Integrating Policies, Systems, and Environments (PSE) Work into FCS Extension Programming: Lessons Learned from A Multi-State Training

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Public health efforts have emphasized changes to policies, systems, and environments (PSEs) to improve health behaviors for individuals and communities. Extension has increasingly emphasized these approaches, particularly for the work of Family and Consumer Sciences (FCS) agents. In part, this emphasis on PSEs in Extension has been driven by SNAP-Ed and other federally-funded initiatives, such as the Centers for Disease Control and Prevention (CDC) High Obesity Programs (HOPs). However, broader adoption and implementation of PSEs at the local level has lagged in some states for various reasons. These include limited understanding about PSE interventions and how this work fits with a traditional Extension emphasis on direct education. To address these issues, faculty and specialists from two states receiving funding from the first round of CDC HOPs planned, designed, and implemented a face-to-face, multi-state, multi-institution PSE training for FCS agents. This paper describes the multi-state training effort and barriers to PSE work in Extension, offers considerations based on lessons learned, and presents recommendations for others seeking to provide similar training.

Keywords: PSE, training, multi-state, public health approaches, environmental change, in-service, Extension health

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Introduction

For more than fifty years, public health professionals have advocated for health education and health promotion efforts addressing the social determinants of health (Green & Allegretti, 2011). Terminology used in discussing such work has evolved over the decades, with these public health approaches most recently referred to within the Cooperative Extension System as PSE change (PSEs), meaning changes to policies, systems, and environments. Shifts in funding priorities by the Centers for Disease Control and Prevention (CDC), Robert Wood Johnson Foundation (RWJF), and others emphasize the importance of including PSEs in outreach work (Kegler et al., 2015; Savoie-Roskos et al., 2018). The research and evidence base linking PSEs with improved health outcomes continues to grow (Bunnell et al., 2012; Stevens et al., 2017). In addition, as discussed by Kegler and colleagues (2015), numerous practice-proven PSE interventions exist that, if sustained, show promise for long-term health benefits within communities.

Two public health models have been used to explain the value of PSEs: the Health Impact Pyramid developed by Frieden (2010) and the Social Ecological Model (SEM) first described by Bronfenbrenner (1979) as Ecological Systems Theory and later applied to health promotion (Golden et al., 2015; Green et al., 1996; McLeroy et al., 1988). The Health Impact Pyramid posits that health interventions are most beneficial when they have the potential to impact large numbers of people through policy changes and by influencing environmental factors connected to where and how people live. The SEM describes complex, multi-level influences on health behavior and the interplay between individuals, groups, and the social environment. Interventions grounded within the SEM should target changes at different levels (i.e., individual, interpersonal, community, organization) to effectively reinforce and support healthy behaviors.

Within the Extension System, PSE work has been driven largely by changes in funding for federal nutrition education programs. For over 100 years, Extension Family and Consumer Sciences (FCS) agents have focused on delivering direct education to individuals and families in community settings. From the start of home demonstration work, educators acted as change agents, providing accessible, translated research findings tailored to meet the specific needs of people in their communities (Kelsey & Hearne, 1949; Reisbeck & Reynolds, 1976). These efforts were expanded through federally-funded nutrition education programs starting with the Expanded Food and Nutrition Education Program (EFNEP) in the 1960s and the current Supplemental Nutrition Assistance Program Education (SNAP-Ed), named the Food Stamp Nutrition Education Program when it started in 1981 (Landers, 2007). Both EFNEP and SNAP-Ed were designed to meet the nutrition education needs of low-income adults and children. With the passage of the Healthy, Hunger-Free Kids Act in 2010, Extension programs funded by SNAP-Ed were mandated to provide comprehensive nutrition education programs, including direct education and PSE interventions. Additional support for PSE implementation in SNAP-Ed and EFNEP was provided through USDA-funded Regional Nutrition Education and Obesity
Prevention Centers of Excellence (RNECE). The RNECE Policy, Systems and Environmental Change Center (RNECE-PSE) focused specifically on integrating effective PSE approaches in EFNEP and SNAP-Ed. The RNECE-PSE provided training and technical assistance for SNAP-Ed implementing agencies, including Extension, on how to provide quality PSE interventions for low-income audiences (RNECE, 2019).

