Opinion

Encouraging kids to hop, skip, and jump: Emphasizing the need for higher-intensity physical activity in childcare

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1. Introduction

Daily physical activity (PA) participation is crucial to the health and well-being of young children. Along with total physical activity (TPA; all-intensity), moderate-to-vigorous physical activity (MVPA), or energetic play, is associated with greater health benefits, particularly for preschoolers (3–4 years), including but not limited to improved bone and skeletal properties and cognitive and psychosocial health.1 Centered on this, both Canada and Australia have recently established 24-Hour Movement Guidelines for the Early Years, recommending that children 2–4 years engage in at least 180 min of any-intensity activity per day, with children 3 years and older spending a minimum of 60 min of this time in higher-intensity energetic play.2,3 To date, activity promotion among this cohort has focused on increasing movement at any intensity. In light of the recent shift in focus to higher-intensity activity, steps are warranted to augment time spent in developmentally appropriate energetic play, focusing on a variety of unstructured (e.g., active free play)4 and structured aerobic activities (e.g., dance) for optimal health.1 Introducing regular, higher-intensity activity from a young age will set children on the right track to meeting PA guidelines across the lifespan.

2. The current landscape

A growing number of children (39% of 2 year olds, 78% of 3 year olds, and 87% of 4 year olds) are enrolled in early childhood education programs across the Organization for Economic Cooperation and Development (OECD) countries, spending upward of 40 h per week in these settings.5 Research underscores the significant influence the childcare setting has on young children’s PA levels, accounting for approximately 50% of the variation in this behavior.6 Despite this environment’s potential to afford PA opportunities, researchers have suggested that the childcare setting does not appropriately support higher-intensity PA.7,8 For example, Vanderloo et al.7 and Copeland et al.8 reported levels of energetic play as low as 1.5 min/h and 2.4 min/h among young children in Canada and the United States, respectively. In an 8-h day in childcare, this translates to an accumulation of approximately 12–19 min of energetic play. Given the large number of children enrolled in these facilities, and the low levels of higher-intensity PA observed, these findings are concerning and warrant attention. By targeting the childcare environment to support the PA levels of young children in care, particularly higher-intensity energetic play, the physical health, and mental well-being of this population may be positively affected.1,9

3. A call to action

The recent release of the Canadian 24-Hour Movement Guidelines for the Early Years,3 and the process undertaken by Australia to adapt and adopt these guidelines,2 may serve as a committed convergence by countries to support activity levels in young children. Both the Canadian and Australian guidelines underscore specific time allotments for energetic play among the preschool cohort (i.e., 60 min/day).2,3 Therefore, we put forth a call to action to increase daily opportunities for higher-intensity PA among young children in childcare. Specifically, it is critical that administrators and staff of childcare organizations give purposeful thought to how they will enact these new guidelines. We suggest that, for children enrolled in full-time care, programming and policy efforts translate into a minimum of 40 min/day of energetic play (two-thirds of the daily recommendation) during childcare hours with the remaining time obtained at home. To achieve this, we propose targeting setting-specific characteristics that have been shown to positively affect higher-intensity PA. Such characteristics include (1)
childcare providers (i.e., PA-specific training; personal attitudes toward PA; and presence of supportive behaviors, such as prompts and role modeling), 10–12 (2) physical environment (i.e., portability of equipment, quality, and amount of space available for energetic play), 10,13,14 (3) outdoor time (unstructured play and shorter, more frequent bouts), 4,15 and (4) policies specific to the promotion of PA (e.g., optimal dose and intensity during hours of care) at all levels of governance and administration. 16 Considering these findings, deliberate, evidence-informed action can be undertaken to support increased opportunities for energetic play in childcare environments. The associated evidence will be discussed here to substantiate our position.

4. Childcare-specific mechanisms for increasing energetic play

4.1. Childcare provider knowledge and behavior

Given that childcare providers are typically responsible for planning young children’s daily programming, these professionals’ personal PA-related attitudes (e.g., PA enjoyment, partiality to being outdoors) 10 and behaviors (e.g., participation in active play, offering supportive prompts), 12 along with their knowledge of the area (e.g., how active children should be), 13 are of central importance to young children’s exposure to active opportunities throughout their day in childcare. 11 Therefore, it is crucial that childcare providers receive PA-specific training, which has been shown to improve levels of energetic play among children younger than 5 years. 12,15 We suggest, based on current evidence, offering training that (1) focuses on national PA recommendations, (2) emphasizes the associated health benefits of PA participation, (3) provides practical examples for engaging children in heart-pumping movement (with consideration of environmental constraints such as weather, small spaces, etc.), and (4) aims to improve childcare providers’ activity-specific self-efficacy (e.g., prompts, role modeling). 12,15 Such training could occur through professional development opportunities for currently employed childcare providers. Additionally, formal instruction in early childhood education programs in college and university settings for future educators would be an asset, as current curricula offer limited training. 18

