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## Facilitators and Barriers to Implementation of Community-Based Socio-Ecological Approaches to Obesity Prevention Among Cooperative Extension Agents

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*Perceptions, knowledge, and attitudes of Cooperative Extension Service (CES) Family and Consumer Science (FCS) agents related to the planning and implementation of community-based multi-level ecological obesity prevention strategies were identified through qualitative, exploratory research. Focus group discussions (FGD) were conducted in the five regions of the Louisiana State University CES (LSU AgCenter). Participants included CES FCS Extension agents (n = 35; 97% of agents). Participants were female and responsible for conducting programming in parishes (counties). Thematic analysis of data found principal factors that influenced FCS Extension agents' perceived ability to plan and implement community-based multi-level obesity prevention approaches to include knowledge of the socio-ecological model, beliefs about roles of CES, funding, human resources, community connectedness, community buy-in, guidance, and internal support. Assessing what FCS agents perceived as barriers and facilitators to implementing community-based obesity prevention approaches provided valuable direction to the state FCS office. Understanding gaps in knowledge, professional development needs, and existing strengths will help make the transition to community-based obesity prevention initiatives more effective. These findings may be beneficial to other CES and public health agencies implementing multi-level, community-based obesity prevention programs in partnership with community coalitions.*

**Keywords:** community-based obesity prevention, focus group discussions, Cooperative Extension Service, community coalitions

### Introduction

In 2014, the Extension Committee on Organization and Policy Health Task Force released the Cooperative Extension System (CES) National Framework for Health and Wellness, signaling a shift in Extension to prioritize multi-level ecological approaches to obesity prevention (Braun et al., 2014). Because of the limitations of direct education for individual-level behavior change (Frieden, 2010; Golden & Earp, 2012), the National Framework for Health and Wellness

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encouraged engagement across all levels of the Socio-Ecological Model (SEM) for Health. The SEM recognizes the importance of individual-level factors on behavior change but emphasizes the influence of factors beyond individual choice on health outcomes, including community resources (e.g., availability of healthy and affordable foods, accessibility of safe places for physical activity) and policies at the local, state, and national level (workplace breastfeeding policies, school lunch guidelines, school recess standards; Golden & Earp, 2012).

More significantly, multi-level strategies reach people who are not active participants in CES programming, satisfying the overall goal for both the National Framework for Health and Wellness and the National Prevention Council, to “increase the number of Americans who are healthy at every stage of life” (Braun et al., 2014, p. 23). While most CES nutrition agents are comfortable delivering education programs, agents need strategies beyond direct education to engage in multi-level ecological methods (Smathers et al., 2018; Smathers & Lobb, 2015).

To impact higher levels of influence on health behavior, such as policies and the availability of community resources, strategic partnerships are needed (Green et al., 2001). Agents may be able to leverage a key relationship at a particular institution, such as a school, to bring about policy changes such as Smarter Lunchrooms (Thomas et al., 2016), but to increase the potential to reach an entire community, a broader community-based approach is needed (Israel et al., 2010). Community-based participatory research (CBPR) engages a community, inviting all to have a seat and a voice at the table. CBPR can gather community input and direction in various ways; some projects use neighborhood focus groups, community forums, photovoice, coalitions, or a conglomeration of methods that involve listening to the community and building community capacity (Hacker, 2013).

In response to the 2014 CES National Framework on Health and Wellness, LSU AgCenter Family and Consumer Science (FCS) agents were encouraged to partner with an existing coalition or form a new one if none existed in order to secure community input, foster partnerships, and guide project implementation. Previous research has found partnering with local coalitions to be an effective strategy for CES agents to implement community-based ecological approaches to obesity prevention. Local community coalitions in rural Tennessee were able to increase physical activity opportunities, improve the school nutrition environment, and improve produce availability at food pantries (Wallace, 2019). Working through Alabama FCS, community coalitions focused on increasing physical activity, including projects such as improved walking/biking trails and playground repair (Carter, 2019). Coalitions extend the reach of CES agents, build community partnerships, and can enable access to impact upper tiers of multi-level ecological approaches (policy, systems, and environmental changes).

Coalitions can also increase access to community groups previously unreached by a local Extension agent, particularly if a coalition is built with community representation in mind (Anderson et al., 2015). As lower-income community members frequently live in the areas of

town with the least access to safe places to walk and healthy foods (Suglia et al., 2016), it is critical for them to not only be represented within the coalition but to have agency in coalition decision making.