PSE work within the Extension system reaches beyond EFNEP and SNAP-Ed programming. Starting in 2014, CDC funded Extension work specifically to address PSEs in counties with adult obesity rates over 40% through the High Obesity Program (HOP). These cooperative agreements aimed to address environmental factors impacting healthy food and physical activity access (Muriel et al., 2020). Additional efforts to address social determinants of health and integrate PSEs with direct education emerged from a partnership between the Cooperative Extension System and National 4-H Council with support from RWJF. This multi-year project, titled the Well Connected Communities Initiative, aimed to cultivate wellness and foster a culture of health in communities through PSE change (Well Connected Communities, 2021).

National trends, both in funding and focus, indicate a greater need for integration of PSEs in Extension outreach at the local level. While the SEM evolved from human sciences, FCS undergraduate experiences do not uniformly provide exposure to the theoretical underpinnings for FCS or expose students to the systems-level thinking required for successful PSE implementation (American Association of Family & Consumer Sciences, 2019). Despite this challenge, Extension FCS is uniquely positioned to facilitate PSE change in communities (Buys & Rennekamp, 2020). FCS agents often have more flexibility to work with diverse audiences and community groups, in contrast to other locally-based agencies that may have restrictions based on program type or funding source.

In this paper, we describe a multi-state endeavor to provide PSE training for FCS agents. After discussing existing challenges to broad adoption of Extension PSE work at the county-level, we describe the multi-state training planning process and outline training content and format. Based on our experiences and review of documents and participant feedback, we present lessons learned and recommendations.

Where We Are Now

National emphasis on PSE approaches in Extension has remained constant for the last decade. Widespread adoption of such approaches might be expected after continued diffusion (Rogers, 2003). While some programmatic support of these upstream approaches is occurring at varying levels (e.g., state or local), widespread, scaled adoption appears to be lagging (Walsh et al., 2018). This lag may be due, in part, to a lack of contextualized training for Extension settings and audiences, and the absence of examples demonstrating the fit of PSE within county-based Extension programs, especially when funding is limited or nonexistent (Smathers et al., 2018). Because PSE approaches originated in public health, differences in terminology and a long-
standing emphasis on direct education may impede adoption of these interventions by Extension agents. Increased understanding of how PSE aligns with current work of Extension professionals is needed for PSE change to become valued and institutionalized within the Extension system.

Extension outreach has traditionally occurred through educational programs delivered directly to local residents in face-to-face settings. Supports available to Extension professionals (e.g., training and curriculum) are typically focused on direct education (i.e., convey content to increase knowledge or change behavior at the individual level) and do not normally link educational programs to complementary policy, systems, and environmental changes. This gap in support may reinforce a perceived discontinuity between what agents view as their job responsibilities and their understanding (or lack thereof) of how PSE connects with work in their county. However, some Extension professionals may already be doing work to influence change beyond the individual level (i.e., PSEs) but do not recognize it as such. This lack of recognition is understandable given limited attention to contextualizing PSE work to match common county-level efforts. PSE successes often showcase examples of work occurring in population-dense urban settings. Real-world examples of successful policy and environmental change or enhancements in rural areas are needed, including rural areas with high poverty and few resources.

Several challenges need to be addressed for PSE work to flourish in Extension. First, PSE approaches, as they are typically presented, may appear to conflict with or minimize the importance of traditional Extension program delivery methods. The Extension System has historically focused on direct education to accomplish the missions of FCS. A shift away from direct education, or new methods that appear to diminish the importance of one-on-one connections in Extension work, may be perceived as a threat to core values in this field. PSE change can emerge from direct education, and direct education paired with PSE has been successful (Hardison-Moody et al., 2020). A direct education “plus PSE” approach may overcome this challenge; PSE opportunities related to educational content can be included as an enrichment or enhancement activity.

Second, PSE work is inherently process-oriented and time-intensive, requiring knowledge and skills not typically acquired in undergraduate programs. Compounding this barrier is a lack of infrastructure and expertise at state levels to provide subject-matter support for full integration of PSEs in county plans of work. At the local level, PSE change is collaborative; it cannot and should not be done by Extension alone. Similarly, fully supporting PSE work requires collaboration across programmatic and organizational silos within Extension, a challenge frequently lamented at various levels within the Extension system. Collectively, Extension is well-equipped to support many of the common PSE initiatives implemented to build healthier communities. For example, colleagues with expertise in agriculture are essential partners for projects related to the local food environment. Although many states lack capacity and expertise in community development, it is a critical and often sought-after area for FCS collaboration.
within Extension. There are few models for how these collaborations function, particularly regarding implementing PSE change. FCS collaborations with demonstrated success have included Master Gardeners and agricultural Extension agents (Stluka et al., 2019).

