A Conceptual Model for Training After-School Program Staffers to Promote Physical Activity and Nutrition

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BACKGROUND: After-school programs (ASPs, 3 PM to 6 PM) have been called upon to increase the amount of daily physical activity children accumulate and improve the nutritional quality of the snacks served. To this end, state and national physical activity and nutrition (PAaN) policies have been proposed. Frontline staff who directly interact with children on a daily basis are charged with the responsibility to meet policy goals. Without appropriate skills, staffers’ ability to achieve such goals is limited. The gap between policies and improvements in PAaN must be bridged through professional development training. This article describes the development of an ASP staff professional development training program.

METHODS: A systematic review was performed to identify relevant theoretical perspectives, empirical evidence, and recommended best practices relating to promoting PAaN of children.

RESULTS: A comprehensive professional development framework was developed that incorporated the key elements identified from the review. These elements were distilled into 5 primary categories and conceptually referred to as the 5 Ms: mission—clearly defined policy/standards for PAaN; motivate—providing choices, developmentally appropriate activities, feedback, and encouragement; manage—structuring and managing the environment for safety, routines, and discipline; monitor—ongoing evaluation of PAaN; and maximize—incorporating all former Ms.

CONCLUSIONS: The application of this training framework should lead to improved implementation and eventual achievement of policy goals for PAaN in ASPs. These competencies need to be developed in all ASPs if widespread improvements in PAaN within the ASP setting are to be realized.

Keywords: out-of-school time programs; policy; child and adolescent health.


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Engaging in physical activity (PA) and consuming fruits and vegetables (FV) have a wide variety of positive health outcomes. Unfortunately, most youth are not meeting recommended guidelines for physical activity, and too much of their caloric intake consists of empty calories. Schools have been called upon to institute Coordinated School Health Programs to “increase health knowledge, attitudes, and skills” and “increase positive health behaviors and health outcomes.” Furthermore, schools have been called upon to promote PA by identifying a “physical activity leader” (eg, physical education [PE]) that coordinates PA opportunities both during and after school hours. After-school programs (ASPs, 3 PM to 6 PM) are recognized as a setting where both the PA and nutrition (PAaN) of children can be influenced, and can play a complementary role to schools’ Coordinated School Health Programs. With over 8.4 million youth...
attending ASPs for an average of 8.1 hours per week, the majority of those children were from low-income households and elementary age.\textsuperscript{7} ASPs are poised to make a substantial contribution to the health of children.

For this study, ASPs were defined as “pre-existing community-based programs that take place immediately after the regular school day (typically 3 PM to 6 PM), are located in either a school setting or take place in a community organization outside the school environment (eg, YMCA, Boys and Girls Club, faith organization), are available Monday through Friday throughout the academic year, and provide a combination of scheduled activities that include snack, homework assistance/tutoring, enrichment activities (eg, arts and crafts, music), and opportunities for children to be physically active.”\textsuperscript{8} This definition was drawn from the After-school Alliance’s nationwide survey, \textit{America After 3 PM},\textsuperscript{9} in which after-school programs are defined as “a program that a child regularly attends that provides a supervised enriching environment in the hours after the school day ends. These programs are usually offered in schools or centers and are different from individual activities, such as sports, special lessons, or hobby clubs.” After-school programs that focus solely on a single activity (eg, music lessons, academic tutoring) or are designed specifically to promote physical activity such as clubs (eg, Girls on the Run) or sports teams (eg, intramurals and intermurals)\textsuperscript{10-12} are not considered within this definition.

Policies have recently been introduced in the ASP setting that target PAaN.\textsuperscript{13,14} In ASPs, the policies specify benchmarks of behavioral performance (eg, 30 minutes of moderate-to-vigorous physical activity [MVPA] daily, offer FV daily). In this instance, the responsibility of meeting the policy benchmarks falls on frontline staffers (ie, those individuals who directly interact with the children on a daily basis). Whereas such policies are designed to enhance the physical activity offerings within an ASP along with serving healthy snacks, limited support exists to assist ASP leaders and frontline staff in achieving policy goals.\textsuperscript{15} In the absence of such assistance, the full impact of policies is likely to go unrealized.

