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Fall 2013

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Recommended Citation

Weinberger, Nanci, "Making more room for physical activity in home-based child care" (2013).

Applied Psychology Journal Articles. Paper 56.

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Making more room for physical activity in home-based child care

Imagine a public fountain that spans a large plaza. If young children were there, would they splash-splash in the giant puddle of water?

Imagine an open field with large stones cropping up from the grass. Would young children try any way they could to climb on the stones?

Imagine a home where couch pillows lie around on the floor. Would young children jump on the pillows?



Each of these examples reminds us that children are ready to be physically active and the environment has a role in inviting children to engage in physically active play.

Recent national attention on childhood obesity has raised awareness of the need for children to be less sedentary and more physically active (Copeland 2012). Children in preschool settings, in particular, have high levels of sedentary behavior and low levels

of moderate and vigorous physical activity (Brown et al. 2009; Oliver, Schofield, and Kolt 2007). (See the chart “Levels of physical activity.”)

Research has shown many benefits of physical activity for children, as shown in the chart “Selected benefits of children’s physical activity.” Policy makers, researchers, and educators have responded with guidelines and recommendations (National Association for Sport and Physical Education 2000; McWilliams et al. 2009).

Balancing space needs

Physically active play requires special attention in home-based child care. In-home programs offer families a great choice for care of their young children (Golbeck 1992; Howes and Sakai 1992; Morrissey 2010). The homes are often in the family’s own neighborhood and may resemble the family’s home with respect to familiar furnishings and a relatively flexible schedule to meet children’s needs. Other desired characteristics include the small numbers of children in care and the presence of a central caregiver.

Home-based care, however, typically requires providers to balance the space needs for family life and for the business of caring for other people’s children. These providers have the unique challenge of creating an environment that supports the developmental needs of children and still allows occupant families to function in their own homes.

Research has indicated that home-based child care providers make many physical modifications to support selected developmental needs for mixed aged groups of children in their care (Weinberger 1998; Weinberger 2006). Providers have reported that they play an important role in health promotion (Rosenthal, Crowley, and Curry 2008). In particular, they value the need for physical activity for the children in their care and feel well prepared to make a

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place in their homes that foster such activity (O'Connor and Temple 2005; Temple, Naylor, Rhodes, and Higgins 2009). Making changes to the environment can provide more opportunities for physical activity in home-based care.

Outdoor spaces

It's no surprise that outdoor play is more active than indoor play. But attempts to get children outdoors is often lacking in home-based child care (Tandon, Zhou, and Christakis 2012). And simply getting children outdoors isn't enough. Young children need the moderate and vigorous physical activity the outdoor environment invites (Brown et al. 2009).

Why is outdoor physical activity limited? Why is it such a challenge? Some of the unique features of home-based child care illustrate obstacles that must be overcome for children's optimum development.

Limited adjacent outdoor space, for example, is characteristic of many family-based child care programs, especially those in urban environments. Similarly, limited space minimizes opportunity for fixed equipment. The need to share space with the provider's family further complicates the space issue. The provider's home may have little or no large play equipment suitable for vigorous activities such as climbing and swinging (Temple and O'Connor 2004). The home may also have limited sheltered outdoor space for children to play outside during inclement weather (Temple and O'Connor 2005).

Frequently children of different ages are cared for in mixed-age groups in home-based care, adding to outdoor play challenges. Infants have more frequent

and variable nap times than older children, for example, making it difficult for a provider to get all the children outside to play at the same time. Providers also report that the need to supervise infants and older children simultaneously interferes with supporting active outdoor play (Temple and O'Connor 2004).

Solutions to the outdoor play space dilemma are as varied as providers are creative. Consider these ideas that expand children's opportunities for vigorous play.

Claim more outdoor space. Consider the resources the wider community might offer. Identify routes for safe neighborhood walks—and use walking ropes with handles to keep older children together while you push a stroller for non-ambulatory children.

Look too for neighborhood spaces that aren't traditionally used for play. Hard surfaces, such as sidewalks or compacted soil, are excellent for ride-on toys and wagons. A simple dirt mound allows children to dig with sticks and small shovels. A plot of shrubbery, free of debris, offers an area for playing traditional nursery games like *Duck-Duck-Goose* or *We're Going on a Bear Hunt*, or for quiet reading and listening games.

Seek an abundance of loose parts. Loose parts—manipulatives, tools, and nature's debris—are portable, inexpensive, and offer lots of play options (Maxwell, Mitchell, and Evans 2008).

Traditional playground toys such as balls, jump ropes, foldable tunnels, cones, tricycles, wagons, and dramatic play props and costumes invite children to

Levels of physical activity

Level	Definition	Examples
Sedentary	Lowest level of intensity and use of energy. Typically with limited movement.	Sitting and looking at books, moving puzzle pieces on a table
Light	Limited intensity and use of energy. Typically involves slow-paced movement.	Pushing large blocks around on the floor, carrying small objects
Moderate	Moderate intensity and use of energy. Typically involves faster pace or increases in resistance.	Walking fast, walking uphill
Vigorous	Highest intensity of energy use with fast paced movement.	Skipping, playing tag

run, jump, crawl, push, pull, and otherwise develop and use large muscles.

