

4-H Healthy Living programs offered during out-of-school time have the potential to foster a healthy lifestyle that influences immediate and long-term health outcomes.

1

4-H Healthy Living programs with impact: A national environmental scan

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4-H, THE YOUTH development program of the nation's 109 land-grant universities and the Cooperative Extension System, remains the largest youth development organization in the United States. It reaches approximately six million youth, collaborates with more than 550,000 volunteer leaders, and employs more than 3,000 professional staff, producing research-driven programming with proven results. 4-H engages youth from elementary through high school and is uniquely equipped to deliver high-quality positive youth development.¹ Programs in the areas of science, citizenship, and healthy living offer a wealth of research-based, ready-to-use curricula on a variety of topics.²

Cooperative Extension delivers 4-H programming through a number of delivery modes, including school enrichment and 4-H afterschool, clubs, camps, and short-term special interest projects. Most youth participation in 4-H takes place in out-of-school time (OST). According to 2011 data from the USDA Research, Education, and Economics Information System, 135,025 youth

participated in 4-H afterschool programs, 102,805 in organized 4-H afterschool clubs, and more than 830,000 in organized 4-H community clubs.³ 4-H youth development opportunities have been shown to improve students' academic performance as well as crucial skills developed during the school years, such as leadership and self-esteem.⁴

4-H Healthy Living programs

Although health has been an integral part of the 4-H program since the early twentieth century, the national 4-H Healthy Living initiative began in 2008. 4-H Healthy Living efforts “engage youth and families through access and opportunities to achieve optimal physical, social, and emotional well-being.”⁵ 4-H Healthy Living programs address the domains of healthy eating; physical activity; injury prevention; prevention of alcohol, tobacco, and other drug use; and social–emotional health.

4-H Healthy Living program outcomes include changes in participant behaviors, conditions, and learning—specifically increases in knowledge, attitudes, skills, and aspirations. 4-H Healthy Living programs in the physical activity domain seek to increase knowledge and skills necessary for improving physical activity practices and to improve the habits and behaviors of children, youth, and families. These initiatives should ultimately decrease the rates of overweight and obesity, decreasing the risk of illness.⁶

4-H Healthy Living programs in the healthy eating domain seek to improve the dietary habits of children, youth, and families by increasing knowledge and skills necessary to choose foods consistent with national dietary recommendations, to handle food safely, and to make good choices when buying food. Like programs in the physical activity domain, healthy eating initiatives should result in youth maintaining a healthy weight, thus decreasing the likelihood that they will develop illnesses.⁷

In 2013, National 4-H Council funded a project to identify 4-H Healthy Living programs in the domains of healthy eating

and physical activity that adhered to the national 4-H Healthy Living mission and logic models and were ready for comprehensive outcome evaluations or replication at a national level. This joint project was the first time that 4-H Healthy Living programs in these domains were systematically documented and reviewed.

The purposes of this chapter are to (a) identify 4-H Healthy Living programs with evidence of promoting a healthy diet and physical activity, (b) describe their associations with healthy diet and physical activity outcomes, and (c) describe key characteristics of these programs. This chapter is an attempt to inform youth development organizations about the nature and breadth of 4-H Healthy Living initiatives that show evidence of impact and to describe a standardized approach to evaluation.

Methods

A mixed-methods approach was used to conduct the environmental scan of 4-H programs. This scan identified 4-H programs that:

- target 4-H youth ages 9–19;
- include a youth development program with an organized, purposeful set of activities designed to achieve positive youth development outcomes;
- include activities congruent with the 4-H Healthy Living mission as presented in the national healthy eating and physical activity logic models; and
- were developed and implemented by Cooperative Extension faculty and staff.

Data collection procedures

A survey, structured interviews, and content analysis of 4-H Healthy Living documents were used to collect data for the environmental scan. All research procedures were reviewed and

approved by the Mississippi State University Institutional Review Board for the Protection of Human Subjects in Research prior to data collection.

Survey. In an effort to identify programs that met the aforementioned criteria, an electronic survey was administered using the Qualtrics online survey software. The electronic survey collected information related to program theory and evaluation, including program impacts. Participants could report on up to fifteen programs.

Survey procedures were based on Dillman's tailored design method.⁸ As Dillman recommends, the research team gave special consideration to identifying the most appropriate respondent from each state 4-H; it also contacted each potential participant several times, as described below. Two days prior to the actual electronic survey distribution, a representative from National 4-H Council and 4-H National Headquarters/USDA sent a notice about the forthcoming electronic survey to the state leaders of all ninety-one 4-H programs using the State 4-H Program Leaders Listserv and 4-H Healthy Living Liaison Listserv (hereafter referred to as the listservs).