A critical issue is whether frontline staffers are trained in the requisite core competencies and skills consistent with meeting policy benchmarks. Providing training to staff is an effective tool for increasing children’s PA levels in physical education\textsuperscript{16} and decreasing children’s time in sedentary behaviors.\textsuperscript{17} Providing training on nutrition can also positively influence snack content in ASPs.\textsuperscript{18,19} Although policies are a crucial first step to addressing PAaN in ASPs, professional development training is required to bridge the gap between policy and its ultimate impact—improvements in children’s physical activity and dietary intake.

Attempts to provide professional development training have been made, but existing training programs primarily focus on skills and competencies in relation to the use of purchased accessories (eg, equipment, program manual), and therefore, do not address core skills related to promoting PAaN across a diverse range of ASP environments. That is, professional development training should be based on developing core skills that apply to any ASP setting, regardless of the availability of resources (eg, indoor/outdoor space, availability of equipment). This paper outlines the key elements of a professional development training model designed to provide ASP frontline staff with the competencies necessary to successfully meet PAaN policy benchmarks.

Conceptual Framework

The varying environments (eg, school, faith-based organizations, community centers) in which ASPs take place require that staff are trained to competently implement PAaN policies irrespective of an ASP’s facilities and equipment. This can be addressed through the development of competency-based training for ASP staff. Competency-based training encompasses, “any individual characteristic that can be measured and that can be shown to differentiate significantly between superior and average performers, or between effective and ineffective performers.”\textsuperscript{20} The overall structure of the present training model is consistent and was developed from a systematic review of policy documents,\textsuperscript{13,14,21} “best practices” position statements from elementary and middle school physical education,\textsuperscript{22,23} literature on competencies for school-wide and after-school physical activity promotion,\textsuperscript{24-27} theory\textsuperscript{28,29} and our extensive experiences working in ASPs. The compilation of this information led to a framework encompassing 5 components: mission, motivate, manage, monitor, and maximize, referred to as the 5 Ms of PAaN promotion in ASPs. Incorporating this training framework can serve to bolster the successful implementation of PAaN policies in ASPs.\textsuperscript{30} As a training model, the 5 Ms support an experiential, competency-based approach to professional development. Competency models focus on the demonstration of skills, diverging from traditional approaches which tend to emphasize knowledge,\textsuperscript{31} and have been widely adopted throughout healthcare education and public health.\textsuperscript{32} Since competency-based training emphasizes demonstrating skills in a variety of settings it should lead to ASP staff that are able to integrate PAaN in the ASP no matter environmental limitations (eg, lack of equipment, inclement weather).

A substantial body of knowledge points to key factors that contribute to creating an environment conducive to PAaN. They include environmental and psychosocial factors such as access,\textsuperscript{33,34}
choice,^{29,35} competency,^{19,36} feedback,^{19,34,37} and enjoyment.^{19,29,33,38} Thus, these factors were taken into consideration in the development of the 5 Ms professional development training program. Each of the Ms and constituent training elements are illustrated in Figure 1. The remainder of the document discusses specifics within each “M.”

THE 5 MS OF PROFESSIONAL DEVELOPMENT TRAINING

Mission: Defining a Purpose

A clear mission is vital to increasing children’s PAaN choices while in an ASP. Adopting a formal statement that clearly articulates the importance of PAaN allows administrative and frontline staff to work toward common goals. A mission also provides a framework from which staff performance expectations are drawn. The mission’s intent is often expressed through the development of policies. “A focus on policy is based on the notion that policies shape overall organizational behavior, are a reflection of the values to which an organization is committed, and serve as a guiding framework for the behaviors and accountabilities of the actions of those individuals employed by the organization.”^{30} Therefore, competencies should be built upon accountabilities and benchmarks contained within policies.