Less typical play items such as barrels, garden tools, and buckets engage children in physically active and creative play. Water hoses, misting bottles, and scrub brushes make quick work of cleaning wheel toys, sidewalks, and wooden fences while keeping children cool and physically active. Even carrying a filled watering can to the garden or to potted plants engages large muscles and physical coordination, balance, and physical agility. (Note: For safety, hygiene, and mosquito control, empty buckets and put away all tools after use.)

Gather—and seek donations for—found objects like large appliance boxes, smooth boards, bricks, and tires that invite children into creative and cooperative play. Show children how to use these materials to engineer and construct walls, obstacle courses, and imaginary stores, homes, and stables.

Natural materials too invite children to use physical agility, strength, and flexibility in cooperative play. Point out pine cones, stones, twigs, tree bark, leaves, branches, and stones for children to gather and sort. Encourage children to work out how to most efficiently carry different-sized boulders or tree stumps, for example. Use these to provide opportunities for children to jump from one to another, practicing balancing skills and enriching the imagination. The flexibility of these natural materials is well suited for mixed age groupings as they allow children to choose when and how they might be used.

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Sustain outdoor time. Prolong outdoor play by providing sheltered space that protects children from sun exposure, extreme heat, and light rain. Set up lawn umbrellas or hang canvas or plastic tarps when roof overhangs or the underside of tall decks do not provide enough weather protection.

Vegetation can make outdoor play more hospitable across the seasons. Adults—and children—tend to perceive seasonal changes more positively when play yards have vegetation to offset negative weather-induced outcomes such as cold or wet equipment (Herrington 2008).

INDOOR PLAY TENDS TO BE MORE SEDENTARY THAN OUTDOOR PLAY.

The importance of lengthy interaction with the natural world is well illustrated in the forest preschools in Sweden and elsewhere in Scandinavia (Änggård 2012). In these countries, children spend most of the day outdoors with functional outdoor areas for large and small group activities, rest, sanitation, and meals. Having an outdoor area for meals—or at least snack—can reduce transition disruptions and add to the amount of time available for outside play.

A common Scandinavian child care practice is allowing infants to nap outdoors (Tourula, Isola, and Hassi 2008). This practice provides more outdoor play time for older children because they don't have to stay inside while infants are napping. To adopt this practice, U.S. providers would need the cooperation of families in providing suitable clothing and weatherized strollers.

Indoor spaces

Indoor play, as stated earlier, tends to be more sedentary than outdoor play (Gubbels et al. 2011). Yet most preschoolers spend the majority of their time indoors (Brown et al. 2009). Consequently, it's essential to maximize opportunities for gross motor skill development in the indoor classroom and play areas.

Similar to the obstacles to active outdoor play, many in-home child care providers struggle with pro-

Selected benefits of children's physical activity

Physical health	Young children, especially boys, with higher rates of physical activity later had higher bone mineral content in middle childhood than those who were less active in early childhood (Janz et al. 2010). Aerobic exercise in school age children was associated with reduced problems with obesity and blood pressure (Janssen and LeBlanc 2010).
Motor skills	A physical activity intervention program for overweight children helped their movement skills and sense of athletic competence (Cliff et al. 2011).
Attention	Brief sessions of aerobic exercise improved children's selective attention performance (Tine and Butler 2012).
Learning	Brief bouts of aerobic exercise have been shown to temporarily aid executive function in children (Best 2010). A review of research revealed a connection between higher physical activity levels and higher academic performance (Singh et al. 2012).
Emotion	Aerobic exercise in school-age children has been associated with relatively fewer depressive symptoms (Janssen and LeBlanc 2010). Children with higher levels of physical activity reported relatively better mood outcomes (Dunton et al. 2013).
Social behavior	Obese adolescents who participated in aerobic exercise reported higher levels of social competence (Goldfield, Adamo, Rutherford, and Murray 2012).

viding spacious areas for physically robust activities (Gunter, Rice, Ward, and Trost 2012). Again, the issue can relate to the overlap of space needed by both the child care program and the provider's family.

In addition to the actual lack of space is the perception among providers that indoor settings are less likely places for physically active play when compared to outdoor settings (Weinberger, Butler, and Schumacher 2012).

Providers also report that they would be less happy when children are physically active indoors as compared with outdoors (Weinberger et al. 2013). This preference may be due only partly to the noise that comes with highly active play. After all, home-based care typically includes other noisy activities including television viewing (Temple and O'Connor 2004). Typically, children in the U.S. in home-based care programs spend more screen time (with television and computers) than their same aged counterparts in center-based care (Story, Kaphingst, and French 2006; Weinberger, Anderson, and Schumacher 2009).

