

Whether at home, school or daycare, 3- to 5-year-olds experience similar levels of physical activity

March 15 2021, by Keri Ferguson



Credit: Caleb Oquendo for Pexels

Many parents assume children in center-based child care experience higher levels of daily physical activity, but a first-of-its-kind study out of

Western's Child Health and Physical Activity Lab suggests they're no more active over all than those who stay at home.

The study, conducted by Julie Statler, MSc'18, BSc'16, and lab director and occupational therapy professor Trish Tucker, used Statistics Canada data to examine patterns of physical activity and [sedentary time](#) of three- to five-year-olds in four settings—school kindergartens, [child-care](#) centres, home daycares and care at home by a parent or guardian.

About 80% of Canadian preschoolers attend some kind of child care outside the home for at least 30 hours a week.

"In order to support healthy movement behaviors among little ones, we need to consider how these settings support (or deter) physical activity participation," Tucker said.

A former graduate student of Tucker's, Statler studied data from Statscan's [Canadian Health Measures Survey](#) (2012-2015), which gathers Canadians' health and health habits. As part of the CHMS, children wore Actical accelerometers to gather physical activity data. The dataset provided a nationally representative sample of Canadian preschoolers.

"For the first time in the cycles that we studied, they included questions about child care," Statler said. "No one had looked at activity levels coupled with child-care venues before, making our study unique."

Earlier research had only looked at preschoolers' active and sedentary time on a small scale, and during child-care hours, Statler said. "The purpose of our study was to explore physical activity levels and sedentary time among Canadian preschoolers who receive child care in a variety of settings."

They looked at three factors: time spent in moderate to vigorous activity

that elevates the heart rate such as playing tag or using play equipment; total physical activity throughout the day; and sedentary time.

"When we think of sedentary time, [screen time](#) is often the first thing that comes to mind," Statler said. "But it's also time spent coloring, doing a puzzle, reading, which all have a lot of benefits but not in terms of physical activity."

No difference in activity levels

The study found that physical activity and sedentary time for children enrolled in child care and kindergarten did not differ from that of kids who stayed at home, Tucker said.

There were more nuanced results when physical activity was compared between boys and girls.

"We found the boys were most active at school, whereas girls were most active in home-based child care," Statler said. "Boys were most sedentary in center-based child care and the girls were most sedentary at school."

The information is useful in considering how to design interventions to increase physical activity levels in preschoolers, Tucker said.

Statler said that regardless of setting, there is an opportunity to promote physical literacy—to teach children early about the benefits of being active, from building muscle and strong bones to improving mood and decreasing the risk of chronic disease later in life.

"It's important to learn fundamental movement skills early on through hopping, throwing or jumping," she said. "That will set them up with the confidence to be active for the rest of their lives."

With the COVID pandemic, it's important to consider what activities kids have missed out on and give them opportunities to build their physical skills in the next couple of years, she added.

Currently completing training at Brescia University College to become a registered dietitian, Statler sees the study as an important stepping stone to further studies.

"There are a lot of changes during that [time](#) between three and five years old. It would be interesting to see how that influences how kids play. Do they become more interactive with different play equipment as they get older and have improved motor skills? What about the kids that spend three days a week in daycare, and two days at home with a parent?"

The goal is to find evidence to help guide policies in different child-care environments across the country.

More information: Julie Statler et al. Habitual physical activity levels and sedentary time of children in different childcare arrangements from a nationally representative sample of Canadian preschoolers, *Journal of Sport and Health Science* (2019). [DOI: 10.1016/j.jshs.2019.03.009](https://doi.org/10.1016/j.jshs.2019.03.009)

Provided by University of Western Ontario

Citation: Whether at home, school or daycare, 3- to 5-year-olds experience similar levels of physical activity (2021, March 15) retrieved 4 May 2024 from <https://medicalxpress.com/news/2021-03-home-school-daycare-year-olds.html>

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