Third, the typical 12-month planning and evaluation cycle is an ill fit for PSE work. PSE change takes time, and impacts generally are not measurable for several years. Given a traditional focus on direct education, few evaluation tools or indicators exist, particularly those that align with state reporting systems. Existing reporting structures and timelines may be a disincentive. Extension agents may be discouraged from pursuing this type of work if they perceive negative consequences related to unfavorable annual performance appraisals when direct contacts and individual behavior change are valued over sustained environmental changes that improve health behavior for large groups of people.

Despite these barriers, adoption of PSE approaches in Extension work is necessary to make the difference needed to improve health in the next 100 years (Braun et al., 2014). Training, technical assistance, and ongoing support are needed as FCS efforts expand into working with communities on PSE interventions. Effective training considers context and makes necessary adaptations for the target audience (Gagnon et al., 2015). Plans for PSE training must consider the organizational and community context within which local Extension professionals operate. There is a dearth of tailored training from within the Extension system (Hill et al., n.d.; University of Minnesota Extension, n.d.), and cost is a barrier for wide access to what is available. The burden of developing and providing training, considering both rural and urban settings and allowing room for local tailoring of solutions, often rests with individual states.

**Training Planning and Development**

Researchers from the University of Tennessee, Tennessee State University, and the University of Kentucky collaborated to develop a two-day training program to equip Extension professionals in Tennessee and Kentucky to implement PSE strategies in their communities. These institutions partnered to disseminate knowledge gained and lessons learned from the CDC-funded High Obesity Programs (HOPs) in both states. HOPs were implemented in a handful of rural counties with adult obesity rates over 40%. Extension personnel in these counties had access to a range of customized training and technical assistance related to healthy food and physical activity access provided by nationally-recognized experts and organizations.

The PSE Academy described here expanded HOP best practices and information to counties and Extension FCS professionals not involved with the cooperative agreements.

The overall goal of the multi-state training was for Extension professionals to learn how to make PSE changes in rural communities to support healthy eating and active living. Learning objectives for the PSE Academy were to (a) describe the importance of PSE changes to foster healthier rural communities, (b) identify strategies to incorporate PSE work into county plans of
work, (c) understand how agents used PSE approaches in the CDC 1416 HOPs, and (d) identify barriers and facilitators for PSE work in their county/community.

Collaboration and planning for this multi-state training started in Fall 2018; the PSE Academy was conducted in mid-July 2019. A single in-person planning meeting occurred in October 2018, which included a brainstorming session for the training and establishing training goals and objectives. All subsequent planning took place by conference call, video conference, or email. Nine virtual planning meetings were held to develop programmatic content, delegate tasks, and work through training logistics. Materials and documents were shared between planning committee members through cloud-based services freely available to the universities. Fourteen people served on the planning committee, including four Extension administrators across the two states. Ten committee members were associated with HOP projects in their respective states. More than 60% of committee members had some portion of their time dedicated to SNAP-Ed or EFNEP.

The dates, timing, and location of the two-day training were strategically planned to best coincide with large events and year-end reporting required of Extension professionals in both states. Major factors in determining the location included access via interstate highways, affordable hotel rates with a large enough room block, availability of hotel conference space, and restaurant/entertainment options for participants traveling farther distances.

Each state utilized a different system for inviting or recruiting Extension professionals to attend the training. In Tennessee, regional program leaders provided names of agents who would be a good fit to attend based on previous knowledge and experiences. In Kentucky, the training was promoted to all Extension agents within FCS Extension and area agents within the Nutrition Education Program through existing email distribution lists. Extension professionals previously engaged with the CDC HOPs were directly invited to attend.

A $100 registration fee was charged to cover meeting space and facilities costs, travel expenses for speakers, training materials, and meals (breakfast, snacks, and lunch). Participants were responsible for lodging and dinner expenses. To reduce lodging expenses for participants, the PSE Academy agenda included a full first day; Day 2 was a half day. Registration and travel costs for participants were reimbursed by each university. Additional costs associated with speaker travel and lodging not covered by registration fees collected were paid by the universities. Existing programmatic materials (e.g., workbooks, resources) related to PSE implementation were provided by each university for participant use.