Whereas there are no nationally recognized PAaN policies for ASPs, several states and organizations have developed policies^{13,14} to guide either the adoption or modification of policies for ASPs. These policies provide the essential framework for competencies related to providing nutritious snacks and PA in ASPs. Competencies addressed in professional development training should also be linked to goals outlined in policies (Table 1). The extent to which ASPs have adopted and are currently implementing policies related to PAaN is unclear. Evidence related to PA policies indicates that even if ASPs do adopt policies, the likelihood of meeting policy goals is limited.^{21} Likewise, the evidence regarding nutritious snacks indicates ASPs are failing to meet existing policy guidelines.^{18} Hence, a necessary first step is for ASP to adopt an existing PAaN policy or develop a policy specifically for their program.

Motivate to Maximize PA and FV Intake

Understanding factors that motivate youth to be PA and consume FV allows practitioners to design environments that maximize PAaN. The
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<tr>
<th>The “Ms”</th>
<th>The Construct</th>
<th>The Message</th>
<th>Evidence</th>
<th>Implication</th>
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<tbody>
<tr>
<td>Mission</td>
<td>Policy</td>
<td>Programs need to adopt an existing policy or develop a policy that clearly defines the expectations on the amount of physical activity children accumulate daily</td>
<td>Beets et al. [13]</td>
<td>Guides organizational decisions, staff training, program, and scheduled offerings. Describes standards, guidelines, recommendations, and/or benchmarks of the amount of time children should be physically active and the nutritional value of snacks consumed during the after-school program. See Beets et al. [21] for example policies.</td>
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<td>Motivate</td>
<td>Autonomy: the belief that you are in control of your own actions and not being forced to participate (eg, “I choose to play” instead of “I am forced to play”)</td>
<td>Programs need to adopt existing policy or develop a policy that clearly defines daily expectations on the nutritional quality of snacks</td>
<td>Beets et al. [14]</td>
<td>ASP staff should be trained to provide a variety of activity and snack choices: cooperative, competitive, differing settings (eg, indoor and outdoor) and level of structure (eg, basketball vs playground) in order to meet the diverse skill levels and interests of every child for each scheduled activity period. A minimum of 2 snack choices should be offered daily. Information on children’s likes and dislikes should be collected routinely. Child preferences should be incorporated into the planning of future activities and snacks.</td>
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<td>More choice equals more motivation to engage in physical activity and eat healthier snacks</td>
<td>Sturtz and Weiss [29]; Birch et al. [35]</td>
<td>Developmentally appropriate (modified equipment, rules) tasks should be provided so that children perceive themselves as successful. Feedback and autonomy support should be utilized to increase children’s perceived competence. Staff and children should be taught to make healthier food choices so they are competent at choosing nutritious snacks. This information should be reflected in policies.</td>
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<td>Competence: ability level</td>
<td>Children who believe they can successfully participate in physical activity will participate more</td>
<td>Sturtz and Weiss [29]</td>
<td>Feedback and encouragement Encouragement after failure related to continued participation in PA</td>
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<td>Elementary-aged children rely on their ability to be successful, enjoyment, and feedback to construct perception of competence</td>
<td>Horn and Harris [36]</td>
<td>Feedback based on personal accomplishment rather than outperforming a competitor increases confidence, effort, enjoyment, and persistence.</td>
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<td>Children choose more nutritious snacks when both adults and children understand what constitutes a healthy snack</td>
<td>McCain et al. [39]</td>
<td>Praise that is contingent upon performance increases self-perception, enjoyment, and motivation</td>
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<td></td>
<td>Feedback and encouragement</td>
<td>Encouragement after failure related to continued participation in PA</td>
<td>Barnett et al. [37]</td>
<td>Caregivers modeling healthy eating behaviors is consistently correlated with children’s FV consumption</td>
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<td></td>
<td></td>
<td>Feedback based on personal accomplishment rather than outperforming a competitor increases confidence, effort, enjoyment, and persistence.</td>
<td>Sturtz and Weiss [29]</td>
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<td><strong>Enjoyment</strong></td>
<td>Enjoyment is the strongest predictor of continued participation in PA</td>
