

ORIGINAL RESEARCH

Jean L. Wiecha, PhD¹; Pamela A. Williams, PhD²; Kristen C. Giombi, PhD²;
Amanda Richer, MA³; Georgia Hall, PhD³

Conclusion

PEER REVIEWED

Introduction

Methods

Results



The opinions expressed by authors contributing to this journal do not necessarily reflect the opinions of the U.S. Department of Health and Human Services, the Public Health Service, the Centers for Disease Control and Prevention, or the authors' affiliated institutions.

Instruments

Box. Healthy Eating Standards Adopted by the National Afterschool Association, April 2011

The National AfterSchool Association adopted 6 healthy eating (HE) standards and 5 physical activity standards in April 2011 (http://naaweb.org/images/NAA_HEPA_Standards_new_look_2015.pdf). Shown are the 6 HE standards that address food and beverage quality and infrastructure supports that include staff training, nutrition education, social support, program support, and environmental support.

HE 01. Content and Quality

Programs serve foods and beverages in amounts and types that promote lifelong health and help prevent chronic disease. These include minimally processed foods made with whole grains and heart-healthy fats or oils and without added sugar or trans fats; fruits and vegetables; and beverages made without added sugars.

HE 02. Staff Training

Staff members regularly participate in learning about healthy eating grounded in effective training models using content that is evidence-based.

HE 03. Nutrition Education Curriculum

Programs that offer nutrition education classes will ensure that materials presented to children are evidence-based, do not support a particular industry or food sector agenda, and are delivered by qualified personnel.

Participants

The opinions expressed by authors contributing to this journal do not necessarily reflect the opinions of the U.S. Department of Health and Human Services, the Public Health Service, the Centers for Disease Control and Prevention, or the authors' affiliated institutions.

HE 04. Social Support

The program creates a social environment, including positive relationships, that encourages children to enjoy healthy foods. Research shows that children's food choices are influenced not only by food appearance, taste, and familiarity, but also by social factors including peers, role models, group dynamics, and having healthy options.

HE 05. Program Support

Infrastructure supports healthy eating through management and budgeting practices.

HE 06. Environmental Support

The program's physical environment supports healthy eating. Availability of vending machines, advertising and availability of kitchen facilities can all influence food choices and food availability.

Procedure

Dependent variables

Independent variables

The opinions expressed by authors contributing to this journal do not necessarily reflect the opinions of the U.S. Department of Health and Human Services, the Public Health Service, the Centers for Disease Control and Prevention, or the authors' affiliated institutions.

Data analysis

Sample characteristics

Regression results

Descriptive and bivariate fruit and vegetable outcomes

Table 1. Site, Program, and Respondent Characteristics Reported by Respondents to Afterschool Healthy Eating Survey, Fall 2015 (N = 684)

Characteristics	Survey Response	n (%)
Site is a 21st CCLC	Yes	175 (26)
	No	421 (62)
	Don't know	88 (12)
Site is licensed	Yes	417 (61)
	No	208 (30)
	Don't know	59 (9)
Site is accredited	Yes	112 (16)
	No	396 (58)
	Don't know	176 (26)
Site participates in CACFP ^a	Yes	177 (28)
	No	297 (47)
	Don't know	153 (25)
Site participates in NSLP ^a	Yes	162 (26)
	No	362 (58)
	Don't know	103 (16)
Primary organizational affiliation of program	School district	242 (35)
	Miscellaneous public/private nonprofit	189 (28)
	Other small nonprofit/ for profit	190 (28)
	No affiliation	63 (9)
Respondent is NAA member	NAA member	422 (62)
	Not NAA member	262 (38)

Abbreviations: 21st CCLC, 21st Century Community Learning Center; CACFP, Child and Adult Care Food Program; NAA, National AfterSchool Association; NSLP, National School Lunch Program.

^a Responses to CACFP and NSLP sum to less than 684 because of nonresponses; percentages reflect actual denominator.

