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Partnership Roles in Early-Learning Providers' Healthy Eating and Physical Activity Programs: A Qualitative Study

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ABSTRACT

Background: The Centers for Disease Control and Prevention (CDC) provide recommendations for children's physical activity (PA) and nutrition practices. Community partnerships in school-based programs are recommended by the CDC to support children's opportunities to regularly engage in these practices. **Purpose**: Informing the role of Health Educators and community partners, the research purpose was to explore how to support early-learning providers' healthy eating and PA programs. **Methods**: Drawing upon interpretive description methodology, 13 Indiana early-learning providers participated in one-on-one interviews. Participants shared experiences of, and recommendations for, building school health partnerships and programs. Three areas for supporting programs were identified and recontextualized into guiding questions for practice. **Results**: Health Educators and community partners can support providers by developing or acquiring resources, such as examples of classroom PA delivery. They can contribute by providing program planning services, like co-developing PA programs with teachers and meal planning with staff. By creating networking opportunities, community partners can initiate online or in-person knowledge-sharing and mentor–mentee programs. **Discussion**: These findings inform how Health Educators and community partners can be involved in school-based health promotion by providing insight into partnership roles. **Translation to Health Education Practice:** The practical questions can be used to guide the development of collaborations.

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Background

The associations between children's physical activity (PA) and health outcomes, such as cognitive development,[1] physical health,[2] and social and emotional well-being,[3] have been reported. Furthermore, fruit and vegetable consumption is associated with reduced risk for chronic diseases, such as cardiovascular disease.[4] Because of these associations, the Centers for Disease Control and Prevention (CDC) created guidelines for children's engagement in PA[5] and consumption of fruits and vegetables.[6] Specifically, children should engage in a minimum of 60 minutes of moderate-to-vigorous PA every day and consume at least 5 servings of fruits and vegetables daily.

Despite the well-documented benefits of children's healthy eating and PA behaviors and the national recommendations, a majority of children in the United States are not achieving these recommendations.[7–9] In Indiana specifically, most children are not achieving the recommended amounts of PA or fruit and vegetable intake.[1,10] Only approximately 25% of Indiana children achieve the recommended amount of PA, and approximately 40% of Indiana children report consuming fruits and vegetables less than once per day.[10]

Programs in early-learning[2] settings have been implemented to address these behaviors. PA programs in early-learning settings can moderately affect PA levels, with significant positive effects on PA levels evident in activities led by teachers, conducted outdoors, and/or that are unstructured.[11] There is also evidence that these programs improve motor skills.[11] Comprehensive healthy eating or nutrition programs (ie, programs that include exposure to healthy foods and nutrition education) in early-learning settings can influence physical health and increase fruit and vegetable intake.[12]

The important role of early-learning programs in promoting children's health is evident, and the CDC has published 2 frameworks within the Healthy Schools initiative[13] that guide the development of health-based programs. The Whole School, Whole Community, Whole Child (WSCC) model[14] and the Comprehensive School Physical Activity Program approach[15] involve several components that are integral to effective school-based health and activity promotion, such as PA promotion

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throughout the day and inclusion of Health Education and services. Across both frameworks, community involvement and engagement remain key components of school-based health programs.[14,15]

To address community involvement and engagement, school communities are encouraged to partner with state and local organizations.[13] Community partnerships, including university partnerships, have been described as an effective vehicle to implement and evaluate nutrition and PA programs in early-learning settings.[16] Recently, Hunt and colleagues[17] offered insight into how to foster community involvement, recommending that inviting community partners with health expertise and resources to the program partnership can help with the development and implementation of program goals. Ultimately, partnerships are key, yet there is not much guidance for providers, Health Educators, or community partners to do so. Evidence exists, however, that defining partner roles from the beginning of health-based programs is important.[18] Thus, an exploration of how to support early-learning providers' programs would contribute to researchers' and community partners' (including Health Educators or Certified Health Education Specialists [CHES]) understandings of potential roles in programs and might facilitate collaborations in different early-learning settings. Because of the research and practice benefits of identifying opportunities to partner with early-learning providers, the purpose of this study was to qualitatively explore how to support early-learning providers' healthy eating and PA programs.