Because the skills needed to lead coalition-driven interventions are not necessarily the same skills agents use to conduct direct education, the authors initiated the current study to assess readiness and potential barriers for LSU AgCenter CES nutrition agents to engage in multi-level community-based obesity prevention approaches.

At the time of the study, no LSU AgCenter CES agent was working with a community coalition. The authors used the PRECEDE-PROCEED planning model (Crosby & Noar, 2011). PRECEDE-PROCEED is a widely used tool designed to help program planners start with the end in sight, working backward to determine initial and ongoing steps. The study used the constructs from the first half of the model: predisposing, reinforcing, and enabling. Predisposing factors include an individual's beliefs, knowledge, and attitudes that influence personal readiness for change. Enabling factors include resources (personal or systematic) and skills available to make change possible. Reinforcing factors serve as a feedback loop, providing an individual with either positive or negative support following an initial change. These constructs are intended to inform the first steps of program planners before implementation. Together, the constructs indicate a need for further training, ongoing programmatic guidance, and greater clarity in how LSU AgCenter nutrition agents and programs will be evaluated.

## Methods

### Study Design and Participants

Five focus group discussions (FGD) were conducted with CES FCS in Louisiana. All study procedures and documents were approved by the Institutional Review Board of the University. All FCS agents in the state were invited to participate in a focus group, with 35 out of 36 total agents participating. Focus group size ranged from 4-9, with an average size of seven agents. Each of the five regional Louisiana CES offices hosted an FGD. Participants provided informed consent and completed a demographic survey before participation in the FGD.

This study used recommendations by Krueger and Casey (2000) to guide question development and sequence, including the use of common, easily understandable language; one-dimensional, open-ended questions; a limited number of questions; and probes and positive questions placed before those that may provoke a negative response. Krueger and Casey's recommendations for question sequence and progression were followed, including the use of opening, introductory, transition, key, and ending questions. Seven open-ended questions were constructed based on the objectives of the study and guided by the PRECEDE-PROCEED (Green & Kreuter, 2004). Recent literature on ecological and multi-level approaches to obesity prevention was also

considered during question development (Gantner & Olson, 2012; Lu et al., 2014; Smathers & Lobb, 2015; Stark et al., 2011, 2017).

The face validity of the revised questions was established by asking the opinions of two experts in the field of nutrition, community outreach, and formative evaluation. Seven open-ended questions were included in the final version of the focus group protocol (Table 1) and placed into a semi-structured moderator guide that included a scripted study description and question prompts to enable clarification of participant responses as necessary. The author (DH) is a trained facilitator and moderated all five focus groups using recommendations from Krueger and Casey (2000). The author/facilitator received training through the LSU AgCenter's Department of Organizational Development and Evaluation and has moderated FGD before this project.

Data saturation was achieved when data obtained from the FGD yielded no new ideas or themes as determined by the lead researcher (DH), with a total of five FGD conducted. Other researchers utilizing FGD have also found that data saturation typically occurs between three to five FGD (Coenen et al., 2012; Guest et al., 2017).

### Data Analysis

After the FGD, audio recordings were uploaded to a professional transcription agency through a file hosting service, transcribed verbatim, and carefully read and checked for accuracy by the lead researcher (DH). Focus group discussions were then coded and subsequently themed by a CES nutrition specialist and lead researcher (DH) using a constant comparative approach (Glaser, 1965). For each FGD, responses were combined under each corresponding question for analysis, and a summary of each FGD question was then constructed using participant responses. During initial analysis, large categories of text were identified and coded using an In Vivo process. The second cycle involved deductive pattern coding using the PRECEDE-PROCEED constructs. Codes were identified and placed in a codebook by DH and were reviewed by a co-author, an Evaluation Specialist (MC), for consistency. Once all codes were compiled, they were applied to each FGD. Content analysis of each FGD question was then conducted to identify recurring dominant themes, trends, and ideas that emerged. Through this approach, themes were used to identify predisposing, reinforcing, and enabling factors for implementing multi-level obesity interventions. Qualtrics, an online survey program, was used to analyze and summarize participant demographic characteristics based on survey data.