This e-mail served as the initial recruitment effort by introducing the topic of the survey, providing brief details about the survey format, highlighting the importance of the project, and encouraging state participation. The research team distributed an e-mail containing the electronic survey link through the listservs. One week after the initial distribution and again three weeks later, thank-you/reminder e-mails were sent to the listservs.

The scan survey remained open for twelve weeks between April and July 2013. Preliminary findings were shared with 4-H Healthy Living regional liaisons. After reviewing which programs had responded, liaisons identified missing programs and requested that the scan survey be reopened. Between October and November 2013, 4-H Healthy Living representatives had additional time to submit program information. Potential participants had a total of sixteen weeks to provide information on 4-H Healthy Living programs.

Interviews. After the initial survey period, the research team contacted all nonrespondent state 4-H program leaders by telephone or e-mail to confirm that they did not want to submit the requested information. Additionally, the research team contacted these leaders as needed to verify or clarify program information they had submitted.

Content analysis. In an effort to capture information about noteworthy programs not identified through the survey, the research team reviewed grantee reports on 4-H Healthy Living projects funded by Walmart, United Healthcare, and Coca-Cola. It also used a literature review on 4-H Healthy Living.⁹

Study population

Representatives of forty-seven of the ninety-one 4-H programs completed the scan survey.

Results

Through the survey and follow-up interviews, fifty-three healthy eating and/or physical activity programs from forty-four states were identified. Three additional programs were identified from grantee reports. Six 4-H Programs of Distinction, included in a national peer-reviewed collection of high-quality 4-H programs, were documented from the 4-H Healthy Living literature review.¹⁰ However, three of these 4-H Programs of Distinction were also identified in the survey. In total, the environmental scan identified fifty-nine unduplicated programs. Of these, only twenty-two described their approach to evaluation and reported observed program outcomes. 4-H Healthy Living programs that failed to include sufficient detail about their approach to evaluation and evaluation findings were excluded from further analysis.

Table 1.1 reports 4-H Healthy Living programs by the outcomes observed. The research team classified outcomes into one or more of the following areas: (a) selecting food consistent with dietary guidelines, (b) increasing physical activity, (c) establishing and

Table 1.1. 4-H Healthy Living programs by 4-H Healthy Living outcome observed

	Outcome			
	Select food consistent with dietary guidelines	Improve physical activity	Establish and maintain healthy relationships	Avoid and prevent negative risk factors
<i>4-H Healthy Living program</i>				
4-H Health Jam		X	X	
Calcium, It's Not Just Milk	X			
Choose Health Action Teens	X	X	X	
EatFit	X	X		
Family Fitness Program	X			
Fast Track	X			
Fit 4 the Future	X			X
Food and Nutrition Education for Children	X	X		
Get Moving, Get Healthy with New Jersey 4-H	X	X		
Grow Yourself Healthy	X			
Health and Well-Being	X	X		
Healthy Lifestyles Movement for Minority and Low-Income Youth and Families	X			X
Healthy Weights for Healthy Kids	X	X		
Jump into Foods and Fitness	X	X		
Just Be It! Healthy and Fit	X	X		
Nutrition to Grow On	X			
On the Move to Better Health	X	X		
Salad Fest	X	X		
Smart Bodies	X	X		
Stepping Out	X	X		
Teen Cuisine	X			
Tucson Village Farm	X			X

maintaining healthy relationships, and (d) avoiding and preventing negative risk factors associated with cooking and food handling. These broad areas were selected because 4-H National Headquarters has identified them as potential outcomes for 4-H Healthy Living programs.¹¹ It is important to note that our analysis classified programs by outcomes reported by participants or stated in the 4-H literature review. The classification is not based on the intended outcomes of a given program. In certain cases, only some of the intended outcomes of a program were reported.

Five 4-H Healthy Living programs reported changes exclusively related to selecting food consistent with the dietary guidelines. None of the programs reported changes related exclusively to improved physical activity. As indicated in Table 1.1, many of the programs saw changes across multiple outcomes. For example, the majority of programs ($N = 12$) reported changes related to both food selection and physical activity. Three additional programs reported changes in food selection and in avoiding or preventing risk factors associated with cooking and food handling. One program saw changes in food selection and in establishing or maintaining healthy relationships. One program reported changes in physical activity and healthy relationships.

Nine programs targeted elementary school children. Five targeted elementary and middle school children, and three targeted middle school youth exclusively. Although none of the 4-H Healthy Living programs targeted high school youth exclusively, two programs targeted high school as well as elementary and middle school youth. Two programs targeted youth in general (no age specified), and two other programs did not provide any information on target population. Interestingly, six of the twenty-two 4-H Healthy Living programs explicitly targeted low- or limited-income youth. One of the programs targeted underserved youth living in a rural area.

Several of the programs purposefully included programming for adult populations as well as the selected youth population. For example, three of the programs that targeted elementary school youth also included family members. One of these programs also

included teachers. Two other programs used teens as leaders or mentors to deliver portions of the programming to children or younger youth.