4.2. The physical childcare environment

Children’s daytime PA levels, most notably energetic play, are greatly influenced by the physical childcare environment. Environmental barriers to PA include a lack of useable free space (indoors and outdoors) and limited resources that may affect the overall quality of the environment. 13,14 Alternatively, the availability of a dedicated gross motor space indoors (particularly when faced with inclement weather), 19 an unobstructed open outdoor area, and a supply of assorted portable play equipment (e.g., balls, hula hoops) may serve to encourage increased movement in young children, including energetic play. 10,13 Creatively using existing indoor space, such as performing gross motor activities in hallways or rearranging classroom furniture to create more open space for movement, may be an effective method of increasing opportunities for energetic play indoors. To increase outdoor space, playground modifications or renovations (e.g., removing fixed play structures in lieu of open areas and bicycle tracks) hold the potential to promote energetic play among children. 14 Instead of costly renovations, consideration could be given to reducing the number of children permitted outdoors at one time. 13 This rotation in child ratios would offer children more room to engage in higher-intensity PA, such as running, hopping, and skipping. 13

4.3. Outdoor time

Granting access to outdoor play is not only essential to supporting active behaviors in children, as more time spent outdoors is associated with increased PA, 20 but is also a cost-effective and practical method of encouraging higher-intensity PA in childcare. A recent review and meta-analysis that examined children’s PA levels and sedentary time during outdoor childcare periods found that children spend 14% and 44% of their outdoor playtime engaged in energetic play and TPA, respectively. 21 Unfortunately, children’s scheduled time outside may not be consistently delivered. 8 This is concerning because preschoolers in childcare participate in 10 times more energetic play when outdoors (5 min/h) compared with indoors (0.5 min/h), 22 highlighting the key role that outdoor exposure plays in promoting higher-intensity PA among young children in this setting.

The type of outdoor play (e.g., unstructured vs. structured/ adult-led) has also been examined as a mechanism to support improved PA in childcare. 4 The provision of outdoor, unstructured free play has been linked to increasing young children’s levels of energetic play, 4,12 and as such should be encouraged by childcare staff and supported by center-enforced policies. A shift in focus from indoors (highly sedentary pursuits) to outdoors (more energetic free play) during childcare could result in improvements in physical health, 9 learning outcomes, and psychosocial function. 23 For instance, researchers have shown that preschoolers’ engagement in outdoor active play during childcare improves their self-regulation and consequently their early reading and math performance. 23 Furthermore, outdoor energetic play is associated with additional well-being and developmental gains, such as enhanced socialization and self-confidence for children in childcare. 9

The amount and duration of outdoor time has also been examined in relation to PA among young children in childcare. 8,15 Research has indicated that children who get at least 60 min of outdoor time acquired over 2 or more outdoor periods during childcare accumulate more (0.6 min/h) energetic play in a childcare day compared with children who receive less than 60 min outdoors. 8 Interestingly, preschoolers may accumulate higher-intensity PA over the course of an outdoor unstructured play period differently depending on small discrepancies in age (i.e., from 3 to 5 years). 4 Specifically, data from 3 similar yet independent studies identified that 3 year olds accrued more and maintained higher-intensity energetic play for the duration of a 30 min outdoor unstructured play...
session, whereas older children’s levels of energetic play diminished during the final 15 min of outdoor time.4 Considering that preschool children’s PA intensity has been shown to be highest in the first 15 min of outdoor free play,2 researchers have explored the effect of brief bouts of outdoor playtime on young children’s PA levels.15 By modifying the scheduling of outdoor time to include shorter (i.e., ≤30 min), more frequent (i.e., 4 vs. 2) periods of outdoor time in childcare, children’s levels of energetic play may be positively influenced.15,24 Furthermore, in extreme weather (i.e., excessive heat/cold, rain), repeated short bouts of outdoor time may minimize lengthy exposure to the elements while simultaneously increasing children’s levels of higher-intensity PA.