Methods

Community-based participatory research

Community-based participatory research (CBPR)[19,20] is a collaborative method that involves the inclusion of research practices to understand a community issue and enhance the well-being of a community. Building relationships and community partnerships, and building upon existing community resources are key principles of CBPR.[20] Israel and colleagues outline several phases to CBPR projects that can be contextualized.[20]

The current article involves the development and implementation of the first 2 phases. Forming and maintaining partnerships by identifying potential partners and mutual interests is the initial component of a CBPR project, and the second phase includes identifying relevant needs of the community members (ie, in this context, early-learning providers).[20] For the initial partnership formation, the first and third authors met at a community consultation event hosted by the first author and identified a mutual interest in building partnerships to support healthy eating and PA programs in early-learning settings. However, we were unsure how to provide support or what our role could be.

The current study therefore represents the second phase in which we identified relevant needs of early-learning providers' healthy eating and PA programs. Figure 1 is an overview of the research process and future phases, with the first 2 phases shown in bold and discussed in this

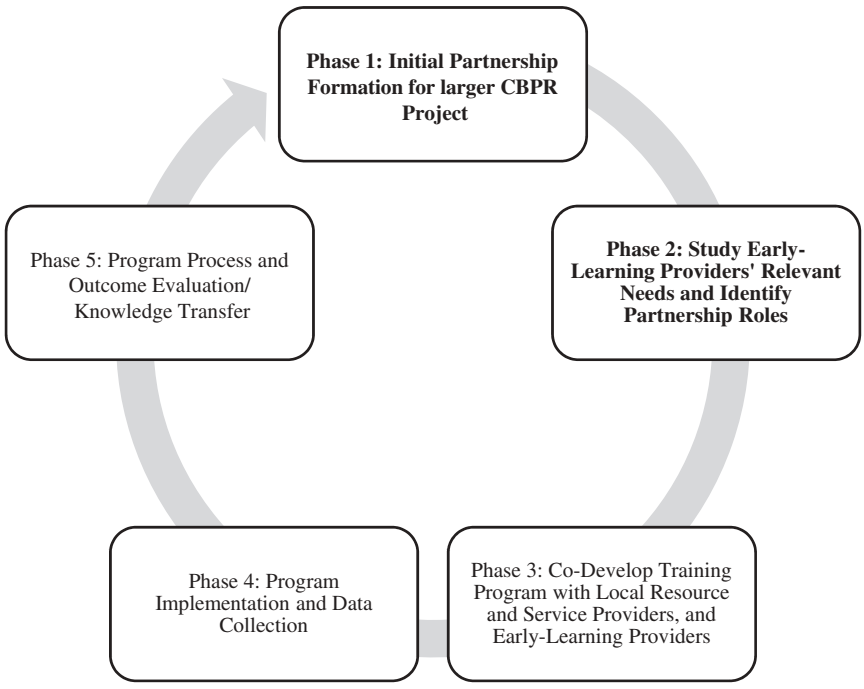

Figure 1. Overview of the research process and future phases.

article. We also identified additional key project participants who are early-learning providers, or who are partners who support early-learning providers. The results of this phase helped us and the community partners identify roles for supporting healthy eating and PA programs in early-learning provider settings based on expertise and interests, and provider needs.

Participants

Early-learning providers (ie, provided early-learning curriculum and childcare to children 0–12 years old) were interviewed in this study. We were particularly interested in talking to providers from different contexts. For instance, those who provide services through registered ministries, licensed centers, and licensed homes were interviewed about their experiences of current and planned healthy eating and PA programs and partnerships, as well as their needs and resources for these programs. In some of the licensed centers and ministries, staff members such as kitchen staff, directors, and teachers provided a comprehensive understanding of both healthy eating and PA programs, as well as partnership resources and needs. The participant in a home-based setting was the sole provider of health programs in her setting.

