Children’s outdoor play, physical activity, health & well-being

Pooja S. Tandon, MD, MPH

pooja@uw.edu
Over the last several decades, our understanding of the importance of early childhood development has advanced.

High-quality early childhood education programs can:
- benefit children, parents & society
- benefit child development
- narrow achievement gaps
- boost children’s health and earnings later in life
At the same time, the importance of early childhood as an important period for developing healthy behaviors has become clearer.

Childhood obesity prevalence remains elevated among our nation’s youngest: aged 2 to 5 years. (26% are both overweight and obese)


Want to learn more? Go to [www.cdc.gov/vitalsigns](http://www.cdc.gov/vitalsigns)
Disparities in obesity in U.S. preschool children

![Bar chart showing prevalence of obesity in boys and girls by race/ethnicity.]

- **Boys**
  - All: 19.8%
  - Am Indian: 22.2%
  - Hispanic: 22.5%
  - NH Black: 17.4%
  - NH White: 15.8%
  - Asian: 14.3%

- **Girls**
  - All: 25.8%
  - Am Indian: 21.8%
  - Hispanic: 19.0%
  - NH Black: 10.0%
  - NH White: 7.0%
  - Asian: 9.0%

Less than 50% of children meet current physical activity recommendations

- Only one in three children are physically active every day.¹
- Girls more inactive than boys starting as preschoolers
- In 2005, only 35% of HS students met recommended level of physical activity
- Less than 5% of adults participate in 30 minutes of physical activity each day²
Why are children so inactive?
Is there time to play?
But there’s time for this…

- 7.5 hours/day with all forms of electronic media
- Preschoolers watch ~4 hours of TV/DVDs a day
- 32% of 2-7 year olds have TVs in their bedroom
Over 50% of preschoolers don’t play outside daily with parents

Tandon et al JAMA Pediatrics 2012
Why does outdoor time matter?

- Being outdoors may be the most consistent correlate of physical activity in young children.
- US children today spend less time playing outdoors.
- Active, outdoor play is likely beneficial for motor development, Vitamin D levels, cognition, mental health and other outcomes.
How are WA State child care programs doing?
## Results: Survey Responses Regarding PA Practices for Preschoolers

<table>
<thead>
<tr>
<th>Category</th>
<th>Centers (n=692)</th>
<th>Homes (n=1281)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum PA standard met (60 min/day)</td>
<td>84.7%</td>
<td>82.0%</td>
</tr>
<tr>
<td>Best-practice PA standard met (120 min/day)</td>
<td>12.1%</td>
<td>20.1%</td>
</tr>
<tr>
<td>Minimum outdoor play standard met (60min/day)</td>
<td>85.0%</td>
<td>75.0%</td>
</tr>
<tr>
<td>Best-practice outdoor play standard met (90 min/day)</td>
<td>21.8%</td>
<td>21.7%</td>
</tr>
</tbody>
</table>
Not much time for physically active play at child care

- Not Active Play: 62%
- Naptime: 26%
- Outdoor Free play: 8%
- Other (0.1%)

How do these changes impact health & well-being?
active kids learn better

physical activity at school is a win-win for students and teachers

**GRADES:**

- 20% more likely to earn an A in math or English

**STANDARDIZED TEST SCORES:**

- 6% increase over 3 years

**JUST ONE PHYSICALLY ACTIVE LESSON CREATES:**

- 13% increase in students’ physical activity for the week
- 21% decrease in teachers’ time managing behavior

physically active kids have more active brains

BRAIN SCANS OF STUDENTS TAKING A TEST:

- after 20 minutes of sitting quietly
- after 20 minutes of walking

Red areas are very active; blue areas are least active.

MORE RESULTS:

after 20 minutes of physical activity:

- students tested better in reading, spelling & math
- and were more likely to read above their grade level

after being in a physically active afterschool program for 9 months:

- memory tasks improved 16%


Learn more about why active kids learn better and how schools can help at activelivingresearch.org/activeeducationbrief.
How might this relationship work?

3 proposed pathways:
(1) the cognitive demands of goal-directed exercise
(2) the cognitive engagement required to execute complex motor movements
(3) the physiological changes in the brain induced by aerobic exercise (over time) or through cerebral blood flow (acutely)
What is “early learning?”
Isn’t this also “early learning?”