

Study underscores need for food literacy, Canadian school food program

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Children have been told, "Eat your fruits and vegetables" throughout generations. But a new study out of Western's Human Environment's Analysis Laboratory (HEAL) shows knowledge—not nagging—could be

the missing ingredient in getting kids to up their intake of these nutrient-dense foods.

The survey-based study is one of many projects related to [children's health](#) and well-being, conducted as part of HEAL's larger mission to mobilize knowledge to create healthy, thriving communities.

"Collectively, most findings in our lab show kids are not eating enough fruits and vegetables," said HEAL director Jason Gilliland. "This study provided a baseline to see what's going on in this area so we can help develop programs to address this."

It's widely accepted fruits and vegetables are important for preventing lifestyle-related chronic disease and maintaining overall health. Poor dietary patterns in [children](#) are linked to lower academic performance, an increased risk of diabetes and higher body mass indexes.

"We know kids who go to school hungry can't focus on the lesson. They're focusing on their grumbling stomachs," said Gilliland, who is also a scientist at the Children's Health Research Institute and Lawson Health Research Institute.

Growing food knowledge

Interventions to improve dietary quality and intake of fruits and vegetables among Canadian children have shown modest success. It has been suggested knowledge about food — and connecting that knowledge to food skills and decisions around dietary intake — could be key.

With an aim to investigate factors associated with fruit and vegetable consumption by [elementary school children](#), Louise McEachern, a postdoctoral associate in the HEAL lab, led the analysis of the survey, which was completed by 2443 students at 60 [elementary schools](#) across

southwestern Ontario. (The research team also surveyed parents to validate self-reported sociodemographic variables.) Factors included food knowledge, [socioeconomic status](#), sociodemographic characteristics and the food environment.

"Previous studies have shown knowledge about food and nutrition predicts improved dietary intake among adults and also among adolescents aged 14 to 19 years," McEachern said. "However, few studies have focused on the association of food knowledge with the intake of fruit and vegetables among children aged nine to 14."

Gilliland's team conducted the study from 2017 to 2019, prior to the pandemic. It also preceded the introduction of the 2019 Ontario Health and Physical Education curriculum for elementary school children, which includes a healthy eating component based on the 2019 Canada Food Guide. Their study evaluated children's knowledge based on the 2007 Canada Food Guide.

"This work took an army of students to deliver the surveys to the different schools," Gilliland said, noting the trainees also observed the children during snack and mealtimes, to verify their dietary recall aligned with what they ate.

Key findings

The [survey results](#) showed just 59.8 percent of children reported consuming five or more servings of fruit and vegetables per day, as recommended by the World Health Organization. Canada recommends six servings a day for this age group.

Knowledge score, child age and parent employment status significantly predicted higher reported intake of fruits and vegetables.

"The number one lesson from this study is that knowledge matters," McEachern said. "We saw that children with better food knowledge made better choices around fruit and vegetables."

A multi-pronged approach

To encourage [healthy eating](#), McEachern and Gilliland say school-based food and nutrition programs that incorporate multiple components and emphasize food literacy are critical.

This includes incorporating a dietitian-approved curriculum and skills-based learning, similar to what was once offered through family studies programs.

"Kids need to know everything about food, from how it is grown to right up to how to manage food waste—from the soil to the bin," Gilliland said.

While schools offer the best delivery system to reach a large number of young children, building food knowledge need not rest solely on the teachers. Gilliland said bringing experts to the classroom through experiential food education opportunities like those offered through London-based Growing Chefs! program can help teach youth about food, meal preparation and making healthy food choices.

But foremost, "to improve food literacy, you have to have access to food," Gilliland said.

As [food prices](#) continue to rise, so too will the need to ensure kids have access to healthy food.

"The role of school nutrition programs will become even more important," McEachern said, "And lobbying for public funding to

support them."

In the meantime, she's hopeful Bill 216, a private member's bill before the Ontario government passes. It calls for an amendment to the education act requiring school boards to develop courses and training for teachers to deliver experiential [food](#) literacy programs for students in grade one through 12.

Gilliland agrees that it is a step in the right direction. "Here's a way to reach young children and teach them about what is important for our health and well-being."

The research was published in *Children*.

More information: Louise W. McEachern et al, Fruit and Vegetable Intake Is Associated with Food Knowledge among Children Aged 9–14 Years in Southwestern Ontario, Canada, *Children* (2022). [DOI: 10.3390/children9101456](#)

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