Instruments

A semistructured interview guide was designed based on the research purpose. The interview began with an introduction to the study, interviewer, and participant. The interview guide had 3 main sections with open-ended questions. The first section included questions about the participants' early-learning communities and community partners (eg, Who is involved in the center/home programs and/or initiatives?). The participants then shared their experiences of current and planned healthy eating and PA programs and/or initiatives in the second section (eg, What are you doing and/or planning to do to facilitate healthy eating and PA practices for the children? What are the facilitators and barriers of the initiatives?). In the third section, participants discussed their recommendations for building partnerships and programs in this context (eg, What would help you or what would you recommend to enhance facilitators and address barriers of healthy eating and PA programs?).

Data collection

Thirteen Indiana early-learning providers participated in one-on-one in-person interviews. Participants were purposively sampled through email. Written consent was obtained before the interview began. A state-wide nonprofit sent the recruitment email to early-learning providers in their network. The participants received a $10 Visa gift card for their participation and were included in a $50 raffle at the end of data collection to acknowledge the contribution of their time and knowledge to the project. Interviews were digitally recorded and transcribed by a transcription service and student research assistants, and reviewed by the first author.

Data analysis

The methods in the study were guided by interpretive description.[21] This methodology encourages traditional forms of generating data, such as thematic analysis, but also encourages a process of recontextualizing research findings into practice. Thorne[21] recommends Morse's[22] 4 phases of cognitive processes of analyzing data to capture participants' experiences and the researchers' interpretations to inform practice.

Morse[22] describes the first cognitive process as *comprehending* the data. In this phase, we (the first and second authors) read and reread transcriptions, began coding interview transcriptions and taking notes of general messages conveyed during interviews, and reflected on why the messages were shared. The *synthesizing* process involves creating patterns within the data. Using the codes, the first and second authors explored commonalities between coded data to create common features between participants' experiences. When *theorizing*, the first author considered common frameworks and research related to partnership development and school health partnerships to ensure that the findings had empirical relevance. For example, the WSCC model[14] shares how community involvement is key to health-based program development in school settings that is in line with the findings and participants' experiences. The 3 aforementioned processes made up the *conceptualizing* phase. Three themes (see Results) were conceptualized to describe how community partners can support healthy eating and PA programs.

When *recontextualizing*, the first author held a 1-hour meeting with the third author (coalition director) and representatives from a state-wide service provider to early-learning communities (ie, our project partners) to discuss the findings and ask for feedback about the relevance and applicability of findings. Recontextualized questions for community partners were confirmed and/or developed based on the resulting 3 themes to facilitate the application of the findings. Specifically, the project partners suggested adding considerations for collaborating with existing provider networks (see existing networks in Table 1) to the recontextualized questions, and the themes were used to generate the questions about community partner roles (see partner roles in Table 1).

Table 1. Recontextualized questions for practice.

To help providers and community partners create partnerships for healthy eating and PA programs, the following guiding questions based on the resulting 3 themes could be considered and discussed. The current project partners who work with early-learning providers suggested that community partners explore opportunities to collaborate with existing networks before considering the subsequent questions about partner roles.

Existing networks

- What networks (eg, online, listservs, or groups) currently exist?
- Who are the state or local organizations who are partnering with providers? And what initiatives/services are being offered (related to the partner roles below)?
- Is there an opportunity to collaborate with or learn (be trained) from these organizations or their community partners to achieve the same goal?

Partner roles

Developing or acquiring resources

- How can we support programs by acquiring:
- Funding (eg, provide or acquire funding opportunities)?
- Planning resources (eg, budgeting and meal planning resources)?
- Implementation resources (eg, provide or acquire class PA and healthy eating education and activities and equipment for programs)?
- Other resources not listed?

