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Samantha M. Harden
Virginia Tech, harden.samantha@vt.edu

Anne Lindsay
University of Nevada, lindsaya@unce.unr.edu

Alicia Everette
Virginia Tech, ealicia7@vt.edu

Katherine B. Gunter
Oregon State University, kathy.gunter@oregonstate.edu

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Systematic Review of Physical Activity Objectives in Extension Strategic Plans: Findings and Implications for Improved Public Health Impact

Abstract

Extension programming that incorporates both physical activity and dietary behaviors is necessary for the prevention of certain chronic diseases, including obesity. The purpose of the study presented here was to systematically identify the presence of physical activity objectives in the strategic plan for each Extension system in the United States. Few Extension systems (13) included physical activity in their strategic plans, yet lack of inclusion of physical activity in a strategic plan may limit the degree to which a system supports physical activity objectives and outcomes. As strategic plans lead to strategic thinking, the integration of physical activity objectives may improve the public health impact of Extension programming.

Samantha M. Harden
Assistant Professor,
Virginia Tech
Specialist, Virginia
Cooperative Extension
Blacksburg, Virginia
harden.samantha@vt.edu

Anne Lindsay
Specialist, University
of Nevada
Cooperative Extension
Las Vegas, Nevada
lindsaya@unce.unr.edu

Alicia Everette
Graduate Research
Assistant, Virginia
Tech
Virginia Cooperative
Extension
Blacksburg, Virginia
ealicia7@vt.edu

Katherine B. Gunter
Associate Professor,
Oregon State
University
Oregon Cooperative
Extension
Corvallis, Oregon
kathy.gunter@oregonsate.edu

Introduction

The Agriculture Act of 2014 (commonly known as the Farm Bill) incorporated an objective to expand nutrition education and obesity prevention, specifically adding physical activity as a component of the largest U.S. Department of Agriculture (USDA) nutrition program—the Supplemental Nutrition Assistance Program (SNAP) (U.S. Department of Agriculture, 2015). Likewise, the Cooperative Extension System, which is also funded by the USDA, is tasked with addressing obesity prevention and management (U.S. Department of Agriculture, Office of the Chief Financial Officer, n.d.). However, Extension systems often prioritize more agriculturally based objectives, such those related to the profitability, sustainability, and quality of food, and nutrition education. The extant literature on the benefits of physical activity for obesity prevention and treatment is unequivocal (Reiner, Niermann, Jekauc, & Woll, 2013) yet physical activity is often encompassed in other system-level objectives. Many Extension systems capture physical activity within health or wellness, areas that also include a myriad of other behaviors (e.g., anti-bullying efforts, smoking cessation, food safety and handling). Nevertheless, if physical activity is not specifically identified in a strategic plan, it is difficult to develop metrics, measure indicators, and assess impacts.

Palmer-Keenan and Corda (2014) compared two Extension-delivered programs exploring a specific nutrition

program (control) and the same program amended to include 15 min of physical activity (intervention). They reported improvements in physical activity behaviors without reduction of improvements in nutrition-based outcomes (Palmer-Keenan & Corda, 2014). Consistent with Extension's emerging emphasis on capacity building, Abi Nader, Hilberg, and Gunter (2015) tested initial response to a SNAP Education (SNAP-Ed) program whereby Extension health educators train teachers to conduct classroom physical activity breaks and support schools with the resources to implement them. Results suggested that all parties are amenable to the approach and that children in classrooms of teachers who implement activity breaks are more active than children in classrooms of teachers who do not (Abi Nader et al., 2015). This finding provides encouragement for Extension health educators (i.e., Extension employees) to incorporate physical activity into existing programs.

However, in a 2012 nationwide survey of Extension specialists, 80% of respondents reported feeling confident in delivering physical activity, but respondents also reported that training was lacking, supporting resources were insufficient, and curricula generally were not inclusive of physical activity (Purcell et al., 2012).

To bolster confidence in delivering physical activity programming, Extension efforts can be twofold (at minimum), comprising (a) efforts to build capacity for health educators to deliver physical activity within their existing programs and (b) efforts to disseminate educational materials that may influence health behaviors outside of class. For example, a health educator may facilitate goal setting related to physical activity and dietary goals and provide feedback on said goals in the following program session. One way to determine the infrastructure and support of physical activity as part of a health promotion Extension employee's job description is to look to the strategic plan. Notably, strategic plans represent the mission, values, goals, and measurable objectives of an organization (Bryson, 2011).

Therefore, our aim was to identify the degree to which Extension systems (housed within the land-grant universities in the United States) explicitly included physical activity objectives in their strategic plans.

Methods

We operationalized "physical activity" as relating to any of a group of concepts—physical activity, exercise, sedentariness, fitness, and inactivity—in order to align with typical physical activity outcomes and methods of physical activity systematic reviews. To identify strategic plans, a search was conducted using the search engine Google.

A systematic search was conducted to

1. identify the land-grant universities within the United States (including 1894 and 1996 land-grant universities),
2. locate the current statewide/university strategic plan,
3. report the span of years encompassed by the current strategic plan, and
4. review the strategic plan to identify physical activity objectives.