<td>Stuntz and Weiss&lt;sup&gt;29&lt;/sup&gt;</td>
<td>Staff should be trained to actively supervise the PA environment creating a positive, exciting atmosphere through the feedback discussed above.</td>
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<td><strong>Manage</strong></td>
<td>Structure the environment</td>
<td>Participants that continue to engage in PA report positive past experiences in PA</td>
<td>Stuntz and Weiss&lt;sup&gt;29&lt;/sup&gt;</td>
<td>Staff should be trained to routinely inspect the environment before children arrive, removing safety hazards. Staff should safely store and prepare snacks.</td>
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<td>Safety is the first concern when managing a PA environment</td>
<td>CASPA&lt;sup&gt;31&lt;/sup&gt;</td>
<td>Staff should be trained to plan PA for children immediately upon arrival and then in several 15 to 20 minute sessions. ASPs could break every hour into 3 equal sections with 20 minutes dedicated to PA, 20 minutes dedicated to academics, and the other 20 minutes discretionary time. A snack time should be planned every day.</td>
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<td>Schedule PA immediately upon arrival can reduce behavior problems during planned sedentary activities (eg, academics, snack time)</td>
<td>Mahar et al&lt;sup&gt;19&lt;/sup&gt;, Pellegren and Bohn&lt;sup&gt;42&lt;/sup&gt;</td>
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<td>Higher levels of PA are achieved when activity is scheduled in 15 to 20 minute sessions</td>
<td>Beighle et al&lt;sup&gt;6&lt;/sup&gt;</td>
<td>A healthy snack (eg, FV) should be offered daily in the ASP.</td>
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<td>Children are dependent upon care providers to offer healthy food</td>
<td>Baranowski et al&lt;sup&gt;33&lt;/sup&gt;</td>
<td>ASP staff should be trained to actively move through the PA environment with the majority of children to their front. Rules should be established, posted, and communicated to students. Routines should be established for moving to and from activity and for dealing with interruptions while in activity (eg, injuries).</td>
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<td>Youth show preference to teachers who establish rules and consistently enforce them</td>
<td>Chiu and Tulley&lt;sup&gt;43&lt;/sup&gt;</td>
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<td>Establishing routines for interruptions and transitions between activities can decrease management time</td>
<td>Emmer et al&lt;sup&gt;44&lt;/sup&gt;</td>
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<td></td>
<td>Preventative management can reduce discipline time and increase in activity</td>
<td>Davis and Jordan&lt;sup&gt;45&lt;/sup&gt;</td>
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<td>Modeling healthy eating can contribute to children’s perception of the social norm</td>
<td>McClain et al&lt;sup&gt;19&lt;/sup&gt;</td>
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<td>Timeouts reduce time in activity</td>
<td>NASPE&lt;sup&gt;23&lt;/sup&gt;</td>
<td>Staff only eat FV in front of children with a break room where other foods may be consumed.</td>
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<td>Prescribing PA as punishment frames PA negatively</td>
<td>NASPE&lt;sup&gt;23&lt;/sup&gt;</td>
<td>Timeouts should be avoided through preventative management strategies (eg, eye contact, proximity, back to the wall, and random movement). If necessary, timeouts should be short in duration, and children’s should be made aware of why they were disciplined.</td>
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<td>4600 steps in 60 to 80 minutes is valid predictor of 30 minutes of MVPA</td>
<td>Beets et al&lt;sup&gt;46&lt;/sup&gt;</td>
<td>PA should never be used as a punishment.</td>
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<td>Setting goals related to step counts may also provide ample motivation to increase PA</td>
<td>Schofield et al&lt;sup&gt;47&lt;/sup&gt;</td>
<td>Staff should be trained to use pedometers proficiently. Goal-setting strategies should be included in training as well.</td>
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<td>When children perceive healthy snacking as part of the social norm they are more likely to consume FV</td>
<td>McClain et al&lt;sup&gt;19&lt;/sup&gt;</td>
<td>Staff should monitor children’s consumption of FV through diaries, logbooks, and parent or self-report in order to provide encouragement for and model healthy snacking to children who are not eating FV.</td>
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<td><strong>Maximize</strong></td>
<td>Only by implementing the 5 Ms in concert with one another will an ASP maximize children’s PA and healthy dietary intake</td>
<td></td>
<td>Staff are trained to realize the importance of implementing the 5 Ms of PAaN promotion.</td>
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primary influences of motivation include autonomy/choice, competence, relationships/social support, and enjoyment.\textsuperscript{19,28,29,33,35} 