Providing program planning services

- How can we support program planning for the longer term and more frequently by:
- Providing services that support program delivery (eg, gardening-related services, meal planning, capacity building for program implementation and budgeting)?
- Implementing programs and activities (eg, providing interns or trained volunteers to work with staff to deliver programs)?
- Writing grants for funding?
- Other services not listed?

Creating networking opportunities

- How can we support connections between and for centers by:
- Sharing online or in-person networking and professional development opportunities?
- Developing and/or providing online or in-person networking and professional development opportunities?
- Connecting mentors and mentees?
- Other networking opportunities?

Results

There are 3 resulting themes that describe how community partners can support programs. The recontextualized questions for practice based on the study findings and project partners' feedback about exploring existing networks are presented in Table 1.

Developing or acquiring resources

Community partners could develop or acquire resources by compiling program resources or evidence-based practice resources related to budgeting and meal planning or they could explore potential funding opportunities. Community partners might also contextualize evidence-based practice resources, such as fundamental motor skill development resources, for a particular early-learning setting. These were mostly described as relatively shorter time commitments. When discussing facilitators of implementing activity-based programs, participant 1 shared, "I would love it if somebody actually put together like 12 activity bins for us … and then we could just say, 'Okay, I'll buy those.' Or somebody like a contractor who just kind of did it for you and then just left, so I wouldn't have to hire them would be awesome." Furthermore, participant 5 shared how her staff could use resources for games and activities but they had trouble finding the time to acquire resources on their own, also indicating the benefits of community partners who develop or acquire resources:

> *I had this huge portfolio full of games and activities we can do with the children. And I referred to that all the time when I was in the classroom. So, I had those resources at my fingertips. And the staff have access to a lot of information. I tell the staff here all the time, "You have no idea what it was like to teach before Pinterest." [laughter] It was a lot harder back in the day. We had to go to the library and check out books and read through books and books and books to find the activities that we wanted to do with the kids. … They have access to this information. But it's whether or not they're actually getting it … taking the time to find the information on their own.*

Developing and acquiring resources involved relatively shorter time commitments in which community partners could acquire resources to support healthy eating

opportunities for children. Participant 3 discussed facilitators for healthy cooking and shared that she would love recipe ideas for a variety of child-friendly healthy snacks, "For me, I think I would benefit from recipe ideas. Just more ideas, having more of a selection to choose from … when it comes to those kid-friendly healthy snacks, I'm having problems. I feel like I'm just serving the same things all the time, and I don't like that. I want to have a variety." Overall, the participants described funding (eg, provide or acquire funding opportunities), planning resources (eg, budgeting and meal planning resources), and implementation resources (eg, provide or acquire PA and healthy eating or gardening education and activities, equipment for programs in the context of this theme). Thus, the recontextualized questions (see Table 1) prompted community partners to think about these potential resources.

Providing program planning services

Trained or supervised community partners could provide healthy eating and activity program services by contextualizing and implementing existing practices and programs (eg, evidence-based PA programs) or by developing and implementing service-based partnerships (eg, rototilling for gardens) with providers. This included relatively longer-term and more frequent time commitments and a specific service to facilitate healthy eating or PA programs. When discussing facilitators of programs in her early-learning context, participant 11 shared an opportunity in which she had an intern come in to do yoga with children twice a week for an extended period of time: "Three years ago, we had [an intern] that came in. I had written a grant, so I had extra funding, and she did yoga with our kids twice a week. And that not only was exercise, but it helped with behavior management."