Adults sometimes respond to the noise and apparent chaos of indoor active play by restricting children's play areas and removing gross motor equipment (Olds 2001). Even providers who value vigor-

ous outdoor activity and promote a range of outdoor gross motor activities, sometimes restrict many of the same activities indoors, such as climbing and throwing, even when safety issues are addressed (Temple and O'Connor 2004).

The more vigorous the play, the more restrictions are likely to be imposed. As Carlson (2011) notes, "In early childhood settings, too many adults who work with young children doubt the validity and appropriateness—much less the developmental necessity—of this boisterous and very physical play style."

Consider the following ways to overcome barriers to active indoor play.

Make indoor space for active play a priority.

Research has shown higher levels of physically active play in home-based settings that dedicate relatively more space (Gunter et al. 2012). When space is limited, active play areas can be set up adjacent to existing pathways in the home, while reserving the more protected areas for sedentary and quiet activities. Pathways accommodate movement and can absorb some of the overflow of vigorous activity (Olds 2001).

Claim space by blurring the boundaries between family space and child care space. On occasion, you might place the family's couch cushions on the floor

to make a jumping path in the living room. In homes with one or two steps, position a plank on a step and invite children to crawl and walk along it.

Both of these temporary modifications could be part of an indoor obstacle course that is outlined with masking tape. When the activity is over, you can remove the tape and return materials to their regular positions so that the space can be used by the family as before. Having nearby storage for active play materials is especially crucial because materials and equipment will be moved often to use the same space in different ways.

In addition, you can replace certain large pieces of furniture such as coffee tables with smaller tables or ottomans because they are easy to move out of the way. The remaining large pieces of furniture can stand near or against walls or against each other. Only smaller furniture will be in central locations because it's easier to temporarily move small pieces. For example, you can place a small table for art projects in the center of the play area for part of the day and move it to the side when it's time for active play with music and dance.

Modifications ideally allow children at different ages to be physically active in ways that fit their developmental status. Infants and toddlers need less space than older children but do require enough space to roll over, crawl, stand up, cruise, and walk. You can tape off space as safe zones, laying out blankets for the youngest children to practice rolling over or crawling to minimize the use of containing equipment. You can lead older children in activities such as running in place, jumping, dancing, and stretching on small carpet squares in an area that is sometimes used for more sedentary activities such as playing with toy animals on the floor.

Finally, consider reducing space devoted to electronic media to ensure space for other sedentary activities such as reading books.

Provide materials to support active indoor play. Providers have reported that some activities are acceptable for indoors, such as hopping, jumping, and dancing while others are not as accepted, such as climbing and throwing (Temple and O'Connor 2004). Providers may feel more comfortable encouraging children to participate in a wider range of physically active play if the supporting materials are easy to access, safe, and unlikely to create chaos.

Therefore, instead of using the same balls that would be used outside, children can use foam balls, beach balls, and bean bags for active indoor play. Children can toss these objects to each other or into baskets or at targets. They can try to catch them in their hands or deflect them with a foot or knee (Temple and O'Connor 2004).

You can provide scarves and streamers that children can wave vigorously to rhythmic music. Brief bursts of high energy activities that integrate music and motion with such materials have helped increase physical activity during group transition times among young children (Qiu and Deiner 2009).

CHILDREN'S CLIMBING CAN BE ESPECIALLY CHALLENGING TO INCLUDE IN INDOOR PLAY.

Specific materials such as crawling tunnels can support moderate and vigorous activity. Folding gymnastic mats, perhaps stored underneath a couch, can mark a safe territory for active play and partially insulate some of the noise it produces. Both child-initiated and teacher-led activities are suited for these mats. Children can use the mats for tumbling, hopping, and dancing. Invite bouncing in a modified appliance box filled with pillows.

Children's climbing can be especially challenging to include in indoor play. Even small climbing structures take up a lot of space in home-based programs. When space is not readily available, you can consider other options, such as allowing children to climb on sturdy wooden cubes when gymnastic mats create a safe fall zone. Placing a tension bar in a doorway at different heights allows children to take turns climbing over (or crawling under) the bar. Even though these are not typical forms of climbing, each requires children to exert energy while balancing as they move themselves to get over and under places.

Other opportunities for physical activity indoors include daily routines. You might start the day with a morning stretch, for example. Because cleanup is a standard part of activities, children can put away toys, wash the snack table, move their chairs into

place, and sweep under the table, for example, all of which require movement. It is helpful to have appropriate materials for these routines, such as sturdy step stools or short ladders to reach the sink and a child-sized broom and dustpan.

Supporting active play

Making changes to the physical environment can better support young children's active play in home-based child care programs. The goal is to provide more opportunities for safe, active play throughout the day without adding tension or stress for the providers. It is possible to maintain the essence of a home environment while making modifications that fit the needs of all children in care.

Modifying the home will differ for each provider based on existing space, the needs of the specific children in care, the provider's interest and capacity to make appropriate changes, and the available community resources. But while each approach to active, vigorous activity will be unique, the support each child needs in this developmental domain is universal.

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