\textbf{Autonomy and Motivation: Developing an Autonomy Supportive Environment.} Autonomy is developed by providing choice.\textsuperscript{28} In ASPs a variety of physical activities should be offered simultaneously, allowing children choice. Higher levels of motivation are observed in PA settings when a greater sense of choice is provided (ie, seeking child input, providing rational for activities).\textsuperscript{29} Children’s intention to eat healthier (eg, increase consumption of FV and decrease consumption of sugary snacks) has also been associated with more healthful dietary choices.\textsuperscript{19} Providing a wide variety of healthy snack options is recommended.\textsuperscript{35} and is likely to foster a sense of autonomy, potentially increasing intentions to seek out more healthy snack options.\textsuperscript{33} Creating an environment that provides a variety of physical activity options (eg, indoor/outdoor, competitive/cooperative) during every activity period and offers 2 or more healthy snack options in ASPs should lead to a greater sense of autonomy and greater levels of PA and FV consumption.

\textbf{Competence and Motivation.} Children’s perception that they are able to successfully accomplish a task is consistently related to PA participation.\textsuperscript{29,33} Children of elementary school age rely on successful completion of simple tasks (eg, catching a ball), enjoyment, and feedback to construct their perception of competence.\textsuperscript{36} Providing positive feedback, encouraging positive peer feedback, designing developmentally appropriate tasks, (eg, lowering a basketball goal, providing balls of differing size) and setting achievable goals related to self improvement (eg, can you run around the playground faster this time) should help motivate students to participate in PA in ASPs.

Although knowledge of nutrition is not enough to change snacking behavior it is a precursor to healthy snacking.\textsuperscript{19} Furthermore, children are dependent upon adults to provide food.\textsuperscript{33} Therefore, providing staff with nutritional information and alternatives to unhealthy snacks should lead to greater consumption of FV in ASPs.

\textbf{Feedback/Encouragement and Motivation.} As discussed previously, youth construct their perceived competence from a variety of sources including feedback and encouragement. Hence, responses from adults can play a major role in children’s decisions to be physically active and eat FV. Positive feedback in the form of praise after success and encouragement after failure is related with continued participation in PA.\textsuperscript{37} However, positive feedback should be focused on individual achievement, rather than comparison to others (ie, “Wow, Juan, you played really hard today” instead of “Juan, you did better than Jan today”), to increase children’s autonomy, effort, enjoyment, and persistence.\textsuperscript{29} Feedback should also be genuine, with praise that is contingent upon performance and appropriate to the task, increasing children’s self perception, enjoyment, and motivation.\textsuperscript{29} Feedback from ASP staff should cultivate a positive environment where success is measured through individual achievement not competition with others (Table 2). Modeling healthy eating behaviors is also correlated with children’s FV consumption.\textsuperscript{19} Whereas modeling is not explicit feedback, it implicitly, and strongly, reinforces ASP policies on healthy snacking. Staff should model healthy behaviors by eating FV and avoiding undesirable foods (eg, sugary drinks, fast food) while in the presence of children.

\textbf{Enjoyment and Motivation.} One of the strongest predictors of continued participation in PA is enjoyment.\textsuperscript{29,38} Preference has also been identified as a consistent predictor of children’s FV consumption.\textsuperscript{19} Providing a snack experience that children enjoy (eg, providing choices, positive feedback, modeling) may lead to an increase in children’s preference for FV in the future. Therefore, it is essential that youth enjoy PA and snack time in order to influence continued participation in PA and the consumption of FV. By providing autonomy through choice, planning developmentally appropriate PA experiences to increase perceived competence, and fostering positive peer and adult relationships through positive feedback, youth are more likely to enjoy PAaN, increasing the likelihood of habitual participation in PA and continued consumption of FV.\textsuperscript{19,29,38}

\textbf{Manage to Maximize PA and FV Intake} 

Successfully managing time allocated for PAaN is essential to maximizing the amount of time spent physically active and children’s consumption of FV. Developing management skills has proven to be effective for increasing children’s PA time\textsuperscript{39-41} and providing children with FV is essential to children’s consumption of FV.\textsuperscript{33} Organizing and facilitating these experiences presents managerial challenges. Therefore, it is necessary that ASP staff be trained to