At registration, participants completed a brief survey to gauge interest in PSE work and discern the setting/audience of interest for the participant and their future community-based PSE work. This information was used to make seating assignments to ensure tables included individuals with similar interests and a combination of Extension professionals from both states. This
allowed participants to learn from individuals in a different state with a similar project. Both states had approximately equal representation among the 57 PSE Academy participants.

**Training Content**

Due to the collaborative nature of the planning process and programmatic content, the PSE Academy agenda included 20 presenters from the participating Land-grant Universities, some of whom presented jointly. These individuals provided subject-matter expertise as well as participant technical assistance throughout the training.

The two-day training began with a unifying message grounding policy, system, and environmental work within Extension education, providing a platform for building on common ground within FCS programming. Eight agents representing both states shared personal experiences and success stories of working with PSE-centered projects within their communities. During the second half of the day, state-level Extension faculty and staff shared lessons learned from previously funded grant projects and cooperative agreements, including barriers, facilitators, and considerations for evaluation. The first day concluded with a keynote speaker sharing a motivating and impactful PSE story.

Day Two of the PSE Academy focused entirely on utilizing resources provided to develop a plan of action for PSE strategies within the participant’s community (Kennedy et al., 2020). After brainstorming and individual reflection, participants worked at their tables with others who had similarly focused projects to identify barriers, challenges, and facilitators for implementing their individual action plans. Finally, action plans were shared by participants among the larger group. Movement and networking breaks were intermittently placed within the training agenda. Extension administrators from both states provided closing remarks to reinforce the importance of community-level PSE work. See Appendix for PSE Academy agenda.

Pre- and post-questionnaires completed by PSE Academy participants indicated statistically significant positive changes in confidence to implement PSE strategies and overcome barriers. Participants also reported increased understanding of PSE strategies and increased confidence in communicating the impact of PSE change (Sneed et al., 2020). Follow-up is needed to gauge the continuance of increased confidence reported by participants. Long-term data are needed to determine if PSE Academy participation contributed to sustained change in communities represented.

**Implications for Extension**

PSE implementation does not align with the traditional learning models used in Extension (e.g., Bloom’s taxonomy, Dale’s Cone of Experience), making identification of effective training approaches important for the continuation of PSE work in Extension settings. Currently, no best practices are available for Extension training or programs, although some exist for SNAP-Ed in
rural communities (Haynes-Maslow et al., 2018). The PSE Academy is one example of a PSE training approach. This paper offers initial insight into considerations for training Extension educators to implement and evaluate PSE strategies. However, continued work is needed to identify best practices for training, implementing, and evaluating PSE strategies within Extension programming and structures.

We reviewed PSE Academy planning meeting notes and summaries of quantitative and qualitative data collected from participants to identify training components that seemed most beneficial and areas for improvement. This, together with group reflection activities in PSE Academy de-brief meetings and observations of the author team, contributed to the following lessons learned and recommendations for others planning to conduct similar training.

**Lessons Learned**

- **Plan for purposeful participant seating.** The registration process included a survey about interests to inform participant seating charts during the PSE Academy. Seating assignments grouped participants according to their expressed interests. We also considered audience, setting, and state in group assignments to ensure a diverse mix of expertise and approaches at each table. Given the positive feedback received on the group activities facilitated, this strategy seemed effective at purposely providing participants with an opportunity to learn from individuals from another state with similar projects and needs.

- **Evaluate the need for extraneous components.** Existing Extension programs and initiatives that include PSE strategies were set-up on tables as booths for participants to browse during breaks and networking opportunities. Sign-up sheets were provided for participants to complete if interested in more information about a specific program. Unfortunately, there was a lack of engagement with the booths, and more structured time for browsing may have been beneficial.

- **Think through traffic flow.** The PSE Academy food environment modeled healthy eating options by providing lower-fat items and small nudges that could be implemented as community-based PSE strategies. For example, during lunch, the salad bar layout placed higher-fat toppings (e.g., shredded cheese) and dressings towards the end of the buffet. This created a bottleneck toward the end of the buffet line as participants tried to make selections in a smaller area. Additionally, given the separation of salad bar components on the buffet line, hotel event staff had trouble keeping track of set-up at two separate stations. Other states may plan to improve the layout, develop menus with healthy regional and cultural food preferences in mind, and improve communication with the hotel staff about layout needs.
Recommendations

- **Make participant readiness a pre-requisite for attendance.** Our intent was to bring together a group of educators demonstrating readiness to implement PSE strategies but needing extra training to help them begin. We believe this resulted in more robust discussion around PSE strategies. A synergy among participants might have been absent if participants had a low readiness or awareness of the value of PSE strategies. It may be beneficial to gauge participant knowledge or interest prior to training.