Table 2. Fruit and Vegetables Offered with Afternoon Snack on Previous Program Day by Site Characteristics, Afterschool Healthy Eating Survey, Fall 2015

Characteristic	Stratum	Fruit, Vegetables, or Both	Only Fruit	Only Vegetables	Fruit and Vegetables	No Fruit or Vegetables
	n	n (%)	n (%)	n (%)	n (%)	n (%)
21st CCLC site ^a	175	111 (63)	68 (39)	4 (2)	39 (22)	64 (37)
Licensed site ^a	417	285 (68)	188 (45)	17 (4)	80 (19)	132 (32)
Accredited site ^a	112	77 (69)	46 (41)	2 (2)	29 (26)	35 (31)
Respondent is NAA member	422	275 (65)	203 (48)	11 (3)	61 (14)	147 (35)
Previously aware of NAA HE standards	395	260 (66)	171 (43)	12 (3)	77 (19)	135 (34)
Familiar with HE standards	187	130 (70)	93 (50)	5 (3)	32 (17)	57 (30)
Uses 1 or more of HE standards	390	276 (71)	179 (46)	12 (3)	85 (22)	114 (29)
Site participates in CACFP	177	132 (75)	84 (47)	6 (3)	42 (24)	45 (25)
Site participates in NSLP	162	103 (64)	72 (44)	2 (1)	29 (18)	59 (36)
Staff have healthy eating training 1x/y	228	160 (70)	100 (44)	11 (5)	49 (21)	68 (30)
Staff have healthy eating training > 1x/y	80	68 (85)	46 (58)	0 (0)	22 (28)	12 (15)
All programs	684	433 (63)	287 (42)	23 (3)	123 (18)	251 (37)

Abbreviations: 21st CCLC, 21st Century Community Learning Center; CACFP, Child and Adult Care Food Program; HE, healthy eating; NAA, National AfterSchool Association; NSLP, National School Lunch Program.

^a Sites can belong to more than one characteristic category.

Table 3. Independent Predictors of Sites Offering a Fruit, Vegetable, or Both with Snack on the Previous Day, Afterschool Healthy Eating Survey, Fall 2015 (N = 684)

Characteristic	Offered Fruit, Vegetables, or Both OR (SE), n = 433	P value	Offered Only Fruit OR (SE), n = 287	P value	Offered Fruit and Vegetable OR (SE), n = 123	P value
School district (1 = yes)	0.63 (0.11)	.01 ^a	0.79 (0.14)	.19	0.66 (0.16)	.08
Licensed (1 = yes)	1.53 (0.27)	.02 ^a	1.41 (0.25)	.05 ^a	1.00 (0.23)	.99
Accredited (1 = yes)	1.01 (0.25)	.96	0.69 (0.16)	.10	2.01 (0.54)	.01 ^b
Staff Trained in Healthy Eating						
Once a year	1.47 (0.29)	.05 ^a	1.04 (0.19)	.83	1.61 (0.39)	.05 ^a
More than once a year	3.52 (1.22)	<.001 ^b	1.80 (0.48)	.03 ^a	2.09 (0.67)	.02 ^a
NAA member (1 = yes)	0.94 (0.16)	.39	0.52 (0.09)	<.001 ^b	2.38 (0.52)	<.001 ^b
Aware of NAA standards (1 = yes)	0.86 (0.16)	.39	0.91 (0.16)	.58	0.96 (0.22)	.87
CACFP (1 = yes)	1.37 (0.29)	.13	1.09 (0.21)	.66	1.30 (0.30)	.26
NSLP (1 = yes)	1.09 (0.22)	.65	1.30 (0.25)	.18	0.95 (0.24)	.84
Use NAA standards (1 = yes)	1.95 (0.36)	<.001 ^b	1.42 (0.25)	.05 ^a	1.70 (0.40)	.03 ^a

Abbreviations: CACFP, Child and Adult Care Food Program; N/A, variable was not included in the model; NAA, National AfterSchool Association; NSLP, National School Lunch Program; OR, odds ratio; SE, standard error.

^a $P < .05$.

^b $P < .01$. Determined from logit models. Reference category for Staff Trained in Healthy Eating is "Never/less than once a year."