<table>
<thead>
<tr>
<th>Time</th>
<th>Typical Schedule</th>
<th>PA Promoting Schedule</th>
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<tr>
<td>2:30 to 3:00</td>
<td>Snack</td>
<td>Instant activity followed by snack with 2</td>
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<td></td>
<td>healthy options</td>
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<tr>
<td>3:00 to 3:30</td>
<td>Enrichment</td>
<td>Homework with energizers interspersed</td>
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<td>throughout</td>
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<tr>
<td>3:30 to 4:00</td>
<td>Enrichment</td>
<td>Free Play</td>
</tr>
<tr>
<td>4:00 to 4:30</td>
<td>Homework</td>
<td>Homework with energizers interspersed</td>
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<tr>
<td></td>
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<td>throughout</td>
</tr>
<tr>
<td>4:30 to 5:00</td>
<td>Homework</td>
<td>Enrichment</td>
</tr>
<tr>
<td>5:00 to 5:30</td>
<td>Activity</td>
<td>Staff-led physically active games with</td>
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<tr>
<td></td>
<td></td>
<td>child choice</td>
</tr>
<tr>
<td>5:30 to 6:00</td>
<td>Activity</td>
<td>Homework/enrichment</td>
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</table>
structure the environment to promote the maximum amount of PA and children’s consumption of FV while facilitating a positive experience for youth.

Structuring the Environment to Manage Successfully. Key elements of the environment include safety and allocation of PAaN opportunities in the ASP schedule. Safety is paramount when creating an environment that is conducive to PA and FV intake. ASP staff members are obliged to keep all children in their care safe. When safety is compromised, injuries to self or others detract from the time spent in and the engagement of physical activities. Furthermore, ASP staff members that do not follow proper food handling procedures (eg, washing FV and proper storage temperature) could provide children with negative snacking experiences (eg, foodborne illness).

The frequency and duration of PA influences activity levels of children during ASP programs. To increase the amount of PA, all activities should be scheduled in 15 to 20 minute sessions, not one large block. Scheduling a brief activity immediately upon arrival is beneficial to reducing behavior problems in classrooms.26,42 Because the majority of ASPs allocate time for a snack followed by homework immediately upon arrival to the program, scheduling brief physical activities (eg, energizers, PA stations) while children arrive at the ASP may lead to a reduction in the amount of time spent managing/disciplining children and an increase in time-on-task and focus. Structuring the environment so that FV are available can have a significant effect on children's intake of FV because preadolescent children are dependent upon care providers’ food choices.33 An environment where FV are perceived as the social norm will positively influence children's consumption of FV (eg, placing FV on tables during homework time, limiting staff to eating FV in front of children, and removing access to vending machines).19 For ASPs, this may be difficult, as FV are, on average, more expensive, and more perishable than less nutritious snacks. Pooling resources is one strategy that ASPs may consider to increase their buying power. Several ASPs may collaborate to buy FV in bulk increasing their ability to negotiate lower prices on large quantities of FV. Additionally, the cost of snacks can be offset through federal assistance programs (ie, Child and Adult Care Food Program, National School Lunch Program) for those ASPs that qualify (see www.fns.usda.gov/cnd/afterschool and www.fns.usda.gov/cnd/care). State and national policies14 call for serving FV on a regular basis, and thus these strategies should be embraced so that FV are routinely provided.

Managing the Environment. Youth prefer teachers who establish rules and hold students accountable.43 Establishing clear and consistent rules should lead to fewer behavior problems, reducing management time and increasing time spent in and enjoyment of PA. Routines that clearly define proper behavior in a variety of situations are beneficial because they clarify behavior expectations and reduce management time increasing PA. Transitions between activities, initiation and conclusion of activities, and interruption procedures during activities (eg, parent retrieval of children, injury) should all be made routine through practice.44 Furthermore, staff modeling is 1 management strategy that can create an environment where FV are the social norm.19,33

Misbehavior, especially during physical activities, is a constant concern when managing children. Traditionally, discipline has been used as a deterrent of misbehavior but preventative management can reduce the amount of time spent disciplining children leading to more time on task.45 Preventative behaviors include praising correct behavior,48 making eye contact with and moving closer to children who are on the brink of misbehavior. Staff should position themselves so that the majority of the children are in front of them at all times and actively move throughout activity space so that an adult’s presence is imminent.49 Preventative management strategies also have the potential to reduce off-task behavior which is often a precursor of misbehavior. These strategies have the potential to reduce misbehavior and maximize time spent in activity.