**Table 1. Focus Group Discussion Questions for FCS Agents Based on the PRECEDE-PROCEED Model**

#	FGD Question	Factors Identified
1	What do you believe is the purpose of the state FCS programming? Probe: What are the primary focus areas?	Predisposing
2	What do you think is meant by community-based approaches to obesity prevention?	Predisposing, Reinforcing

#	FGD Question	Factors Identified
3	What are your thoughts regarding this approach? Is a community-based approach realistic? Why or why not?	Predisposing, Enabling, Reinforcing
4	What barriers have you had or do you anticipate encountering when you begin to plan and implement a community-based obesity prevention program?	Enabling
5	What types of support or training have you received that is relevant to community-based obesity prevention program planning and implementation? Probes: What was helpful? What needed improvement?	Enabling, Reinforcing
6	What topics relative to delivering community-based obesity prevention interventions would you like to see covered in future training opportunities? How would you like to receive this information?	Enabling
7	Of all the things we discussed today, is there anything else you would like to add that was not covered?	Dependent on responses

## Results

A total of 35 FCS agents participated in the study, with an average of seven agents per FGD (range 4-9). Participants were all female, and the majority had Master's degrees. Over half of the agents were non-Hispanic white (54%), and about a third were non-Hispanic black (34%). Most (66%) worked in more than one parish (county); however, 26% of agents worked in three or more parishes (Table 2). The most requested training topics included evaluation (56%), behavior change theory (44%), best practices (39%), evidence-based practices (36%), and coalition building (33%).

**Table 2. Focus Group Discussion Participant Characteristics, Job-Related Information, and Modalities of FCS Agents**

Variable	Category	N = 35	%
Gender	Female	35	100
Race	Non-Hispanic white	19	54
	Hispanic	1	3
	Non-Hispanic Black	13	34
	Other	1	3
	No response	1	3
Highest Degree	Bachelor's	9	26
	Master's	24	68
	Doctoral	2	6
Registered Dietitian	Yes	10	29
No. of counties agents conducts programming in	0 = (regional coordinator)	1	3
	1	11	31
	2	14	40
	3	3	9
	4 or more	6	17

Identified predisposing, enabling, and reinforcing factors to planning and implementing multi-level approaches to obesity prevention through community coalitions are summarized in Figure 1 at the end of the Results section.

### **Predisposing Factors**

Predisposing factors include an individual's knowledge, beliefs, and attitudes that influence a person's readiness for change.

**Beliefs Regarding Role of CES in Communities.** Agents believed that their role was to deliver research-based information and expertise to the communities they served. They also believed that the LSU AgCenter was considered a trusted source of information for the community. One agent elaborated, "I think it goes back to us being a part of that community and that people know they can rely on us, but whatever we start, we've got to be willing to finish." Another shared, "we are trusted in the community. I think the LSU AgCenter has that advantage, in terms of trying to implement something like this." Participants also shared the view that they were facilitators in the community because of their role as an FCS Agent. One agent said,

We are facilitators in the community, identifies [sic] their problems, or things that they want to make better in terms of health, and then we kind of act as a resource to connect them to people who can help them reach those goals.

Agents viewed their role as being a trusted community connector.

**Knowledge of Socio-ecological or Community-based Obesity Prevention.** Respondents indicated that the purpose of FCS outreach was to deliver research-based information to teach people how to be healthy to improve their lives. Responses tended to focus on individual-level factors rather than those that impact broader influences of an individual's behavior, such as factors identified in the SEM model. All agents were able to describe at least one aspect of the socio-ecological model or community-based approaches to prevention.

The majority of responses focused on community input and ownership as a key aspect of a community-based approach. One agent advised, "It has to be generated by the community. We have to get their input and buy-in to start this." Although participants understood what was broadly meant by community-based obesity prevention programming, they did not understand specifically what that entailed or what they would be required to do as part of the effort. For example, participants indicated, "I don't feel that I have a clear understanding of what we're supposed to be doing, of what's expected of us, or where are we even supposed to start." Overall, agents had a limited understanding of the SEM model.

## Enabling Factors

Enabling factors include resources (personal or systemic) and skills available to make change feasible.