A large majority of the 4-H Healthy Living programs ($N = 20$) used a nonexperimental research design to assess impact. A one-group pre- and postparticipation test was the primary approach used ($N = 15$). Only two programs implemented a quasi-experimental research design to assess impact. None of the programs that reported changes in outcomes used an experimental or randomized controlled trial design.

Discussion

These Healthy Living programs address a range of age groups in diverse settings, with some targeting low-income populations. 4-H has been recognized for developing programs that influence youth developmental assets regardless of participants' race or other demographic characteristics.¹² More specifically, 4-H programming has demonstrated a positive impact on health habits. The 4-H study on positive youth development found that 4-H participants are 1.6 times as likely as non-4-H youth to report healthy habits. Using longitudinal analysis, the study also found that 4-H boys are 2.3 more times likely to exercise and be physically active than non-4-H boys.¹³ Such findings suggest that 4-H programming has the potential to greatly influence youth decision making about healthy behaviors. To date, however, studies on the impact of 4-H have not focused exclusively on Healthy Living programs in relation to health outcomes.

4-H Healthy Living programs have an effect on behavioral targets proven to prevent obesity. However, these programs have diverse educational and behavioral goals, target populations, and reach. Additionally, there are important differences in the evaluation methods used and the evidence of program impact. These findings lead to several observations and a recommendation that could inform future research.

Only twenty-two of the fifty-nine programs identified through the scan reported their impact and provided sufficient detail on their evaluation methods. This finding suggests that few programs are at the point of assessing or reporting their impact. Among those that did report impact, the evaluation approach used to obtain evidence varied greatly in terms of rigor. Some programs indicated impact based only on a one-group postparticipation survey, which is typically considered a weak approach to evaluating impact.¹⁴ Other programs used a more sophisticated approach, including quasi-experimental study designs.¹⁵ Similarly, instruments or measures used to assess impact varied across programs. Only a few of the twenty-two programs reported using 4-H Common Measures, a new national youth outcomes data collection system.¹⁶

Such heterogeneity in evaluation approaches greatly limits program-to-program comparisons. It would be difficult for an OST group to decide to select Program X over Program Y based only on impacts identified through this environmental scan. In light of these observations, we recommend a standardized approach to evaluating the impact of 4-H Healthy Living and similar OST programs. Using such a framework could make future impact evaluation more feasible. First, a standardized evaluation framework assesses an intervention's public health impact. Second, the framework could be used to compare the public health impact of an intervention across organizational units—such as multiple states or sites—or over time. Ultimately, a standardized approach to evaluating impact could inform the redistribution of resources toward and the replication of more effective programs.

RE-AIM is one such framework. It identifies five evaluation dimensions: reach, effectiveness, adoption, implementation, and maintenance. Originally designed for consistent reporting of research results, RE-AIM has been successfully used to inform the selection of evidence-based health promotion programs.¹⁷ The RE-AIM framework has been identified by the National 4-H Healthy Living Taskforce as a possible approach to evaluating effectiveness.¹⁸

In this framework, the reach, effectiveness, and maintenance dimensions apply to the individual or participant level and adoption, implementation, and maintenance to the organizational level. Reach is the number, proportion, and representativeness of participants. Effectiveness or efficacy is the impact of the intervention on important outcomes. Adoption is the number, proportion, and representativeness of settings, organizations, and people who participate. Implementation is the organization's fidelity to various elements of an intervention's protocol. At the organizational level, maintenance is the extent to which intervention becomes institutionalized as part of routine practices and policies; at the individual level, it is the long-term effects of a program on individual outcomes.¹⁹

Limitations

Findings presented here have several limitations. We acknowledge that some 4-H Healthy Living programs might not have been captured through the environmental scan. Additionally, incomplete information was submitted for many of the programs surveyed. Also, we did not always obtain parallel information from the documents we received from 4-H Healthy Living programs.

Despite these limitations, the value of this work lies in identifying the scope and impact of 4-H Healthy Living programs from across the nation. As a next step in this project, we will compare the reported practices of these programs to their actual practices and identify opportunities for changes to improve the programs.²⁰ Ultimately, this assessment will identify programs poised for replication or for further outcome evaluation using a more rigorous study design.

Conclusion

4-H remains one of the nation's leading youth development organizations. 4-H OST programs, including 4-H Healthy

Living programs, continue to contribute to the positive development of America's youth. High-impact 4-H Healthy Living programs could be replicated by more 4-H clubs as well as other youth development organizations. Such replication has the potential to foster a healthy lifestyle that influences immediate and long-term health outcomes. Implementation of a standardized evaluation framework could help 4-H professionals consistently document the impact of each program as well as the collective impact of 4-H Healthy Living programming.

Notes

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