These services were also relevant to healthy eating programs. Participant 10 shared that she needed a registered dietitian to help with meal planning, stating, "We haven't really changed [the menu] in the last several years because once [chef] went on to another position, we hired someone … but not someone that was really trained on the nutritional side to give us the right nutritional component. So we really need a dietitian or someone that can help us do that meal planning and that menu planning." Meal planning–related services not only included menu planning; participants also discussed storage and kitchen spaces as potential barriers to healthy meal planning and gardening as facilitators to healthy meal planning and food education. For example, when participant 9 was discussing parents' support of health programs, she said, "Parents have asked for more fresh fruits, but it's kind of hard when you have limited space to house all the fruits and vegetables. We try to get as much as we can … but then you have the freezer and the refrigerator space also that you had to take in consideration," indicating that community partners might plan meals and kitchen spaces as a service. Participant 9 went on to discuss how gardening was a facilitator of healthy eating programs and that community members could and do provide services to help:

> *We have a teacher whose husband comes in and rototills their little garden areas for them and then I go out and buy the seeds or the plants for them and then the kids and the teachers go out and they plant them. … If I could work with somebody and possibly build some raised garden areas for the classrooms so that they could have those garden areas. And then it'd be easier to maintain each year.*

Program planning services were recontextualized into questions that prompted community partners to consider longer-term and more frequent support, such as implementing programs and activities with interns or trained individuals, and working with providers to plan program curriculums or budgets.

Creating networking opportunities

The participants also discussed the need for connections and networking opportunities with potential community partners or mentors. They also shared that they could benefit from knowledge about resources and regulations. Creating networking opportunities could include facilitating connections between centers and evidence-based knowledge, resources, and mentors, as well as creating online or in-person events for partnership and professional development. Participant 7 shared her perceptions of the important role of networking and support: "I think people need to have that networking and that support because childcare changes every day. You know, there's a new regulation every day that childcares tend to get knocked down sometimes because there's so many rules and regulations."

Participants shared that having opportunities to learn through networking and knowledge sharing would be beneficial. When discussing her additional thoughts on how to build partnerships and programs in this context, participant 10 shared that a mentor–mentee program would be useful:

> *[The center] has a mentoring program. And even just knowing the people that would be interested, I feel like we could mentor in certain areas, but that we would be the mentee in other areas. I feel like we could help in*

breastfeeding and maybe activity and outdoor play and things like that. But we would really love to meet people that have—feel like they've nailed down the nutrition component. You know, "Hey, what's the secret to your success? How do you rotate your menus? How do you do this? How do you meet the state requirements and still have a palatable menu for children? And what do you do and how do you do it?"

Participants enjoyed professional development and networking but felt that opportunities should be convenient. Participant 13 thought that it would be nice to have a group that could meet in her area. "It would be nice if there was a group [here] that would meet that were childcare or early childhood development people. Whether it's directors or just people interested in developmentally appropriate practices or something, just to be resources for each other. I've not been a director for that long and honestly haven't sought out a whole lot because we've been busy doing other things." Participants also described that another convenient way to share, develop, or provide professional development and networking was through an online forum. For instance, participant 11 said when discussing continued education for staff, "You can just go online and learn … which is convenient." The recontextualized questions prompted community partners to consider how to support connections between and for providers by sharing, developing, or providing online or in-person networking and professional development opportunities, and connecting mentors and mentees.

Discussion

This study explored how to support early-learning providers' healthy eating and PA programs for children to inform partnership development between community partners, including Health Educators and CHES, and early-learning providers. The findings provide insight into the potential roles of these community partners, identifying examples of *what* is needed to support programs (eg, PA resources, services, and networking) and *how* community partners can provide support (eg, acquire classroom activities, implement classroom activities, or provide professional development opportunities for fostering fundamental motor skills). Extending upon the evidence that community partnerships and involvement are key to the development of these programs,[14,15] the findings and recontextualized questions may help community partners identify their role in and commitment to these programs to set the foundation for partnership development. Early-learning providers and service providers in early-learning settings might use the findings and recontextualized questions to identify community partners as well. Taken together, the findings provide community partners with a greater understanding of and direction for how to support healthy eating and PA programs in early-learning settings.