**Human Resources.** Most study participants indicated that collaboration and partnerships were essential to plan, implement, and sustain community-based obesity prevention programs. One agent shared, “I think that it comes to a point where you have to collaborate, and you have to partner, and you have to figure out, well, what do we do best. What do we bring to the table, and what does another entity do best?” Another agent emphasized the need for healthy partnerships, sharing, “We have to build stronger partnerships and collaborations to...be sustainable.” While participants highlighted the need for partnerships and collaborations, the majority further indicated that these relationships and human capital are needed because of the work capacity of FCS agents and the perceived magnitude and complexity of the initiative. An agent reflected, “Our capacity to meet community need is very, very lacking.” Participants also viewed establishing partnerships as daunting, as they did not feel they had the capacity, saying, “Huge undertaking, we are thinly staffed.” Another agent felt more staffing would be needed to be successful, sharing, “Everybody will feel a sense of community when you have the community involved, but I think the FCS agents, we’re going need more human resources.” Even though some did not feel they had the capacity to expand partnerships, most agents viewed the need for partnerships as critical.

**Funding.** Study participants indicated that funding would need to be made available to sponsor some of the projects the community would request as part of the community-based obesity prevention initiative. One agent cautioned, “If we don’t have any kind of monetary resources, then we can make all the plans in the world, but we’re not going to be able to implement them.” Another agent voiced her concern, saying,

Everybody has these great ideas; let’s do this, let’s do that, but if you’ve got a couple of people just from the community, a couple of pastors, some government people, the local people, nobody has any money to implement any of these plans.

Additionally, a perception that community-based approaches do not fit into federally-funded programmatic guidelines was identified as a barrier by a small number of participants. One participant indicated, “I’m 90% SNAP-Ed, so of course, that 10% is overfull...’cause a lot of this doesn’t even fit within the SNAP-Ed guidelines.” Agent perception of funding restrictions was viewed as a barrier to implementation of community-based obesity prevention initiatives.

**Autonomy and Guidance.** Agents indicated that they wanted autonomy to make decisions about how projects would be planned and implemented based on the characteristics of their target community. Study participants also wanted flexibility in how they define community, whether by geographical area or by other factors.

Almost all agents indicated that they would like to receive an implementation guide that would outline steps needed to plan and implement a community-based or healthy communities program, with the freedom to deviate in response to community needs. This manual would also provide agents with guidelines, expectations, and reporting requirements. One agent requested “a plan or guidance as to how do we do this with limited staff.” Another agent wanted the guide to specifically “outline everyone’s part or role,” saying “we do what people tell us to do.” All FCS agents were very clear that they needed training and technical assistance to enable them to plan for and implement a community-based prevention project. Training topics included coalition or action group building, facilitation, socio-ecological model study, collaboration and partnership development, and examples of community-based programs from other states. For example, one participant indicated, and others agreed that,

Maybe what works...like an urban model in a healthy community that works in another state, and then a rural model and what works somewhere else. Might be nice to see, you know, their stumbles and their stalls, and what works for them.

Although agents indicated that they wanted autonomy in most aspects of the project, they also requested to receive specific guidance as to how to plan and implement the program.

**Community Connectedness.** While being employed by the LSU AgCenter CES was a predisposing factor for planning and implementation, connection to the community was described as a factor that may have impeded or facilitated implementation and planning among participants. For example, understanding or being connected to the community was described as a factor that could facilitate implementation of the approach. However, if agents did not consider themselves part of the community due to working in several parishes, community connectedness was viewed as a barrier to successful planning and implementation. An agent explained, “you have to be in that community to determine the vibes of what people want, what might motivate them.” Another said, “in order for us to be effective, you have to be part of that community.” This tension of multi-parish work was captured by an agent who said,

When you’re living in one parish, but you’re assigned work in several others, then you have to figure out how to engross yourself as part of those communities, so that people see you as not just an outsider, they see you as, as a valued member of that community.

Two-thirds of agents served two or more parishes, which can make connecting to the community a salient challenge.

**Community Support.** Perceived lack of interest in health or changing health-related behaviors among community members and stakeholders was suggested as a negative enabling factor or barrier to a community-based approach. Frustration was expressed by an agent who shared, “how do we get those other people who really could just care less about what we’re talking about?” Another expressed the difficulty of starting a project like this, stating, “it says a lot if

you can get that group together to set some goals because [if] you can't get that off the ground, then there is probably not an interest in it." It could be that perceived disinterest is the result of limited community connection, as discussed in the previous factor.