When strategic plans were not readily available online, we emailed the contact personnel listed online for the

website and/or Extension system. If we did not receive a response, we sent a reminder email at day 10 and day 15. The strategic plan was labeled as unavailable if we did not find it online or receive a response within 20 days of initial contact.

Notably, we identified statewide/university strategic plans, rather than program area (e.g., 4-H, agriculture) strategic plans. This decision was made for two reasons. First, the argument can be made that if there were a statewide effort for a more holistic approach to the inclusion of physical activity in Extension, each program area could benefit from reductions in sedentary time and improved physical activity behaviors (e.g., activity breaks during agriculture education sessions or 4-H meetings). Related still, the statewide/land-grant university strategic plan indicates concerted efforts related to resources, outcomes, and benchmarks. Second, the program areas often differ in nomenclature. For example, Oregon State University identifies its Extension program areas as "agriculture," "forestry," "4-H," "sea grant," and "family and community health," whereas Virginia Tech identifies its Extension program areas as "agriculture and natural resources," "4-H," "family and consumer sciences," and "community viability."

Results

Results are reported across the 50 states, five territories (i.e., American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and U.S. Virgin Islands), and the District of Columbia (Association of Public and Land-Grant Universities, 2015). Results are reported by state (i.e., collapsing 1862, 1890, and 1994 institutions), territory, and the District of Columbia, thus using a denominator of 56. In total, 49 strategic plans were available for analysis. Forty (82%) of the strategic plans acquired were readily available (i.e., through a Google search or a search of the applicable Extension website), and an additional nine (18%) were acquired after contacting representatives from the Extension systems.

The strategic plans that had beginning and ending dates were established for 4.54 years (\pm 4.72) on average, with a range of 1–25 years; 18% of the available strategic plans were in their final year at the time of our analysis. Of the 49 U.S. Extension systems represented in our analysis, only 13 included a physical activity objective in their strategic plans. See Table 1 for details.

Table 1.

Summary of Available Statewide Extension Strategic Plans That Included Physical Activity Objectives

State or U.S. territory (<i>n</i> = 56)	Land-grant university or universities	Years of plan	Physical activity language
Alabama	Alabama A&M University Auburn University Tuskegee University	2007–2011	<ul style="list-style-type: none"> Moderate physical activity such as planting and caring for a tree can reduce chronic illnesses and conditions, such as diabetes, obesity, high blood pressure, and cancer.
Alaska	University of Alaska	2010–2015	<ul style="list-style-type: none"> Identify, adapt or create programming materials that address barriers to physical activity. Increase knowledge on the benefits of regular physical activity.

- Connect with collaborators to offer educational programs about the benefits of physical activity.
- Implement appropriate educational programs in physical activity.

Arizona	University of Arizona	2009–2013	<ul style="list-style-type: none"> • Assist individuals, families and youth to become physically, mentally, emotionally and financially healthy.
Arkansas	University of Arkansas University of Arkansas at Pine Bluff	2011–2015	<ul style="list-style-type: none"> • Conduct research about healthy life choices and deliver programs promoting safe and healthy families.
Florida	University of Florida Florida A&M University	2012–2022	<ul style="list-style-type: none"> • Florida Extension programs must focus on creating behavior changes among residents. These programs should center on healthy lifestyle choices related to nutrition and health, food safety, and physical activity.
Hawaii	University of Hawaii	2010	<ul style="list-style-type: none"> • Under an umbrella program called Nutrition Education for Wellness, or NEW, this team of extension agents brings its varied expertise to a wide range of projects that promote healthy eating and exercise habits, encourage safe food handling practices, and improve the access of limited-income households to good nutrition.
Kentucky	University of Kentucky Kentucky State University	2011– unknown	<ul style="list-style-type: none"> • Family and Consumer Sciences Extension encourages families to make proactive choices to improve individual health and well being, whether choosing a low fat, nutritious diet, increasing health literacy for chronic disease prevention, or participating in regular physical activity. • Increase promotion and practice of physical activity daily.
New	University of New	2011–2016	<ul style="list-style-type: none"> • Implement the 5-2-1-0 Healthy NH Campaign

Hampshire	Hampshire		(an educational program for youth to promote 5 servings of fruit/vegetables, 2 hours or less of screen time a day, at least one hour of moderate to vigorous activity every day, and zero sweetened beverages).
Pennsylvania	Penn State	2015	<ul style="list-style-type: none"> • Increase healthy eating and physical activity opportunities for Pennsylvania families. • Increase the percentage of youth who are at a healthy weight. • Increase the percentage of adults and children who participate in the recommended amounts of physical activity.
South Dakota	South Dakota State University ^a	2014	<ul style="list-style-type: none"> • The activities will be individualized to the interests and goals of each participating community, but will ultimately focus on three core elements: <ul style="list-style-type: none"> ◦ Promoting access to fruits and vegetables. ◦ Increasing healthy behaviors such as consumption of healthy food and beverages. ◦ Providing access to physical activity opportunities.
Texas	Texas A&M University Prairie View A&M University	2015	<ul style="list-style-type: none"> • Moderately intensive walking, 30 minutes, 5 days per week, is effective in reducing the onset of chronic diseases such as type 2 diabetes as shown by the Diabetes Prevention Program. • Improved access to physical activity and fresh fruits and vegetables will reduce weight and improve health.
Virginia	Virginia Tech Virginia State University	2011–2016	<ul style="list-style-type: none"> • Good nutrition and physical activity—foundations of healthy weights—are associated with higher standardized scores, academic achievement, and school attendance rates.