Though multiple sources indicate that partnerships and community involvement are key to school-based or early-learning health programs,[15,16,23] there is not much guidance for or documentation of how community partners can support early-learning providers' healthy eating and PA programs. The study outcomes address this gap by identifying partner roles (ie, developing and acquiring resources, providing program planning services, and creating networking opportunities) as well as the recontextualized guiding questions for practice. These can be used to help community partners situate themselves in existing partnerships or develop new partnerships. The theme descriptions include the resource or service that is recommended or needed and describe the time and dedication involved in those roles. Specifically, in the recontextualized questions, community partners are prompted to consider how they can contribute and prompted to consider their level of commitment (eg, time and dedication) to programs. This is important because it might prevent community partners from overcommitting and enhance transparency between early-learning providers and community partners about what is needed by the provider and how the community partner will address that need. Extending upon Hunt and colleagues,[17] the current findings also indicate that community partners with health expertise are important but that community partners could additionally offer other services and resources, such as building gardens or online professional development or knowledge sharing, that would be useful to early-learning providers. This indicates that school and early-learning communities might consider community partnerships with health services as well as other services that address the needs or recommendations for their healthy eating and PA programs.

The multiple perspectives involved in data generation contributed to relevance of the findings. Specifically, the insight provided by service providers in early-learning settings (ie, project partners) offers additional considerations for collaborating with or building upon existing networks of providers to combine resources or services. One of the tenets of partnership building in CBPR is building upon existing resources.[20] Specific to school health programs, Kolbe and colleagues[24] reported that partnerships in this setting that built infrastructures to effectively combine resources are essential for implementing the WSCC framework or school health programs. Thus, it is not

surprising that this was suggested by our project partners; however, it was important to ensure that it was included in the recontextualized questions because some community partners may not initially think to contact existing networks that might identify early-learning providers who could benefit from their resources or services. Furthermore, early-learning providers and those who are serving these providers could use the findings and questions to solicit the resources or services of potential community partners, serving as tools for both providers and community partners.

Early-learning communities and community partners should also consider supporting opportunities for mentor–mentee programs and knowledge sharing between early-learning providers. Co-learning or mutual capacity building involves partners who both share knowledge with and learn from each other,[20] and the benefits of co-learning and knowledge sharing include partnership and program sustainability.[25] Strategically connecting schools or early-learning providers based on their resources and needs can be a mutually beneficial way for them to provide and receive support and build collaborations that are important for school-based health programs.[23]

Strengths, limitations, and future directions

The participants represented different early-learning settings but had similar experiences, indicating that regardless of the setting, community partners can play similar roles in programs. This project included multiple perspectives to take a coordinated approach to exploring how to support early-learning providers' healthy eating and PA programs for children. State- and county-wide service providers (ie, project partners) partnered with academics to research and develop themes and recontextualize findings into a resource. However, we were missing perspectives from some early-learning providers (ie, those who are not registered or licensed). Thus, it is important to note that the findings might not be applicable to all early-learning settings. Furthermore, this research was conducted with early-learning providers in Indiana and might not be applicable to other states or countries. However, the questions might be transferable or broad enough to be useful in other locations or school contexts with similar program planning needs.[26]

The findings and recontextualized questions can be used by partners, early-learning providers, or service providers to build partnerships for healthy eating and PA programs in early-learning settings. That said, it might be beneficial to study or reflect upon the development of partnerships. For instance, Rasberry and colleagues[27] found that strong community collaborations, specifically authentic and mutually beneficial relationships, were useful for building school health programs. Once a partnership is established, providers and community partners can discuss partnership and program outcomes, how each will benefit, what will be needed to ensure that they achieve partnership and program outcomes, and how each in the partnership will support the other in implementing their role. Community partners can also reflect on the development of and recommendations for an early-learning healthy eating and PA program to inform partnership development. The next section provides an example of the use of observation and reflection when applying our study findings.

Applying the findings: Providing program planning services and identifying the next CBPR phase

The second author provided program planning services to a local early-learning center. During her internship, she created and implemented a healthy eating education and PA program with 3- to 5-year-old children and the center director over a 3-month period. The following is her reflection of the process and outcomes of the program and her recommendations for interns working as community partners to support early-learning providers' healthy eating and PA programs for children.