Prescribing or withholding PA should never serve as punishment.23 Forcing students to engage in PA does not support autonomy framing activity as an experience that is not enjoyable, both of which may lead to lowered motivation. Furthermore, withholding entire activity sessions from children as punishment is inappropriate23 and may lead to more disciplinary problems.39,42 Briefly removing children from activity may be appropriate in some instances, however (eg, when a child is compromising the safety of others or themselves). Removing children from activity allows them to “cool down,” reflect on inappropriate behavior, and communicate with adults as to why they were removed.23 When removing children from activity staff should be attentive to the time, 1 to 2 minutes maximum out of activity, direct the child’s attention to why they are being held out, and briefly discuss the inappropriate behavior with the child prior to the child’s reengagement in activity. Because of the potential negative effects of withholding or prescribing PA as punishment, staff should employ preventative management techniques and utilize alternative forms of punishment when possible.

Monitoring to Maximize PA and FV Intake

PA and FV intake should be monitored to ensure that maximum activity levels and healthful snacking are achieved. Several instruments are available for
the measurement of PA but high monetary and training demands of the majority of instruments leave pedometers as the most appropriate choice. However, there is some cost associated with acquiring pedometers. ASPs can consider collecting data on a subset of children, collaborating with universities, and procuring grants to ease the financial burden related to acquiring pedometers. Preliminary guidelines suggest accumulating 4600 steps provides a valid indicator of 30 minutes of MVPA for children that attend ASPs.46 Pedometers may also be used as a motivational tool to increase children’s PA through step recording and goal setting.47 Staff should also monitor children’s consumption of snacks to deter children from over or under eating. Monitoring children’s eating habits through diaries, logbooks, and parent or child report can provide staff with valuable information on which children need the most support. By monitoring steps taken and children’s dietary intake staff can motivate children and assess progress toward increasing PAaN.

Maximizing Physical Activity and FV Intake Through a Mission, Motivation, Management, and Monitoring

To this point, the key characteristics of a mission, motivate, manage, and monitor and how these related to realizing policy goals have been examined independently of one another. It is critical to note, however, that each M does not exist in a vacuum. Rather, all 4 are intimately related (Figure 1); neglecting 1 will be to the detriment of the others. For example, policy alone will not provide staff with the competencies to promote PAaN and will fall short of producing desired change. The understanding is that if all 4 Ms are implemented PAaN will be maximized for every child.

IMPLICATIONS FOR SCHOOL HEALTH

ASPs have a unique opportunity to influence children’s PAaN due to the number of children nationwide that attend ASPs, their ability to provide a safe environment and their potential to enhance efforts from the school day to promote PAaN. To achieve these goals, ASPs should provide staff with competency-based professional development training. Each ASP is unique and, therefore, will require some similar and some different resources/strategies to achieve policy goals (ie, there is no “1 size fits all” approach).50 Thus, a degree of local tailoring (for each ASP) should occur that is both responsive and adaptive to the characteristics of each ASP site.51 On the basis of the 5 Ms, the following recommendations are offered as competencies for professional development trainings to include.

Mission

- Establish policies that promote PAaN. Programs adopt or locally develop policies that clearly define expectations for the amount of PA accumulated daily within the ASP and define the nutritional quality of snacks served.13,14 Policies, at minimum, should indicate the amount of time allocated to PA and also the amount of PA children should accumulate. Policies promote the daily consumption of a healthy snack through a daily snack time and stipulate the nutritional quality of snacks.
- Establish competency-based training. Staff members are aware of the benchmarks outlined in existing PAaN policies. Competencies regarding motivation, management, and monitoring are cultivated through training.