- **Streamline communication and information sharing.** The logistics of a multi-state, multi-institution collaborative event may require particular attention. We assigned two lead communicators, one from each state, and used two distinct state registration systems, which may have resulted in miscommunication with participants about training details. We recommend developing a joint communication plan and sharing the full agenda with participants in advance, so they feel prepared and confident about their participation.

- **Know the venue.** A walk audit was planned to provide participants with applied learning experiences. However, there were no sidewalks in and around the hotel venue. Since PSE Academy faculty were unfamiliar with the venue, the activity had to be eliminated from the agenda. We recommend investigating the PSE Academy venue in advance so that all agenda items can be completed and participants can gain the desired applied learning experiences.

- **Plan for sustained educator support.** Although our project did not involve post-Academy coaching for educator groups, we suggest this as a possible strategy to sustain knowledge gained, facilitate local implementation of PSE strategies, and support goal attainment related to educators’ action plan. Continued coaching would allow for creative problem solving, accountability for goals, and strengthened relationships among multi-state educators and the faculty.

- **Develop an evaluation plan.** Changes in participant knowledge/understanding and confidence to implement PSEs and overcome barriers were collected using a questionnaire completed before training adjourned. Results are reported elsewhere (Sneed et al., 2020). While this type of information is helpful, a thorough and deliberate evaluation plan guided by a logic model would deepen understanding of how training connects with outcomes. An evaluation plan might include participant baseline and follow-up data on both process and outcomes. Use of a logic model may help agents visualize how PSE change is part of a larger strategy to improve health in communities.
Where We Need to Be

For many decades, it has been assumed that teaching people about what will make them healthy leads to adopting recommended health behaviors. This is a flawed assumption. Knowledge alone is not enough to change behavior. People need healthy options to make healthy choices. Integrating PSE work in Extension can result in sustained impacts from direct education efforts. PSE change can be achieved apart from educational programs, but presenting PSEs as separate from direct education may negatively impact agent adoption. PSEs independent of Extension education may lack the context needed for adoption by those working at the county level. Linking Extension’s PSE work to existing or new educational programs may be key to increasing adoption. PSEs can be seen as an enhancement to direct education instead of a stand-alone activity or add-on for Extension professionals. This enhancement occurs when programs are developed or existing programs are revised to intentionally integrate options for PSE change connected to educational content. This is direct education “plus PSE.”

Conclusion

Supporting Extension professionals in adopting PSE strategies is key to empowering them to meet the critical health needs facing their communities, now and in the future. The Extension System is shifting to integrate public health approaches, creating a challenge for some in reconciling these strategies with more traditional ideas about the work of Extension in communities. The SEM provides a framework for applying multi-level strategies, including direct education paired with PSE. The Health Impact Pyramid acknowledges the need for an array of intervention levels to improve health. The PSE Academy discussed in this article provides an example of one promising method for supporting agents while also providing opportunities for peer learning. This type of training allows Extension agents to learn from each other, see examples of what works in “real world” settings, and increase understanding of how PSE implementation can fit within the framework of Extension programming. Lessons learned from planning and conducting the PSE Academy can inform other states seeking to offer training of a similar style.

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Appendix

PSE Academy Agenda

Day 1
9:00 AM Welcome
9:05 AM PSEs: Possible Solutions for Everyone
9:25 AM Building on Common Ground
9:40 AM PSE Tales from Tennessee FCS Agents
10:10 AM BREAK
10:30 AM PSE Tales from Kentucky FCS Agents
11:20 AM Lessons Learned from CDC 1416 in Three States
12:15 PM LUNCH – Look at the Food Environment
1:00 PM Walkability Assessment Activity
2:00 PM Barriers and Facilitators to PSE Extension Work Discussion
3:00 PM Ready, Set, Go--Getting Started with PSEs
4:00 PM “Glory Unveiled: The Story of Rice Park”
4:30 PM Adjourn
Dinner – on your own

Day 2
9:00 AM Welcome, Reflections on Day 1
9:10 AM PSE Planning - Silent and Group Activity
10:15 AM BREAK
10:30 AM PSE Planning - Groups Share with All
11:30 AM Storytime: A Two-State Tale
Noon Taking the Message Home and Digging In
PSE Academy Evaluation – please provide your feedback
Adjourn