During my time at the school, I focused on expanding the current unit on nutrition and incorporating PA education into daily activities. I created games that we [the children and I] could play each day and reflected on what had been taught. For example, there was a scavenger hunt game that required the children to go around the room and find different food items. Once each food was found, the children placed different foods into the 5 basic food groups. After this activity, I noticed significant improvement in their ability to classify the different foods they came in contact with. To ensure the relevancy of the program, I reviewed literature from the CDC[28] that revealed the correlation between PA, nutrition, and academics. The center director read through the research[28] that supported the activities, assisted in developing the parent and student education, and discussed how to improve the PA and nutrition unit with me.

I observed greatest improvements in the children's knowledge when they were able to take the lesson learned in class and apply it in an activity. I could tell that the program was successful after casual conversations with the children during snack time, where many informed me that they had strawberries, bananas, and other healthy breakfast items for their meal. I also introduced new ways to keep them active during the school day. We

would have obstacle races, play Simon Says, and play similar games that correlated with daily lessons. Based on these observations, my recommendations to student interns are to include both education and application components in activities and to ensure that physical and nutritional activities included in lesson plans are fun and engaging.

The next step of the larger CBPR project (see Figure 1, phase 3) will be to build a partnership with state and local health resource providers who directly serve early-learning providers. This group will connect us to those early-learning providers who have indicated that they would benefit from staff and child engagement in physical activity promotion programs in an early-learning setting. After early-learning staff training and informational sessions with health sciences students and professors, we will co-create and study physical activity programs with children in their context to ensure mutual partner benefits and program relevance.

Translation to Health Education Practice

To support early-learning providers' healthy eating and PA programs for children, community partners, including Health Educators and CHES, might

- Use the findings and recontextualized questions to identify their roles in and commitment to programs.
- Consider exploring existing networks of service providers who are working with early-learning providers to support healthy eating and PA programs. Existing provider networks might help partners identify early-learning providers who could benefit from their resources or services.
- Develop and acquire resources, such as physical activities and recipe ideas, which may involve less time and fewer resource commitments.
- Provide program planning services, such as implementing a PA education program or planning and budgeting healthy menus, which may involve more time and greater resource commitments.
- Create networking opportunities, such as mentor–mentee programs and online or in-person networking and professional development opportunities.

Early-learning providers and service providers in early-learning settings can use the findings and recontextualized questions to identify community partners and might consider community partners based on program needs, which may include partners outside of the health field. Community partners, including academic researchers and Health Educators, should continue exploring and sharing the roles of community partners in developing and implementing early-learning providers' healthy eating and PA programs. For example, Health Educators or CHES have the responsibilities to plan, implement, and evaluate Health Education and promotion programs.[29] Based on the study findings and practical implications, Health Educators and CHES can design, implement, and evaluate programs or interventions that include community partners by using the resource to build partnerships and study the development and implementation of partner roles in early-learning providers' healthy eating and PA programs. For instance, Health Educators and CHES can develop networking and mentorship opportunities and study the effectiveness of these opportunities and the influence that network and/or mentorship building has on early-learning providers' knowledge, skills, and attitudes toward these programs. Health Educators and CHES might also use the resource to connect partners who provide relevant program planning services to early-learning providers and study the development and implementation of partners' roles in the delivery and effectiveness of programs.

Notes

1. These statistics were collected from adolescents in grades 9 through 12 but a systematic review of longitudinal changes in PA indicate that efforts to promote and/or maintain PA should begin well before adolescence,[30] and there is also evidence that childhood diet is a determinant of adolescent diet.[31]
2. The early-learning context is inclusive of childcare and early-learning centers or providers in any setting (eg, ministries, homes, centers, schools) in which they provide services.

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Human Subjects Approval Statement

The Indiana University Institutional Review Board approved this study (Protocol ID: 23 041 990; Protocol #: 1 609 341 230).

Disclosure statement

No potential conflict of interest was reported by the authors.

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