### Reinforcing Factors

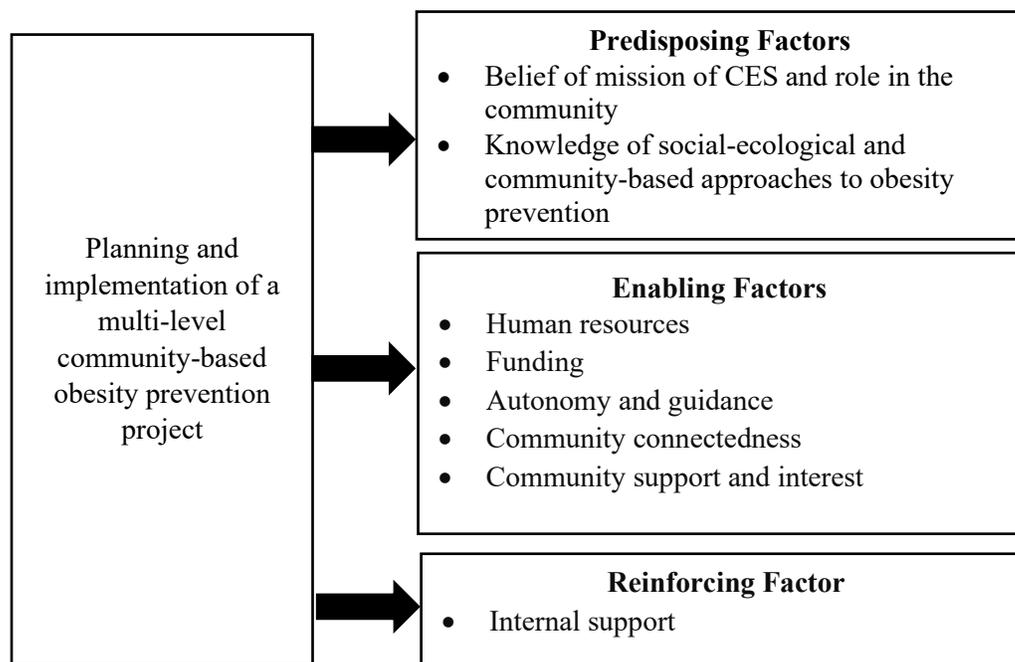
Reinforcing factors provide an individual with positive or negative support following a change.

**Internal Support.** Based on a majority of participant responses, internal support from other program areas within the institution (e.g., parish or state administrators and CES agents in other program areas) was identified as a reinforcing factor that could encourage or deter agent implementation of community-based obesity prevention efforts. One agent expressed skepticism, saying,

We've talked community buy-in, but do you have parish staff buy-in to the point of somebody getting in there and working with you, and not just saying, oh, well, I support this effort, but then not assisting or helping in any way, because every area that we have in a parish staff, 4-H, Ag, they all can play a role, and should be playing a role in building a healthy community.

Communication (or lack thereof) across LSU AgCenter CES program areas about the shift in FCS to community-based obesity prevention may have impacted internal support.

**Figure 1. Facilitating Factors to the Planning and Implementation of Multi-Level Approaches to Obesity Prevention Through Community Coalitions by FCS Agents in one Southern State**



## Discussion

This is the first study that has attempted to understand FCS Nutrition agents' underlying beliefs and perceptions related to planning and implementing a community-based approach to obesity prevention. The results suggest that several factors may influence an FCS agents' ability to plan and implement this approach, including beliefs about the role of CES, knowledge of the socio-ecological model, human resources, funding, community connectedness, community buy-in, autonomy and guidance, and internal support for the initiative.

Community-based partnerships are necessary to enable change at the community level, and as a result, are a key aspect of multi-level community-based approaches to prevention (Sliwa et al., 2011). In this study, agents reported being thinly staffed and recognized the need for community partnerships to help plan and implement this effort. Due to state budget reductions, LSU Agcenter CES was reorganized, and in 2011, all FCS programs were eliminated except nutrition. State budget reductions are not unique to Louisiana; nationally, the number of full-time equivalents of CES faculty have decreased since 1980, with the Southeast region dropping by 45% (Wang, 2014). Beyond CES, other public health agencies have reported that staffing and skill levels to plan and implement a community approach are inadequate; the skills needed to establish and sustain these partnerships are critical (Schwarte, 2010; Schwarte et al., 2010).