Motivate

- Provide children with choices. A wide variety of choices are available to children. These choices include at least 2 healthy snacks, indoor and outdoor activities, competitive and cooperative focused games as well as structured (basketball, soccer) and unstructured free play.
- Children are incorporated into the planning process. Staff members include children in planning, inviting children to comment on what activities and snacks they enjoyed and disliked during the program. Staff members use formal and informal methods to collect feedback.
- Staff members celebrate physical activity and nutrition. Physical activity and nutritious dietary behaviors are celebrated by staff through positive feedback. Exceptional effort and attempting novel activities are praised. Staff move through activity areas and are actively involved rather than passively observing. Children are encouraged to try new FV and are praised accordingly.
- Confidence through competence. Activities that are appropriate to the developmental level of the children in attendance are provided. The ASP provides a wide variety of physical activity choices, along with positive feedback and a celebratory, positive atmosphere surrounding activity. Children are repeatedly served healthful snacks.

Manage

- Safety first. Safety is emphasized as the number 1 priority. Staff members ensure that games and activities are developmentally appropriate. Equipment and activity environments are routinely checked for safety hazards. Routines are established and practiced. Rules are clearly stated, prominently displayed and consistently enforced. Safe food-handling procedures are practiced.
- Routines. Routines are established to minimize management time, maximizing activity time. Signals such as “go” and “freeze” are utilized to start and stop children when engaged in activity. Appropriate
procedures for interruptions (ie, child pickup), choosing activity, and transitions between activities are routinized through practice.

- **Rules.** Rules are established through a dialogue with children. Rules are clearly posted, consistently enforced, few in number and positively framed (eg, “No fighting,” can be phrased, “Respect your friends”). Proper equipment handling is established for child safety and equipment longevity. The equitable treatment of others is addressed, providing a positive environment that will promote future engagement in PA.

- **Snack time:** Children are provided with a choice of at least 2 FV for snacks. Staff model healthy behaviors by sitting and snacking with children during snack time while actively encouraging children to try new FV.

- **Maximum time in activity.** An emphasis is placed on maximizing the amount of time children are engaged in activity. Activities are scheduled in 15 to 30 minute blocks. Small sided games (ie, splitting children into smaller teams and facilitating several games simultaneously, rather than 1 large game) are the norm; lines are avoided minimizing wait time. Again, routines for interruptions and transitions are utilized to maximize children’s time in activity by minimizing management time.

- **Preventative management.** Preventative management strategies are used to reduce misbehavior. Staff members move throughout the activity area in an unpredictable pattern keeping the majority of children in front of them. They move closer to children, make eye contact, and give a verbal warning before behavior problems escalate. Children struggling to play/work together are separated.

- **Punishment.** Staff members utilize preventative management strategies above to minimize punishment. Activity is never withheld or prescribed as punishment being contrary to the mission of maximizing children’s PA. Timeouts are brief, and inappropriate behavior is clarified before the child returns to activity.

**Monitor**

- **Physical activity.** Staff use objective measures of physical activity (eg, pedometers, direct observation) to collect and record children’s physical activity in order to monitor the amount of physical activity children accumulate. Staff members review activity levels with individual children and set goals for subsequent physical activity sessions as a means to motivate children.

- **FV intake.** Staff members monitor children during snack time to encourage the consumption of healthy snacks. Staff regularly evaluate daily dietary intake of children through diaries, logbooks, and parent or student report.

**Maximize**

- The sum is greater than the parts. Staff members incorporate all of the Ms to meet policy benchmarks.

**CONCLUSION**

Current practice within ASPs indicates they are falling short of existing policy goals for physical activity and snacks. The strategies described in the 5 Ms provide ASP staff with the necessary competencies to create an environment that is conducive to meeting PAaN benchmarks. In turn, with the use of these competencies ASPs have the potential to complement existing PAaN efforts taking place during the school day and can extend childhood obesity efforts outside of the regular school day. Future research is needed to identify cost-effective strategies to deploy training and to evaluate the impact on children’s physical activity and the nutritional quality of snacks served in ASPs. By applying these concepts, ASPs can bridge the gap between PAaN policies and eventual child health outcomes.

**REFERENCES**