4.4. Childcare policies

Researchers from the OECD, including Canada and the United States, have acknowledged that although national recommendations for daily PA exist, there are limited mechanisms in place at any level (i.e., state/provincial/territorial or organizational) that assist with the application of these guidelines in the childcare setting.19,25 In Canada and the United States, childcare legislation occurs at the provincial/territorial or state level with great variation between them.16,23 Unfortunately, there is very limited guidance as to the specific frequency, duration, or intensity of PA required within licensed childcare centers.6,16,24 The lack of PA legislation may grant childcare personnel the freedom to implement PA sessions as they see fit, thus ensuring compatibility with programming. However, it may also act as a barrier to the regular delivery of quality energetic play experiences in some centers. As such, an opportunity exists to improve the standard of care in childcare facilities and to ensure consistency in PA affordances within provinces/states/territories.18 The 24-Hour Movement Guidelines for the Early Years2,3 may support the development of PA standards geared specifically to childcare. This may be particularly noteworthy in Canada, where ongoing revisions to provincial childcare regulations are currently taking place.16 Given the noted multiple health benefits of energetic play, policies that concentrate on promoting higher-intensity PA are warranted.1 We suggest a policy that recommends providing a minimum of 40 min of energetic play per day in childcare to support the daily achievement of the PA portion of the 24-Hour Movement Guidelines for the Early Years.2,3 Furthermore, the policy could instruct childcare providers to offer an initial, unstructured energetic play time followed by structured (adult-led) PA to promote continued engagement in higher-intensity PA throughout the active play period. Although few studies have intervened to change PA-specific policy within childcare, researchers have postulated that the introduction of center-based written policies may be an effective strategy to promote higher-intensity PA among young children.24

In South Carolina, a new state-level policy resulted in enhanced PA practices within childcare centers that adopted the corresponding mandatory PA standards compared with those that did not.20 Examples of the standards included the development of a written PA policy, staff PA training, providing a total of 90–120 min of outdoor time during 2–3 active outdoor play periods per day, and providing a variety of play equipment indoors and outdoors.26 However, it is not known if the PA of young children improved as a consequence of policy adoption, as activity levels were not assessed.26 Similarly, an evaluation of new childcare accreditation standards (requirements that must be achieved to attain a higher standard of care designation) in Alberta, Canada, was conducted.25 This study included an objective assessment of the impact of adoption of these new standards on the PA levels of young children.25 The accreditation standards specify that “childcare programs promote physical wellness in all children and incorporate physical literacy in everyday programming” (p. 12), and they further stipulate that childcare facilities “promote PA and minimize time that children are sedentary” and that “providers participate in PA with children” (p. 12).27 Although the energetic play among toddlers improved after the accreditation standards were implemented, preschoolers did not experience these same gains.25 It is important to note that these standards do not provide specific direction to childcare personnel as to the intensity, frequency, or amount of time allocated for daily PA participation, and thus they are open to interpretation and may result in inconsistent PA affordances. The researchers emphasized the need for experimental design to further examine these accreditation standards and to test future policy surrounding PA in childcare.25

Although experimental examination of the effectiveness of PA-related policy on children’s activity levels is the least studied of our recommendations,24 it possesses the potential to ensure a minimum standard of care that translates across childcare facilities, affecting a large number of children.16 However, as with all policies, the effectiveness of this requirement may be influenced by its adoption and the degree to which it is enforced. Policies must be pedagogically appropriate, practical, and straightforward to implement. By providing direction as to the optimal daily dosage of PA while affording flexibility with regard to how this is achieved may increase policy compliance. To promote change, sustained and persistent efforts by child health advocates, public health officials, and researchers are needed to deliver PA-related research findings to government agencies responsible for childcare programming, curriculum development, and legislation. Until changes occur at the legislative level, the onus is on center administrators and educators to adopt their own practices or policies to promote more energetic play among young children in care.16

5. Conclusion

With the Canadian and Australian 24-Hour Movement Guidelines available to direct PA participation for the early years,2,3 combined with the growing number of children enrolled in childcare, it is very timely that concerted efforts to enhance healthy activity practices in this setting be adopted. Given the low levels of energetic play currently reported within childcare, strategic, cost-effective, and evidence-informed approaches to improved behaviors are encouraged. We suggest targeting a combination of PA training for childcare providers (to support both improved
knowledge and self-efficacy), consideration of the quality and amount of space afforded for indoor and outdoor play, providing a variety of regularly rotated portable play equipment, offering shorter and more frequent outdoor energetic play periods, and the development and adoption of evidence-informed PA policy at the organizational and governmental level. The emphasis on increasing higher-intensity PA among young children has been noted, and now action must follow to support improving children’s opportunities to hop, skip, and jump. Notwithstanding the important role that parents play in children’s development, the childcare environment, where many young children spend most of their weekdays, is an important place to start.

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Authors’ contributions

MD and LMV led the manuscript writing; PT, ST, and BAB assisted with conceptual development and drafting of the manuscript. All authors have read and approved the final version of the manuscript, and agree with the order of presentation of the authors.

Competing interests

LMV is employed by ParticipACTION (nonprofit organization). However, the organization did not influence the focus of the article, its findings, nor its implications.

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