In this study, agents described their role as facilitators, which included developing relationships with new non-traditional partners. Partnerships are inherently difficult to manage and can be time-consuming to develop, especially among new, non-traditional partners, which are necessary for community-based obesity prevention efforts (Middleton et al., 2014; Weiss et al., 2002). This activity can be time-consuming for field faculty. However, if agents only work through existing partnerships, resulting priorities will be reflective of those relationships. The time-consuming work of building new collaborative partnerships with equity in mind is essential for community-based obesity prevention efforts to have the possibility of reaching all people in a community.

At the time of this study, no agent was involved with a community coalition. However, agents felt that in their role at CES, they were a trusted source of research-based information and a facilitator within the community. Because of this history, especially in rural settings, FCS agents are well-positioned to help lead these efforts. The majority of FCS agents in this study were conducting programming in more than one parish, and 26% were working in three or more. If an agent is not visible within the community due to working in multiple parishes or other reasons, their ability to lead the coalition, facilitate community partners, and garner community support may be hindered.

Further research is needed to determine the extent to which FCS agents are engaged in their communities, whether this is impacted by the number of parishes served, and whether serving in multiple parishes leads to an agent being viewed as an outsider. This will enable state specialists to develop strategies and tools to improve levels of engagement. Additionally, because

demographic data was not tied to responses, it is unknown if any comments made about being viewed as an outsider were tied to racial identity. With 34% of the agents identifying as black and 54% identifying as white, it is almost certain that all agents work in some communities in which they are a minority. Understanding how race impacts FCS agents as they implement community-based multi-level interventions is an important avenue for further research.

Program funding source was also perceived as a barrier among participants. Most FCS positions in Louisiana have multiple funding streams—positions may be split 90% between a federally funded program, such as SNAP-Ed, with the remaining 10% allocated for general nutrition programming (funded through the state). Only five FCS agents at the LSU AgCenter are fully funded by state funds. Agents' time is expected to reflect their funding, thus, limiting allowable activities to what is specified by grant requirements. Most participants indicated their job responsibilities were largely guided by federally-funded program requirements implemented through CES, such as Supplemental Nutrition Assistance Program—Education (SNAP-Ed) and the Expanded Food Nutrition Education Program (EFNEP). Agents viewed this as a barrier because they believed that a community-based approach is not just limited income audiences, which are the targets of the EFNEP and SNAP-Ed programs. Agents did not think a community-based approach would fit into SNAP-Ed and EFNEP programmatic guidelines. Additionally, some agents adhere to previous grant guidelines, either unaware that changes have been made or unwilling to adapt to new responsibilities. While agents in this study were not aware of guidance allowing for community-based approaches and multi-level strategies, a recent study (Stark et al., 2017) found that agents with  $\geq 50\%$  funding in either SNAP-Ed or EFNEP were more likely to use ecological approaches to prevention than those who were not.

Program guidance for SNAP-Ed includes provisions to use multi-level outreach delivery mechanisms that include direct education, social marketing, and the promotion of policy, systems, and environment (PSE) change (U.S. Department of Agriculture and the Food and Nutrition Service, 2016). Additionally, EFNEP has provisions that include collaborating with community partners to improve the food and physical activity environment (USDA and the National Institute of Food and Agriculture, 2017a). More recently, the Regional Nutrition Education and Obesity Prevention Centers of Excellence Policy, Systems, and Environmental Change Center (RNECE-PSE), has “committed to training, equipping, and empowering SNAP-Ed and EFNEP networks to effectively implement PSE approaches to support healthy lifestyles for limited-resource audiences where they live, work, and play” (University of Tennessee, 2016). Future training should focus on how federal programmatic guidance supports community-based multi-level interventions, regardless of the source of CES funding. The development of a state-specific PSE tool kit for FCS agents, along with guidance and tools provided by RNECE related to PSE efforts in SNAP-Ed or EFNEP, will help to alleviate confusion as to allowable and nonallowable activities and outreach for both programs. This complements the development of a multi-level menu of intervention options of direct education opportunities combined with PSE approaches described above.

