to engage in these new roles. In addition, expectations about the roles of SN professionals in school wellness must be adequately communicated.

- Education materials for state or district wellness coordinators should emphasize the factors perceived as promoting a greater contribution to school wellness identified in this study, as these should be helpful in expanding the roles of SN professionals in school wellness.
- Education materials should address the importance of role modeling within the school environment as a way of promoting healthy behaviors in students. Because they are role models within the SN environment, health promotion programs for SN professionals should be developed as a part of school wellness programs in order to promote the adoption of personal healthy behaviors.

Research Implications

Findings from this study suggest the need for additional research in the following areas:

- Case studies of successful programs should be conducted to illustrate the innovative ways in which SN directors and managers have contributed to the school wellness environment and to identify strategies employed to gain the “buy-in” and participation of these SN professionals in school wellness initiatives. Best practices for successfully engaging SN professionals in school wellness should be developed.
- Research is needed to assess the utilization of personal wellness programs for SN professionals, and assess the outcomes associated with these programs. This research should include investigating the relationship between the personal health behaviors and attitudes of SN professionals and their degree of support for and involvement in school wellness initiatives.

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