Puerto Rico

University of
Puerto Rico

2012

- Develop joint action at community level to promote and implement physical activity programs and nutrition education for parents and kids.
- Offer courses in nutrition and physical activity for children/youth and their parents or caregivers.

^aStrategic plan is for the entire university.

Discussion

The study presented here identified a gap in the degree to which statewide/university Extension systems explicitly include a physical activity objective in their strategic plans (i.e., their metrics for success). From a system-level perspective, this lack of physical activity objectives may lead to lower adoption rates of programs that focus on or include physical activity outcomes. This is also concerning at the individual level as the integration of both healthful dietary and activity-related behaviors is key to preventing and treating obesity. Even though the inverse relationship between physical activity and unhealthy weight status is irrefutable (Pate, Taverno Ross, Liese, & Dowda, 2015), most Extension programs (e.g., health education seminars and sessions) that target obesity treatment or prevention focus solely on nutrition education. Any attempts to incorporate a physical activity component are at best aimed at simply promoting increased caloric expenditure.

Energy balance, however, should be viewed not as a static approach (decreasing caloric intake and increasing caloric expenditure) but as a dynamic approach in which each side of the equation influences the other side (Shook, Hand, & Blair, 2014). It may behoove Extension to examine what is needed to support better integration of healthful eating and physical activity approaches, particularly as obesity and chronic disease prevention become increasing focuses of Extension work. One strategy may be to prioritize efforts by articulating them broadly via strategic plans. Therefore, Extension programs should fully integrate nutrition and physical activity outcomes to be successful.

Assets such as community-based health educators, extensive reach, and access to researchers at land-grant institutions put the Extension system in a unique position to lead obesity-preventing efforts across the nation. However, as the study presented here indicates, Extension needs to more readily embrace physical activity, independent of and in concert with healthful eating, as a key determinant of health. Strategic plans lead to strategic thinking (Heracleous, 1998) that may affect the entire Extension system. Thus, including a physical activity objective with measurable outcomes within appropriate Extension strategic plans is likely to lead to strategic implementation and a higher likelihood that populations will become more active and achieve more healthful weight profiles.

It is notable that our review was conducted 1 year after the addition of physical activity to the Farm Bill, involving SNAP-Ed objectives for childhood obesity, in particular. Thus, there may be emerging ongoing efforts related to physical activity that were not captured by our review. That said, there is an opportunity for the study to provoke strategic thinking about including objectives related to physical activity behaviors in strategic plans. Specifically, we hope that physical activity objectives that may be buried at the program

level at present (e.g., within SNAP-Ed plans) will be included at the system level in the next iteration of plans. The impact of national and local Extension systems' contributions to energy balance efforts would be invaluable to the health of the U.S. population.

One limitation to the study presented here is the heterogeneity in strategic plan duration. Some strategic plans have expired, and some are only 4 years in length, yet others are over a decade in duration. This variability may limit the degree to which improvements (i.e., inclusion of physical activity) can be incorporated in the near future. Additionally, we examined only statewide plans, and it is possible that a greater proportion of program-level plans include physical activity objectives. Statewide plans tend to guide hiring and resourcing; thus, even if program-level plans include physical activity objectives, without statewide buy-in and resourcing these objectives are unlikely to be met. The development of a strategic plan is a lengthy and complex process. This process should be made transparent to Extension members and the general public so that individuals will understand how and when they may be able to contribute to the strategic plan (e.g., by integrating physical activity objectives). Finally, some strategic plans may include less common indicators of physical activity, which may not have been captured in our review. In spite of these limitations, there remains a low proportion of Extension strategic plans that include physical activity objectives.

Taken together, future research is needed to determine the degree to which program-level strategic plans include physical activity objectives as well as to determine the relationship between the inclusion of physical activity in the strategic plan and the resources (time, funds, personnel) that are allocated to physical activity promotion.

Conclusions

We identified only a small number of Extension systems (13) that explicitly include a physical activity objective in their statewide strategic plans. The lack of an objective in a strategic plan may be reflective of a lack of resources devoted to physical activity promotion and, ultimately, the prevention and treatment of obesity. This is supported by the fact that only a handful of land-grant institutions have an Extension faculty member who is identified as a physical activity specialist or who has expertise and work responsibilities predominately focused in this area. We urge members of Extension to consider the inclusion of a physical activity objective as a feasible strategy for improving the development, dissemination, and evaluation of their health promotion efforts.

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