Most of the FCS agents in this study indicated a need for autonomy in working with their communities to determine the focus and plan for their community-based project. Agents should be given autonomy in selecting strategies and guiding their community through this effort while still using evidence-based practices. Providing agents with success stories from similar communities along with a menu of evidence-based strategies could empower coalitions to decide what would work best in their settings without having to recreate the wheel. Contrary to those wanting autonomy, others indicated a need for an implementation guide, as this approach is different from the individual-level outreach CES traditionally uses. In recognizing the need for autonomy, flexibility within the structured guidance provided to agents will allow for this approach to meet the needs of the agent and the targeted community and members.

Internal support was identified as a reinforcing factor to agent planning and implementation of community-based obesity prevention approaches. Working on communities-based projects may decrease agents' direct outreach numbers because they will spend more time on relationship development with a limited number of individuals. Agents need to know they are supported by their supervisors in this. Reporting within CES typically relies on outputs and short-term outcomes related to individuals (numbers reached, perceived skills acquired) and not outcomes related to community and policy-level change (USDA and the National Institute of Food and Agriculture, 2017b). The focus on direct contact with individuals through informal education programs and workshops, which typically result in large outreach numbers, may deter agents from fully engaging in a multi-level, multi-sector community-based intervention. Relationship building, a hallmark of sustainable community-based obesity prevention approaches, takes time and consists of far fewer individuals than agents would typically reach in traditional Extension outreach modalities and projects. This transition needs to be recognized in agent evaluations, so that agents who do an excellent job building key community relationships and facilitating multi-level community interventions will be recognized for excellence in performance evaluations. New ways to capture agent effort, including those that measure equity, need to be developed.

Making a shift from direct education to community-based approaches alongside those that target individual behavior change is a significant undertaking, both for individual FCS agents and the state office. Through assessing agent perceptions, key issues have emerged, which further work will need to address. How can the state office help FCS agents gain skills to better connect with their communities, especially for agents serving more than one parish? How can equity become embedded in the fabric of what we do after the first steps of including measures for equity are included in performance evaluations? How do we communicate the value of community-based approaches to those within Extension outside of FCS? As the direct supervisors of most LSU AgCenter FCS agents are from other branches of the CES, examining supervisor perceptions of community-based obesity prevention efforts may yield key insights.

### **Limitations of the Study**

There are several limitations to this study. This study was conducted among FCS agents in one southern state, and generalization to other state FCS agents or public health professionals may not be possible. Further, FCS agents in this state only focus on nutrition and health instead of other FCS initiatives such as family resource management and community development; therefore, these results may not be representative of all FCS agents. Secondly, most LSU AgCenter FCS agents are funded through federal programs that target low-income audiences, which may not be the case in other CES agencies.

### **Implications for Practice**

One of the hallmarks of CES is that it uses evidence-based practices and programs to provide informal education and outreach to the communities they serve in a variety of contexts. Evidence suggests the environment, not individual-level factors, is largely responsible for a person's health-related motivations and behaviors (Story et al., 2008). As such, CES now requires provision for the promotion of socio-ecological approaches in the federally-funded nutrition education program administered through CES.

The findings from this study are novel because they may provide insight as to what training and support are needed for FCS agents as ecological community-based approaches to prevention become incorporated in programming and outreach. Because community-based multi-level ecological approaches require a different type of outreach and delivery approach, and to some extent, a different nature of professional development and training (Stark et al., 2011, 2017), understanding FCS agents' perceptions is critical to guide training and development opportunities. Findings suggest that several factors need to be addressed through professional development opportunities to give agents the confidence and tools they need to successfully tackle a complex multi-level yet potentially impactful approach to prevent obesity. These include programmatic, implementation, and reporting guidance surrounding this approach. Professional development is needed in the following areas: facilitation skills, coalition building, action planning, technical assistance surrounding evidence-based practices that address multi-level interventions, evaluation, and reporting.

The 2014 National Framework for Health and Wellness provides the foundation for states to incorporate community-based approaches to obesity prevention. Assessing agent perceptions can help guide the transition from an exclusive focus on direct education to a more representative, community-based approach. Given the strong presence of CES in counties throughout every state, the agency is uniquely positioned to engage and convene partners, assess community needs and challenges, and promote and facilitate positive community changes to enable community members to make healthy choices, all of which are necessary to facilitate community-based approaches to obesity prevention.

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